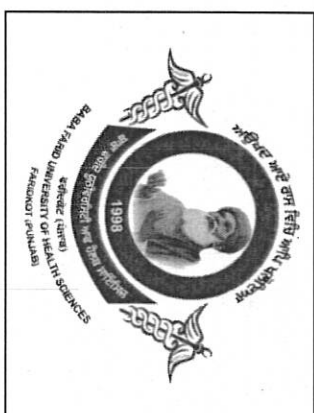




BACHELOR IN PHYSIOTHERAPY

DRAFT SYLLABUS TO BE IMPLEMENTED W.E.F. 2021 ADMISSIONS

Baba Farid University of Health Sciences, Faridkot
Approved in Faculty of Physiotherapy Meeting held on 28th January, 2021

EXISTING	PROPOSED	JUSTIFICATION																				
BACHELOR OF PHYSIOTHERAPY (B.P.T. Course) (Approved by the Board of Management held on 17/03/2009 vide Para 25) 1. Duration of course The duration of Bachelor Physiotherapy course shall be four and half academic years including six months compulsory rotatory internship as under: <table><tr><td>a) First Professional B.P.T.</td><td align="center">1 year</td></tr><tr><td>b) Second Professional B.P.T.</td><td align="center">1 year</td></tr><tr><td>c) Third Professional B.P.T.</td><td align="center">1 year</td></tr><tr><td>d) Fourth (Final) Professional B.P.T.</td><td align="center">1 year</td></tr><tr><td>e) Internship</td><td align="center">6 months</td></tr></table>	a) First Professional B.P.T.	1 year	b) Second Professional B.P.T.	1 year	c) Third Professional B.P.T.	1 year	d) Fourth (Final) Professional B.P.T.	1 year	e) Internship	6 months	BACHELOR OF PHYSIOTHERAPY (B.P.T. Course) 1. Duration of course The duration of Bachelor Physiotherapy course shall be four and half academic years including six months compulsory rotatory internship as under: <table><tr><td>a) First Professional B.P.T.</td><td align="center">1 year</td></tr><tr><td>b) Second Professional B.P.T.</td><td align="center">1 year</td></tr><tr><td>c) Third Professional B.P.T.</td><td align="center">1 year</td></tr><tr><td>d) Fourth (Final) Professional B.P.T.</td><td align="center">1 year</td></tr><tr><td>e) Internship</td><td align="center">6 months</td></tr></table>	a) First Professional B.P.T.	1 year	b) Second Professional B.P.T.	1 year	c) Third Professional B.P.T.	1 year	d) Fourth (Final) Professional B.P.T.	1 year	e) Internship	6 months	No Change
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2. Admission criteria and qualifications The admission to the B.P.T. course shall be made on the terms & conditions prescribed in the Notification issued by the Government from time to time.	2. Admission criteria and qualifications The admission to the B.P.T. course shall be made on the terms & conditions prescribed in the Notification issued by the Government from time to time.	No Change																				
3. English shall be the medium of instruction for study and examination of the Bachelor of Physiotherapy degree course.	3. English shall be the medium of instruction for study and examination of the Bachelor of Physiotherapy degree course.	No Change																				
4. Examinations 4.1 Each examination shall be held twice a year in the months of May/June and November / December or on such dates as may be fixed by the University from time to time. 4.2 Every candidate shall pay examination fee to the University as may be prescribed by the Board of Management from time to time unless otherwise notified by the University. The last dates for receipt of examination form and fee in the University Office shall	4. Examinations 4.1 Examination for each class shall be held twice a year in the months of May/June and November / December or on such dates as may be fixed by the University from time to time. 4.2 Every candidate shall pay examination fee to the University as may be prescribed by the Board of Management from time to time unless otherwise notified by the University. The last dates for receipt of examination form and fee in the University Office shall	Amended for clarity																				

EXISTING

PROPOSED

JUSTIFICATION

be as under :

Examinations B.P.T.	Without Late fee	With late fee of Rs. 200/-	With late fee of Rs. 500/-	With Late fee of Rs. 1500/-
May / June	March 1	March 15	March 31	April 15
Nov / Dec	Sept. 15	Sept. 30	Oct. 15	Oct. 31

The Vice Chancellor may permit acceptance of admission form and fee ten days before the commencement of examination with a late fee of Rs. 2000/-

be as under:

Examination Session for B.P.T.	Without Late fee	With late fee of Rs. 1500/-
May / June	31 st March	15 th April
Nov / Dec	30 th Sept.	15 th October
In case of late declaration of result due to any reason	Upto 20 days (including the date of declaration of result) from the date of declaration of result.	Upto 35 days (including the date of declaration of result) from the date of declaration of result.

The university may accept examination form and fee alongwith late fee of Rs 5000/-, ten days before the commencement of examination with permission of the worthy Vice Chancellor.

Note: - The schedule of examination session and fee may be amended as per University directions from time to time

Amended as per University guideline dated 29th Jan 2020 in light of online submission of exam forms through University portal

5. First Professional B.P.T. Examination

The First Professional B.P.T. Examination shall be open to a person who

- has been enrolled for one academic year preceding the examination in a Physiotherapy College affiliated to the University.
- has his/her name submitted to the Registrar by the Principal of the college with the following certificates:
 - of having attended separately in theory and practical / clinical not less than 75 percent of the lectures delivered and practicals conducted in each of the

5. First Professional B.P.T. Examination

First Professional B.P.T. Examination shall be open to a person who:

- has been enrolled for one academic year preceding the examination in a Physiotherapy College affiliated to the University.
- has his/her name submitted to the Registrar by the Principal of the college with the following certificates:
 - of having attended separately in theory and practical / clinical not less than 75 percent of the lectures delivered and practical conducted in each of the subjects prescribed for the examination provided that

No Change

EXISTING	PROPOSED	JUSTIFICATION
subjects prescribed for the examination provided that deficiency in the number of lectures delivered and practical conducted may be condoned by the Principal to the extent of 10% of the lectures delivered. Provided further that if a candidate fulfils the conditions laid down for one or more subjects and not for other(s), he may be allowed to take examination only in such subject(s) in which he fulfils the conditions. ii) of having secured at least 35% marks of the total marks fixed for internal assessment in each subject, separately, order to be eligible to appear in all University examinations of good moral character. iii)	deficiency in the number of lectures delivered and practical conducted may be condoned by the Principal to the extent of 10% of the lectures delivered. Provided further that if a candidate fulfils the conditions laid down for one or more subjects and not for other(s), he may be allowed to take examination only in such subject(s) in which he fulfils the conditions. ii) of having secured at least 35% marks of the total marks fixed for internal assessment in each subject, separately, order to be eligible to appear in all University examinations of good moral character. iii)	No Change No Change
Note 1) Internal Assessment should be submitted to the University about two weeks before the commencement of theory examinations. All the colleges shall adopt uniform criteria for Internal Assessment for which a record of such student shall be maintained in each department, which should be made available for inspection by the student concerned as well as University authorities.	Note 1) Internal Assessment should be submitted to the University about two weeks before the commencement of theory examinations. All the colleges shall adopt uniform criteria for Internal Assessment for which a record of such student shall be maintained in each department, which should be made available for inspection by the student concerned as well as University authorities.	No change
The re-appear/fail students will not be re-assessed every time for the purpose of Internal Assessment and their previous score of assessment will be carried forward except when their score is less than 50%. 2) If a candidate fulfils the condition laid down in clause 5 (b) (i) and (ii) above for one or more subject (s) he/she may be allowed to take the examination in such subject (s) in which he/she fulfils the	The re-appear/fail students will not be re-assessed every time for the purpose of Internal Assessment and their previous score of assessment will be carried forward except when their score is less than 50%. 2) If a candidate fulfils the condition laid down in clause 5 (b) (i) and (ii) above for one or more subject (s) he/she may be allowed to take the examination in such subject (s) in which he/she fulfils the	No change No change

EXISTING		PROPOSED		JUSTIFICATION				
requirements. 3) Every candidate before appearing in First Professional B.P.T. Examination must have cleared House Examination securing at least 33 percent marks in both theory as well as practical separately.		requirements. 3) Every candidate before appearing in First Professional B.P.T. Examination must have cleared House Examination securing at least 35 percent marks in both theory as well as practical separately.		Amended as per BOM instruction on 11.11.2004 vide para 18 and on 31.01.2006 vide para 35				
c)	The First Professional B.P.T. Annual Examination shall be held in May/June and the supplementary within six months of the annual examinations.		c)	The First Professional B.P.T. Annual Examination shall be held in May/June and the supplementary within six months of the annual examinations.		No Change		
d)	The First Professional B.P.T. examination shall be in the following subjects and candidate shall be required to pass all the subjects: -		d)	The First Professional B.P.T. examination shall be in the following subjects and candidate shall be required to pass all the subjects: -				
Sr. No	Subject	Theory			Practical			Grand Total
		Marks	Int. Assess	Total	Marks	Int. Assess.	Total	
1.	Anatomy	80	20	100	80	20	100	200
2.	Physiology	80	20	100	80	20	100	200
3.	Biochemistry	80	20	100	-	-	-	100
4.	Electrotherapy-I	80	20	100	80	20	100	200
5.	Exercise therapy-1	80	20	100	80	20	100	200
6.	Computer Applications	-	-	-	40	10	50	50
7.	English	40	10	50	-	-	-	50
	Total							1000

Sr.No	Subject	Theory			Practical			Grand Total
		Marks	Int. Assess	Total	Marks	Int. Assess.	Total	
BPT 101.	Anatomy	80	20	100	80	20	100	200
BPT10 2.	Physiology	80	20	100	80	20	100	200
BPT10 3	Biochemistry	80	20	100	-	-	-	100
BPT10 4	Electrotherapy-I	80	20	100	80	20	100	200
BPT10 5.	Exercise therapy-1	80	20	100	80	20	100	200
BPT10 6.	Computer Applications	-	-	-	40	10	50	50
BPT10 7.	English	40	10	50	-	-	-	50

Subject coding has been changed in sync with the proposed syllabus to reflect corresponding year as well.

Otherwise, no change in subjects or their marks.

EXISTING		PROPOSED							JUSTIFICATION	
		Total						1000		
(i)	There shall be a provision of Internal assessment of 20% marks in each subject of B.P.T. course in theory and practical, separately.	(i)	There shall be a provision of Internal assessment of 20% marks in each subject of B.P.T. course in theory and practical, separately.							No Change
(ii)	Each theory paper shall be of three hours duration and minimum pass percentage of marks will be 50% separately in theory & practicals (including internal assessment) except English which will be of 1½ hours duration and minimum pass percentage of marks will be 40%.	(ii)	Each theory paper shall be of three hours duration and minimum pass percentage of marks will be 50% separately in theory & practical (including internal assessment) except English which will be of 1½ hours duration and minimum pass percentage of marks will be 40%.							No Change
(iii)	A candidate securing 75% or above marks in any of the subjects shall be declared to have passed with Distinction in that subject provided he has passed the examination in the first attempt.	(iii)	A candidate securing 75% or above marks in any of the subjects shall be declared to have passed with Distinction in that subject provided he has passed the examination in the first attempt.							No Change
(iv)	A candidate who fails in <u>upto Three subjects</u> in 1 st Prof BPT in his/her 1 st attempt shall be provisionally promoted to 2 nd Prof. BPT course and shall be provisionally allowed to attend classes in 2 nd Prof. and provisionally permitted to appear in 2 nd Prof B.P.T. examinations. However, he/she must pass all the subjects of First Prof B.P.T. examinations in a maximum of four attempts .	(iv)	A candidate who fails in all but one subject in 1 st Prof BPT in his/her 1 st attempt shall be provisionally promoted to 2 nd Prof. BPT course and shall be provisionally allowed to attend classes in 2 nd Prof. and provisionally permitted to appear in 2 nd Prof B.P.T. examinations. If the candidate fails in all subjects, then he/she shall not be promoted to Second Prof BPT but he/she can appear in the supplementary exam. If he/she passes in any one subject in supplementary exam, he/she will be provisionally promoted to the Second Prof BPT. However, he/she must pass all the subjects of First Prof B.P.T. examinations in a maximum of four attempts .							Amended for clarity w.r.t.decision of BOM on 31.01.2006 vide para 38
(v)	A candidate who passes in one or more subjects shall be exempted from appearing in thesesubjects at a subsequent examination, but the candidate must pass the examination in a maximum of four attempts , failing which he/she shall have to appear in all the subjects of the 1 st Prof. examination.	(v)	A candidate who passes in one or more subjects shall be exempted from appearing in these subjects at a subsequent examination, but the candidate must pass the examination in a maximum of four attempts , failing which he/she shall have to appear in all the subjects of the 1 st Prof. examination.							No change
(vi)	A candidate must pass all the subjects of 1st Prof. examination in order to be eligible to sit in 3rd Prof BPT course.	(vi)	A candidate must pass all the subjects of 1st Prof. examination in order to be eligible to sit/ attend in 3rd Prof BPT course							No change

EXISTING	PROPOSED	JUSTIFICATION
6. Second Professional B.P.T. Examination The Second Professional B.P.T. Examination shall be open to a person who – a) has been enrolled for one academic year preceding the examination in a Physiotherapy College affiliated to this University. b) has previously passed the First Prof. B.P.T. examination of this University or an examination of any other recognized University / Institution in India considered equivalent for the purpose of the University. c) has his/her name submitted to the Registrar by the Principal of the College with the following certificates : i) of having attended separately in theory and practical / clinical not less than 75 percent of the lectures delivered and practical conducted in each of the subjects of Second Professional B.P.T. course prescribed for the examination provided that deficiency in the number of lectures delivered and practicals conducted may be condoned by the Principal to the extent of 10% of the lectures delivered. ii) of having secured at least 33% marks of the total marks fixed for internal assessment in each subject, separately, in order to be eligible to appear in all University examinations. iii) of good moral character Note 1) Internal Assessment should be submitted to the University about two weeks before the commencement of theory examinations. All the	classes. 6. Second Professional B.P.T. Examination The Second Professional B.P.T. Examination shall be open to a person who – a) has been enrolled for one academic year preceding the examination in a Physiotherapy College affiliated to this University. b) has previously passed the First Prof. B.P.T. examination of this University or an examination of any other recognized University / Institution in India considered equivalent for the purpose of the University. c) has his/her name submitted to the Registrar by the Principal of the College with the following certificates: i) of having attended separately in theory and practical / clinical not less than 75 percent of the lectures delivered and practical conducted in each of the subjects of Second Professional B.P.T. course prescribed for the examination provided that deficiency in the number of lectures delivered and practicals conducted may be condoned by the Principal to the extent of 10% of the lectures delivered. ii) of having secured at least 35% marks of the total marks fixed for internal assessment in each subject, separately, in order to be eligible to appear in all University examinations. iii) of good moral character. Note 1) Internal Assessment should be submitted to the University about two weeks before the commencement of theory examinations. All the	No change No Change No Change No Change Amended as per BOM instruction on 11.11.2004 vide para 18 and on 31.01.2006 vide para 35 No Change

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colleges shall adopt uniform criteria for Internal Assessment for which a record of such student shall be maintained in each department in each department, which should be made available for inspection by the student concerned as well as University authorities. The re-appear/fail students will not be re-assessed every time for the purpose of Internal Assessment and their previous score of assessment will be carried forward except when the score is less than 50%. 2) If a candidate fulfils the condition laid down in clause 6 (b) (i) and (ii) above for one or more subject (s) he/she may be allowed to take the examination in such subject (s) in which he/she fulfils the requirements. 3) Every candidate before appearing in 2nd Professional B.P.T. Examination must have cleared House Examination securing atleast33 percent marks in both theory as well as practical separately.		colleges shall adopt uniform criteria for Internal Assessment for which a record of such student shall be maintained in each department in each department, which should be made available for inspection by the student concerned as well as University authorities. The re-appear/fail students will not be re-assessed every time for the purpose of Internal Assessment and their previous score of assessment will be carried forward except when the score is less than 50%. 2) If a candidate fulfils the condition laid down in clause 6 (b) (i) and (ii) above for one or more subject (s) he/she may be allowed to take the examination in such subject (s) in which he/she fulfils the requirements. 3) Every candidate before appearing in 2nd Professional B.P.T. Examination must have cleared House Examination securing at least 35 percent marks in both theory as well as practical separately.				No Change Amended as per BOM instruction on 11.11.2004 vide para 18 and on 31.01.2006 vide para 35																
d)	The 2nd B.P.T. course shall be of one year duration and examination shall ordinarily be held in May/June. The Supplementary examination shall be held within six months of the annual examination. e) The Second Professional B.P.T. Examination shall be held one year after First Professional B.P.T. Examination and the candidate is required to pass the following subjects:	d)	The 2nd B.P.T. course shall be of one year duration and examination shall ordinarily be held in May/June. The Supplementary examination shall be held within six months of the annual examination. e) The Second Professional B.P.T. Examination shall be held one year after First Professional B.P.T. Examination and the candidate is required to pass the following subjects:	No change																		
<table><tr><td>Sr. No</td><td>Subject</td><td>Theory</td><td>Practical</td><td>Grand</td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr></table>	Sr. No	Subject	Theory	Practical	Grand						<table><tr><td>Sr. No</td><td>Subject</td><td>Theory</td><td>Practical</td><td>Grand</td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr></table>	Sr. No	Subject	Theory	Practical	Grand						Subject coding has been changed in sync with the proposed syllabus to reflect corresponding year as well.
Sr. No	Subject	Theory	Practical	Grand																		
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EXISTING				PROPOSED				JUSTIFICATION
	Marks	Int. Assess	Total	Marks	Int. Assess.	Total	Total	Pathology and Microbiology are technical and complex subjects that should be attempted separately to reduce stress and burden on students. More theory hours and marks for Pharmacology compliment the content and importance of the subject. Nomenclature of subject 206 has been amended as per new syllabus Total marks enhanced as per subjects 203 and 206
1. Pathology & Microbiology	80	20	100	-	-	-	100	
2. Pharmacology	40	10	50	-	-	-	100	
3. Electrotherapy-II	80	20	100	80	20	100	100	
4. Exercise therapy-II	80	20	100	80	20	100	200	
5. Biomechanics	80	20	100	40	10	50	150	
6. Sociology& Psychology	80	20	100	-	-	-	100	
Total							800	
(i) There shall be a provision of Internal assessment of 20% marks in each subject of B.P.T. course in theory and practical, separately.				(i) There shall be a provision of Internal assessment of 20% marks in each subject of B.P.T. course in theory and practical, separately.				No change
(ii) Each theory paper shall be of three hours duration except Pharmacology which will be of 1½ hours duration.				(ii) Each theory paper shall be of three hours duration except Pharmacology which will be of 1½ hours duration.				No change
(iii) The minimum number of marks to pass the examination shall be 50% in theory including Internal Assessment and 50% in practical / clinical including Internal Assessment in each subject.				(iii) The minimum number of marks to pass the examination shall be 50% in theory including Internal Assessment and 50% in practical / clinical including Internal Assessment in each subject.				No change
(iv) A candidate securing 75% or above marks in any of the				(iv) A candidate securing 75% or above marks in any of the				

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purpose by the University. c) Must have passed all the subjects of BPT 2nd Prof. in a maximum of four attempts. d) has his/her name submitted to the Registrar by the Principal of the college with the following certificates i) of having attended separately in theory and practical / clinical not less than 75 percent of the lectures delivered and practical conducted in each of the subjects of Third Professional B.P.T. course prescribed for the examination provided that deficiency in the number of lectures delivered and practical conducted may be condoned by the Principal to the extent of 10% of the lectures delivered. ii) of having secured at least 35% marks of the total marks fixed for internal assessment in each subject, separately, order to eligible to appear in all University examinations. iii) of good moral character.	purpose by the University. c) Must have passed all the subjects of BPT 2nd Prof. in a maximum of four attempts. d) has his/her name submitted to the Registrar by the Principal of the college with the following certificates i) of having attended separately in theory and practical / clinical not less than 75 percent of the lectures delivered and practical conducted in each of the subjects of Third Professional B.P.T. course prescribed for the examination provided that deficiency in the number of lectures delivered and practical conducted may be condoned by the Principal to the extent of 10% of the lectures delivered. ii) of having secured at least 35% marks of the total marks fixed for internal assessment in each subject, separately, order to eligible to appear in all University examinations. iii) of good moral character.	No change No change No change
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Sr.No	Subject	Theory			Practical			Grand Total																																																																																																																																										
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(i) There shall be a provision of Internal assessment of 20% marks in each subject of B.P.T. course in theory and practical separately.	(i) There shall be a provision of Internal assessment of 20% marks in each subject of B.P.T. course in theory and practical separately.	(i) There shall be a provision of Internal assessment of 20% marks in each subject of B.P.T. course in theory and practical separately.		No change.																																																																																																																																														

EXISTING	PROPOSED	JUSTIFICATION
(ii) Each theory paper shall be of three hours duration. (iii) The minimum number of marks to pass the examination shall be 50% in theory including Internal Assessment and 50% in practical / clinical including Internal Assessment in each subject. (iv) A candidate securing 75% or above marks in any of the subjects shall be declared to have passed with Distinction in that subject provided he has passed the examination in first attempt. (v) A candidate who fails upto Three subjects in his/her 1st attempt, shall be provisionally permitted to attend classes in 4th Prof. B.P.T. course. However, he/she must pass all the subjects of Third Prof B.P.T. examination in a maximum of four attempts	(ii) Each theory paper shall be of three hours duration. (iii) The minimum number of marks to pass the examination shall be 50% in theory including Internal Assessment and 50% in practical / clinical including Internal Assessment in each subject. (iv) A candidate securing 75% or above marks in any of the subjects shall be declared to have passed with Distinction in that subject provided he has passed the examination in first attempt. (v) A candidate who fails in all but one subject in 3rd Prof BPT in his/her 1st attempt shall be provisionally promoted to 4th Prof. BPT course and shall be provisionally allowed to attend classes in 4th Prof. and provisionally permitted to appear in 4th Prof B.P.T. examinations. If the candidate fails in all subjects, then he/she shall not be promoted to 4th Prof BPT but he/she can appear in the supplementary exam. If he/she passes in any one subject in supplementary exam, he/she will be provisionally promoted to the 4th Prof BPT. However, he/she must pass all the subjects of 3rd Prof B.P.T. examinations in a maximum of four attempts failing which the advantage of provisional promotion to 4th Prof shall be withdrawn.	No change No change No change Amended for clarity w.r.t. decision of BOM on 31.01.2006 vide para 38 .
8. Fourth Professional B.P.T. Examination The Fourth Professional B.P.T. Examination shall be open to a person who : a) has been enrolled for one academic year preceding the examination in a Physiotherapy College affiliated to the University. b) has previously passed the 3rd Prof. B.P.T. examination of this University or an examination of any other recognized University / Institution in India considered equivalent for the purpose by the University. c) Must have passed all the subjects of BPT 3rd Prof	8. Fourth Professional B.P.T. Examination The Fourth Professional B.P.T. Examination shall be open to a person who : a) has been enrolled for one academic year preceding the examination in a Physiotherapy College affiliated to the University. b) has previously passed the 3rd Prof. B.P.T. examination of this University or an examination of any other recognized University / Institution in India considered equivalent for the purpose by the University. c) Must have passed all the subjects of BPT 3rd Prof	No change No change No change

EXISTING	PROPOSED	JUSTIFICATION
d) examination in a maximum of four attempts. has his/her name submitted to the Registrar by the Principal of the college with the following certificates: i) of having attended separately in theory and practical / clinical not less than 75 percent of the lectures delivered and practical conducted in each of the subjects of Third Professional B.P.T. course prescribed for the examination provided that deficiency in the number of lectures delivered and practical conducted may be condoned by the Principal to the extent of 10% of the lectures delivered. ii) of having secured at least 35% marks of the total marks fixed for internal assessment in each subject, separately, in order to be eligible to appear in all University examinations. iii) of good moral character.	d) examination in a maximum of four attempts. has his/her name submitted to the Registrar by the Principal of the college with the following certificates: i) of having attended separately in theory and practical / clinical not less than 75 percent of the lectures delivered and practical conducted in each of the subjects of Third Professional B.P.T. course prescribed for the examination provided that deficiency in the number of lectures delivered and practical conducted may be condoned by the Principal to the extent of 10% of the lectures delivered. ii) of having secured at least 35% marks of the total marks fixed for internal assessment in each subject, separately, in order to be eligible to appear in all University examinations. iii) of good moral character.	No change
Note 1) Internal Assessment should be submitted to the University about two weeks before the commencement of theory examinations. All the colleges shall adopt uniform criteria for Internal Assessment for which a record of such student shall be maintained in each department in each department, which should be made available for inspection by the student concerned as well as University authorities. The re-appear/fail students will not be re-assessed every time for the purpose of Internal Assessment and their previous score of assessment will be carried forward except when their score is less than 50%. 2) If a candidate fulfils the condition laid down in clause 8 (b) (i) and (ii) above for one or more subject (s) he/she may be allowed to take the examination in	Note 1) Internal Assessment should be submitted to the University about two weeks before the commencement of theory examinations. All the colleges shall adopt uniform criteria for Internal Assessment for which a record of such student shall be maintained in each department in each department, which should be made available for inspection by the student concerned as well as University authorities. The re-appear/fail students will not be re-assessed every time for the purpose of Internal Assessment and their previous score of assessment will be carried forward except when their score is less than 50%. 2) If a candidate fulfils the condition laid down in clause 8 (b) (i) and (ii) above for one or more subject (s) he/she may be allowed to take the examination in	No change

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such subject (s) in which he/she fulfils the requirements. 3) Every candidate before appearing in Fourth (Final) Professional B.P.T. Examination must have cleared House Examination securing atleast33 percent marks in both theory as well as practical separately. d) The Final B.P.T. Prof. course shall be of one year duration and the examination shall ordinarily be held in May / June. The Supplementary examination shall be held within six months of the annual examination. e) The Final Professional B.P.T. Examination shall be held one year after the Third Professional Examination and the candidates is required to pass the following subjects:										such subject (s) in which he/she fulfils the requirements. 3) Every candidate before appearing in Fourth (Final) Professional B.P.T. Examination must have cleared House Examination securing atleast35 percent marks in both theory as well as practical separately. d) The Final B.P.T. Prof. course shall be of one year duration and the examination shall ordinarily be held in May / June. The Supplementary examination shall be held within six months of the annual examination. e) The Final Professional B.P.T. Examination shall be held one year after the Third Professional Examination and the candidates is required to pass the following subjects :										Amended as per BOM instruction on 11.11.2004 vide para 18 and on 31.01.2006 vide para 35 No change																																																																																																																								
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Sr. No	Subject	Theory			Practical			Grand Total																																																																																																																																				
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EXISTING	PROPOSED	JUSTIFICATION
Senior Lecturer / Lecturer with at least three years of teaching experience in the subject may be made an Internal Examiner. All examiners / papers setters to be appointed must be teaching / have taught in B.P.T. Classes. (ii) External Examiner shall be appointed only from the teaching staff of Physiotherapy College outside the State of Punjab. (iii) The University may get each paper set from External Examiner only. The moderation of question papers may be got done under the direction of the Vice-Chancellor, if necessary. (iv) The practical examination shall be conducted jointly by the internal examiner of the respective institution and the external examiner for that institute. (v) The award list duly signed by both the examiners would be submitted to the University immediately after the conduct of examination. A copy of the result of practical examination would be kept by the Internal Examiner for six months for reference and record. vi) In order to maintain secrecy the evaluation of answer books shall be got evaluated by putting fictitious roll numbers thereon-spot evaluation (table marking) or any other method under the direction of the Vice-Chancellor.	Examiner. All examiners / papers setters to be appointed must be teaching / have taught in B.P.T. Classes. (ii) External Examiner shall be appointed only from the teaching staff of Physiotherapy College outside the State of Punjab. (iii) The University may get each paper set from External Examiner only. The moderation of question papers may be got done under the direction of the Vice-Chancellor, if necessary. (iv) The practical examination shall be conducted jointly by the internal examiner of the respective institution and the external examiner for that institute. (v) The award list duly signed by both the examiners would be submitted to the University immediately after the conduct of examination. A copy of the result of practical examination would be kept by the Internal Examiner for six months for reference and record. vi) In order to maintain secrecy the evaluation of answer books shall be got evaluated by putting fictitious roll numbers thereon-spot evaluation (table marking) or any other method under the direction of the Vice-Chancellor.	No change No change No change No change No change
10. The Internal Assessment shall be determined by Head of the Department concerned based on the student's class work, home work, house examination records and participation in co-curricular activities and the same duly countersigned by the Principal shall be submitted to the University about two weeks before the commencement of the examination.	10. The Internal Assessment shall be determined by Head of the Department concerned based on the student's class work/ presentations, projects/assignments, house examination records and participation in co-curricular activities and the same duly countersigned by the Principal shall be submitted to the University about two weeks before the commencement of	Changed to include modern pedagogy

EXISTING	PROPOSED	JUSTIFICATION
11. The Registrar / Controller of Examinations shall publish the result after the examination. The candidates shall be issued Detailed Marks Certificate through their Principals. The Degree of Bachelor of Physiotherapy (B.P.T.) shall be awarded by the University on successful completion of six months compulsory rotatory internship, duly certified by the Principal of the College.	11. the examination. The Registrar / Controller of Examinations shall publish the result after the examination. The candidates shall be issued Detailed Marks Certificate through their Principals. The Degree of Bachelor of Physiotherapy (B.P.T.) shall be awarded by the University on successful completion of six months compulsory rotatory internship, duly certified by the Principal of the College.	No change
12. Migration A student of any Physiotherapy College who has passed his 1st, 2nd, 3rd or 4th Prof. B.P.T. examination may be permitted to migrate from one College to another under the jurisdiction of Baba Farid University of Health Sciences, Faridkot, and from any other University to BFUHS in 1st, 2nd, 3rd, or 4th Prof. BPT course on the following conditions : a) The student has to apply for migration to the University within two months from the declaration of his/her previous Prof. B.P.T. result. b) The applicant student will be permitted to migrate if a vacant seat is available in the College where he/she wants to migrate. c) The applicant's total aggregate marks should not be less than the lowest marks obtained by a student of the college to which the migration is sought. This will be applicable only to the applicants seeking inter-university migration. d) The applicant must submit 'No Objection Certificate' from both the Principals. e) An applicant who has passed the 1st, 2nd or 3rd Prof. BPT exam. from another University and seeks migration to a college of Physiotherapy under BFUHS, he/ she may be considered if the above mentioned	12. Migration A student of any Physiotherapy College who has passed his 1st, 2nd, 3rd or 4th Prof. B.P.T. examination may be permitted to migrate from one College to another under the jurisdiction of Baba Farid University of Health Sciences, Faridkot, and from any other University to BFUHS in 1st, 2nd, 3rd, or 4th Prof. BPT course on the following conditions : a) The student has to apply for migration to the University within two months from the declaration of his/her previous Prof. B.P.T. result. b) The applicant student will be permitted to migrate if a vacant seat is available in the College where he/she wants to migrate. c) The applicant's total aggregate marks should not be less than the lowest marks obtained by a student of the college to which the migration is sought. This will be applicable only to the applicants seeking inter-university migration. d) The applicant must submit 'No Objection Certificate' from both the Principals. e) An applicant who has passed the 1st, 2nd or 3rd Prof. BPT exam. from another University and seeks migration to a college of Physiotherapy under BFUHS, he/ she may be considered if the above mentioned	I I I I I I I I No change I I I I I I I I I I I

EXISTING	PROPOSED	JUSTIFICATION
conditions are fulfilled and equivalence of the subjects covered during previous years is established. f) Notwithstanding anything contained in the above rules, if an applicant does not fulfil any of the conditions given above, the Vice-Chancellor may allow a student to migrate under exceptional circumstances to another College.	conditions are fulfilled and equivalence of the subjects covered during previous years is established. f) Notwithstanding anything contained in the above rules, if an applicant does not fulfil any of the conditions given above, the Vice-Chancellor may allow a student to migrate under exceptional circumstances to another College.	No change I I I I I I I
13. The grace marks upto a maximum of five marks may be awarded at the discretion of the University to a student who has failed only in one subject but has passed in all other subjects. 14. All the candidates shall complete 300 teaching hours in Clinical Training during the course.	13. The grace marks upto a maximum of five marks in total (which can be divided depending on the number of subjects the student is failing in each Prof) may be awarded at the discretion of the University to a student who has failed in one or more subjects. 14. All the candidates shall complete 300 teaching hours in Clinical Training during the course.	Changed as per prevailing University norms. No change
15. Compulsory Internship 15.1 All the students after passing Final Prof. B.P.T. examination shall go in for six months supervised compulsory rotatory internship in the following areas: i) Physiotherapy Out-Patient Department 1month ii) ICU & ICCU 15 days iii) General Medicine 15 days iv) General Surgery 15 days v) Paediatrics 15 days vi) Cardiology 15 days vii) Neurology 15 days viii) Neurosurgery 15 days ix) Cardiothoracic surgery 15 days x) Orthopaedics 15 days xi) Physical Medicine & Rehabilitation 15 days	15. Compulsory Internship 15.1 All the students after passing Final Prof. B.P.T. examination shall go in for six months supervised compulsory rotatory internship in the following areas: i) Physiotherapy Out-Patient Department 1month ii) ICU & ICCU 15 days iii) General Medicine 15 days iv) General Surgery 15 days v) Paediatrics 15 days vi) Cardiology 15 days vii) Neurology 15 days viii) Neurosurgery 15 days ix) Cardiothoracic surgery 15 days x) Orthopaedics 15 days	I I I I I I I I I I I No change

EXISTING		PROPOSED		JUSTIFICATION
15.6	Certificate to this effect. All the students shall start their internship within 15 days from the declaration of result. Under exceptional circumstances, if a student cannot do so, he/she will have to take special permission of the University on the recommendations of the Principal.	15.6	their consent and the University issues No Objection Certificate to this effect. All the students shall start their internship within 15 days from the declaration of result. Under exceptional circumstances, if a student cannot do so, he/she will have to take special permission of the University on the recommendations of the Principal. 15.7 All students shall have to submit a dissertation/ research project as a part and in partial fulfillment of the internship program .	I No Change Included as per decision of Faculty of Physiotherapy.
DETAILED BPT SYLLABUS				
BPT FIRST PROF		BPT FIRST PROF		
Total Theory + Practical/ Clinical = 1000 Hours		Total Theory + Practical/Lab = 1100 Hours		Hours across all profs have been made uniform
Paper I: ANATOMY		BPT 101: ANATOMY		Subject coding for easy referencing and examination purpose
Teaching Hours:	Theory = 130, Practical = 100	Teaching Hours:	Theory = 130, Practical/ Lab = 120	Additional practical hours have been added for comprehensive teaching and learning
Theory Exam Time:	03 Hours	Theory Exam Time:	03 Hours	No change in the content of Anatomy syllabus.
MARKS	Theory: 80 + 20 Int. Assessment = 100 Marks Practical: 80 + 20 Int. Assessment = 100 Marks	MARKS	Theory: 80 + 20 Int. Assessment = 100 Marks Practical: 80 + 20 Int. Assessment = 100 Marks	

EXISTING	PROPOSED	JUSTIFICATION
Note: The question paper covering the entire course shall be divided into two sections. Each section to be attempted in a separate answer book and to be evaluated by separate examiners. Section A: Question 1: This will consist of Five short answer questions with answer to each question upto five lines in length. All questions will be compulsory. Each question will carry 3 marks total weightage being 15 marks. Question 2: This will consist of one medium answer question with answer to each question upto three pages in length. One question will be set by the examiner and will be compulsory. This question will consist of 10 marks. Question 3: This will consist of two long answer questions with answer to each question upto 5 pages in length. Two questions will be set by the examiner and the candidate will be required to attempt one. Each question will carry 15 marks. Section B: Same as in Section A.	Instructions for theory paper setting: The question paper covering the entire course shall be divided into two sections. Both sections will be attempted on a single answer sheet and to be evaluated by a single examiner. Section A: Question 1: This will consist of Five short answer questions with answer to each question upto five lines in length. All questions will be compulsory. Each question will carry 3 marks total weightage being 15 marks. Question 2: This will consist of one medium answer question with answer upto three pages in length. This question will be compulsory. This question will carry 10 marks. Question 3: This will consist of two long answer questions with answer to each question upto 5 pages in length. Two questions will be set by the examiner and the candidate will be required to attempt any one and the question will carry 15 marks. Section B: Same as in Section A.	Changed as per prevailing University norms Rephrased for clarity
	COURSE OBJECTIVES & LEARNING OUTCOMES: After the specified hours of lectures and demonstrations the student will- 1. Have complete knowledge of all the bones, and their attachments and ossifications. 2. Have a perfect knowledge in arrangements of all the joints, Ligaments, type and range of movements. 3. Muscle functions for the movements with their attachments and nerve supply.	Course Objectives and learning outcomes have been added to meet global standards and expectations.

EXISTING	PROPOSED	JUSTIFICATION
Section – IV Musculo Skeletal System 40 Hrs (A) Myology: 1. The fascia and muscles of upper limb. 2. The fascia and muscles of lower limb. 3. The fascia and muscles of trunk. 4. The fascia and muscles of head, neck and face. 5. Muscles of eye. (B) Osteology & Arthrology: 1. General structure and classification of all bones of skeleton and their attachments. 2. Classification of joints. 3. Movements of joints. 4. Factors permitting and limiting movements of joints. 5. Joints of Upper Limb. 6. Joints of Lower Limb. 7. Shoulder girdle 8. Pelvic Girdle 9. Joints of Head & Neck and T.M Joints. 10. Joints of Trunk. Section – V Surface & Radiological Anatomy: 15 Hrs Surface Anatomy of the body. Radiographic appearance of Musculo skeletal system of Upper limb, Lower-limb & Spine.	Unit – IV Musculo Skeletal System 40 Hrs (A) Myology: 1. The fascia and muscles of upper limb. 2. The fascia and muscles of lower limb. 3. The fascia and muscles of trunk. 4. The fascia and muscles of head, neck and face. 5. Muscles of eye. (B) Osteology & Arthrology: 1. General structure and classification of all bones of skeleton and their attachments. 2. Classification of joints. 3. Movements of joints. 4. Factors permitting and limiting movements of joints. 5. Joints of Upper Limb. 6. Joints of Lower Limb. 7. Shoulder girdle 8. Pelvic Girdle 9. Joints of Head & Neck and T.M Joints. 10. Joints of Trunk. Unit – V Surface & Radiological Anatomy: Surface Anatomy of the body. Radiographic appearance of Musculo skeletal system of Upper limb, Lower-limb & Spine.	I I I I I I I I I I I Allocation of teaching hours have been omitted to allow teacher to decide scope and extent. No change in topics and content otherwise. I I I I I I I I I I I
Anatomy Practical	Anatomy Practical	
	Scheme for Practical Exam in Anatomy Spotting: 20 Marks Viva(Soft Organs): 25 Marks Viva (Hard Organs): 25 Marks Practical record: 10 Marks	Included for clarity on structure and conduct of practical exam

EXISTING	PROPOSED	JUSTIFICATION
1. Surface Anatomy: To study, identify and mark the surface land marks on human Body. 2. To study the muscles of trunk, lower and upper extremities and face on a dissected human body. 3. To study the Bones of Human Body with special emphasis on origin and insertion of muscles & ligaments. 4. To study the anatomy of joints of upper and lower extremities and vertebral column on a dissected human body. 5. To study the anatomy of C.N.S. and P.N.S. on a dissected human body. 6. To study the gross anatomy of Respiratory, Digestive, Endocrine, Urinary and Genital system on a dissected human body.	1. Surface Anatomy: To study, identify and mark the surface land marks on human Body. 2. To study the muscles of trunk, lower and upper extremities and face on a dissected human body. 3. To study the Bones of Human Body with special emphasis on origin and insertion of muscles & ligaments. 4. To study the anatomy of joints of upper and lower extremities and vertebral column on a dissected human body. 5. To study the anatomy of C.N.S. and P.N.S. on a dissected human body. 6. To study the gross anatomy of Respiratory, Digestive, Endocrine, Urinary and Genital system on a dissected human body.	No change
Recommended Reading: 1. Inderbir Singh, Textbook of Anatomy with colour Atlas - Vol.1,2,3. Jaypee Brothers. 2. B.D.Chaurasia, Human Anatomy - Volume 1,2,3, CBS Publishers & Distributors. 3. Meminn's Last's Anatomy - Regional and applied, Churchill Livingstone. 4. Meminn, et al- A Colour Atlas of Human Anatomy, Mosby. 5. Conningham Manual of Practical Anatomy Vol. I,II,III, Churchill. Livingstone.... 6. Inderbir Singh, A Textbook on Human Neuro Anatomy, Jaypee Brothers. 7. Snell - Clinical Anatomy - Lippincott. 8. Williams & Warwick, Gray's Anatomy - Churchill Livingstone.	Recommended Reading: 1. Inderbir Singh, Textbook of Anatomy with colour Atlas - Vol.1,2,3. Jaypee Brothers. 2. B.D.Chaurasia, Human Anatomy - Volume 1,2,3, CBS Publishers & Distributors. 3. Meminn's Last's Anatomy - Regional and applied, Churchill Livingstone. 4. Meminn, et al- A Colour Atlas of Human Anatomy, Mosby. 5. Conningham Manual of Practical Anatomy Vol. I,II,III, Churchill. Livingstone.... 6. Inderbir Singh, A Textbook on Human Neuro Anatomy, Jaypee Brothers. 7. Snell - Clinical Anatomy - Lippincott. 8. Williams & Warwick, Gray's Anatomy - Churchill Livingstone.	
Paper – II	BPT102: PHYSIOLOGY	Subject coding for easy referencing and examination purpose

EXISTING		PROPOSED		JUSTIFICATION
Teaching Hours:	Theory = 120, Practical = 100	Teaching Hours:	Theory = 120, Practical/ Lab = 130	Additional practical hours have been added for comprehensive teaching and learning
Theory Exam Time:	03 Hours	Theory Exam Time:	03 Hours	
MARKS	Theory: 80 + 20 Int. Assessment = 100 Marks Practical: 80 + 20 Int. Assessment = 100 Marks	MARKS	Theory: 80 + 20 Int. Assessment = 100 Marks Practical: 80 + 20 Int. Assessment = 100 Marks	
Note: The question paper covering the entire course shall be divided into two sections. Each section to be attempted in a separate answer book and to be evaluated by separate examiners.				
Section A: Question1: This will consist of Five short answer questions with answer to each question upto five lines in length. All questions will be compulsory. Each question will carry 3 marks total weightage being 15 marks. Question 2: This will consist of one medium answer question with answer to each question upto three pages in length. One question will be set by the examiner and will be compulsory. This question will consist of 10 marks. Question 3: This will consist of two long answer questions with answer to each question upto 5 pages in length. Two questions will be set by the examiner and the candidate will be required to attempt one. Each question will carry 15 marks.		Instructions for theory paper setting: The question paper covering the entire course shall be divided into two sections. Both sections will be attempted on a single answer sheet and to be evaluated by a single examiner. Section A: Question1: This will consist of Five short answer questions with answer to each question upto five lines in length. All questions will be compulsory. Each question will carry 3 marks total weightage being 15 marks. Question 2: This will consist of one medium answer question with answer upto three pages in length. This question will be compulsory. This question will carry 10 marks. Question 3: This will consist of two long answer questions with answer to each question upto 5 pages in length. Two questions will be set by the examiner and the candidate will be required to attempt any one and the question will carry 15 marks.		Changed as per prevailing University norms
Section B: Same as in Section A.		Section B: Same as in Section A.		Rephrased for clarity

EXISTING	PROPOSED	JUSTIFICATION
	COURSE OBJECTIVES & LEARNING OUTCOMES: The OBJECTIVES of the course is that after the specified hours of lectures and demonstrations the student will be able to understand- 1. Cell structure its organisation maintenance of constant internal environment. 2. Different blood cells their structure functions and clinical importance during variation. 3. Nerve muscle response to stimulation and how impulse transmission occur. 4. Role of GIT in digestion and absorption of various nutrients. 5. How blood pressure is regulated and principles of haemodynamics. 6. How gases are transported and nervous system regulates it. 7. How waste products are excreted out and body pH is maintained. 8. Various hormones that regulate our internal functions and various clinical abnormalities produced with hyper or hypo secretion. 9. Functional nerve cell sensory and motor component reflex pathway and functions of cerebellum and basal ganglia. 10. Functional organisation of receptors of special senses anatomy functions and clinical abnormalities. 11. Cardiovascular and respiratory adjustments during exercises. 12. Muscles during exercise performance effect of hormones, red and white fibres and metabolic system used during exercise programs	Course Objectives and learning outcomes have been added to meet global standards and expectations.
	Section A Unit – I General Introduction: 1. Cell Introduction: Outline of basic concepts of cell structure, functions of components and transport across membranes. 2. Skin: Functions, blood of flow and temperature regulation.	Section A Unit – I General Introduction: 1. Cell Introduction: Outline of basic concepts of cell structure, functions of components and transport across membranes. 2. Skin: Functions, blood of flow and temperature regulation.

EXISTING	PROPOSED	JUSTIFICATION
3. Blood and Lymph: Cell renewal system, haemoglobin, erythrocyte granulocyte, lymphocyte, coagulation, regulation of hydrogen within concentration of body fluids, fluid distribution and exchange. Section – II Physiology of the system of the body: 45 Hrs 1. Digestion: Control of food and water intake and secretion and absorption movements of the alimentary canal. 2. Circulation: Cardio-vascular system, mechanical and electro-physiological activity of the heart, regulation of heart, coronary circulation, haemodynamics, circulation through brain, skin and skeletal muscle. 3. Excretion: Renal functions including formation of Urine & Micturition. 4. Respiration: Respiratory gases, pulmonary gas exchange, control and mechanics of breathing, hypoxia, asphyxia, dyspnoea, oxygen therapy and resuscitation. 5. Endocrine System: Outline of various hormones and their actions, pituitary gland, thyroid, parathyroid, adrenal glands & Gonads. 6. General Metabolism: Carbohydrate, Protein & Fat Metabolism.	3. Blood and Lymph: Cell renewal system, haemoglobin, erythrocyte granulocyte, lymphocyte, coagulation, regulation of hydrogen within concentration of body fluids, fluid distribution and exchange. Unit – II Physiology of the system of the body: 1. Digestion: Control of food and water intake and secretion and absorption movements of the alimentary canal. 2. Circulation: Cardio-vascular system, mechanical and electro-physiological activity of the heart, regulation of heart, coronary circulation, haemodynamics, circulation through brain, skin and skeletal muscle. 3. Excretion: Renal functions including formation of Urine & Micturition. 4. Respiration: Respiratory gases, pulmonary gas exchange, control and mechanics of breathing, hypoxia, asphyxia, dyspnoea, oxygen therapy and resuscitation. 5. Endocrine System: Outline of various hormones and their actions, pituitary gland, thyroid, parathyroid, adrenal glands & Gonads. 6. General Metabolism: Carbohydrate, Protein & Fat Metabolism.	I I Allocation of teaching hours have been omitted to allow teacher to decide scope and extent. No change in topics and content otherwise. I I I I No change I I I
Section – III Neuro – Physiology: 20 Hrs 1. Neuron: Properties and functions. 2. Action Potential. 3. Special properties of nerve trunks and tracts. 4. Motor Units. 5. Reflex physiology. 6. Synapse and synaptic transmission. 7. Supraspinal control. 8. Cerebellum and basal ganglia.	Section B Unit – III Neuro – Physiology: 1. Neuron: Properties and functions. 2. Action Potential. 3. Special properties of nerve trunks and tracts. 4. Motor Units. 5. Reflex physiology. 6. Synapse and synaptic transmission. 7. Supraspinal control. 8. Cerebellum and basal ganglia.	I I I I I I I I

EXISTING	PROPOSED	JUSTIFICATION
9. Autonomic nervous system 10. Somatic sensation. 11. Pain 12. Taste, Olfaction, Auditory and Vision 13. Neuro Physiological Psychology Section – IV Muscle Physiology: 15 Hrs 1. Structure and function of Muscle tissue - skeletal and cardiac 2. Chemical processes involved in muscle contraction. 3. Physiology of muscle contraction. Section – V Physiology of exercise and work: 20 Hrs 1. Neuromuscular activity, human movement, physiological mechanism in movement behaviour, strength, endurance, analysis of movement. 2. Circulatory and respiratory response to exercise including effects on the heart blood circulation body fluid changes, pulmonary -ventilation, gas exchange and transport, etc. 3. Effects of exercise and work on other body functions. 4. Metabolic and environmental aspects of exercise and work - metabolism, energy requirement, efficiency of muscular work, nutritional aspects, heat and body temperature regulation & environmental factors. 5. Effects of Exercise training - endurance, fatigue and recovery. 6. Fitness and health - age sex, body type, race, stress and medical aspects of exercise.	9. Autonomic nervous system 10. Somatic sensation. 11. Pain 12. Taste, Olfaction, Auditory and Vision 13. Neuro Physiological Psychology Unit – IV Muscle Physiology: 1. Structure and function of Muscle tissue - skeletal and cardiac 2. Chemical processes involved in muscle contraction. 3. Physiology of muscle contraction. Unit– V Physiology of exercise and work: 1. Neuromuscular activity, human movement, physiological mechanism in movement behaviour, strength, endurance, analysis of movement. 2. Circulatory and respiratory response to exercise including effects on the heart blood circulation body fluid changes, pulmonary -ventilation, gas exchange and transport, etc. 3. Effects of exercise and work on other body functions. 4. Metabolic and environmental aspects of exercise and work - metabolism, energy requirement, efficiency of muscular work, nutritional aspects, heat and body temperature regulation & environmental factors. 5. Effects of Exercise training - endurance, fatigue and recovery. 6. Fitness and health - age sex, body type, race, stress and medical aspects of exercise.	I I I Allocation of teaching hours have been omitted to allow teacher to decide scope and extent. No change in topics and content otherwise. I I I I I I No change I I I I I I I
PHYSIOLOGY PRACTICAL	PHYSIOLOGY PRACTICAL	
	Scheme of Practical Exam in Physiology Haematology: 20 Marks Clinicals/ Human practical: 20 Marks	Included for clarity on structure and conduct of practical exam

EXISTING	PROPOSED	JUSTIFICATION
Paper – III: BIOCHEMISTRY	BPT 103: BIOCHEMISTRY	Subject coding for easy referencing and examination purpose
Teaching Hours: Theory = 50	Teaching Hours: Theory = 50, Practical/Lab = Nil	No Change in teaching hours.
Theory Exam Time: 03 Hours	Theory Exam Time: 03 Hours	
MARKS Theory: 80 + 20 Int. Assessment = 100 Marks	MARKS Theory: 80 + 20 Int. Assessment = 100 Marks	
Note: The question paper covering the entire course shall be divided into two sections. Each section to be attempted in a separate answer book and to be evaluated by separate examiners.	Instructions for theory paper setting: The question paper covering the entire course shall be divided into two sections. Both sections will be attempted on a single answer sheet and to be evaluated by a single examiner.	Changed as per prevailing University norms
Section A: Question 1: This will consist of Five short answer questions with answer to each question upto five lines in length. All questions will be compulsory. Each question will carry 3 marks total weightage being 15 marks. Question 2: This will consist of one medium answer question with answer to each question upto three pages in length. One question will be set by the examiner and will be compulsory. This question will consist of 10 marks. Question 3: This will consist of two long answer questions with answer to each question upto 5 pages in length. Two questions will be set by the examiner and the candidate will be required to attempt one. Each question will carry 15 marks. Section B:	Section A: Question 1: This will consist of Five short answer questions with answer to each question upto five lines in length. All questions will be compulsory. Each question will carry 3 marks total weightage being 15 marks. Question 2: This will consist of one medium answer question with answer to each question upto three pages in length. One question will be set by the examiner and will be compulsory. This question will consist of 10 marks. Question 3: This will consist of two long answer questions with answer to each question upto 5 pages in length. Two questions will be set by the examiner and the candidate will be required to attempt any one and the question will carry 15 marks. Section B: Same as in Section A.	Rephrased for clarity.

EXISTING	PROPOSED	JUSTIFICATION
Same as in Section A.	COURSE OBJECTIVES& LEARNING OUTCOMES: The OBJECTIVES of the course is that after the specified hours of lectures and demonstrations the student will be able to- 1. Demonstrate comprehensive understanding of biochemistry. 2. Acquire the knowledge in biochemistry that is required to be practiced in community and health care system. 3. Understand relevant investigations which will help to know about the important medical conditions.	Course Objectives and learning outcomes have been added to meet global standards and expectations.
1. Biophysics: Concepts of pH and buffers, acid base equilibrium osmotic pressure and its physiological applications. 2 Hrs 2. Cell: Morphology, structure & functions of cell, cell membrane, Nucleus, chromatin, Mitochondria, Endoplasmic Reticulum, Ribosomes. 2 Hrs 3. Carbohydrates: Definition, functions, sources, classifications, Monosaccharides, Disaccharides, Polysaccharides, mucopolysaccharide and its importance. 2 Hrs 4. Lipids: Definition, function, sources, classification, simple lipid, compound lipid, derived lipid, unsaturated and saturated fatty acid. Essential fatty acids and their importance, Blood lipids and their implications, cholesterol and its importance. 2 Hrs 5. Proteins Definition, sources, classification, simple protein conjugated protein, derived proteins and its, properties. 2 Hrs 6. Nucleic acid: Structure and function of DNA and RNA, Nucleosides, nucleotides, Genetic code, biologically important nucleotides. 3 Hrs 7. Enzymes: Definitions, classification, mode of action, factor	Section A 1. Biophysics: Concepts of pH and buffers, acid base equilibrium osmotic pressure and its physiological applications. 2. Cell: Morphology, structure & functions of cell, cell membrane, Nucleus, chromatin, Mitochondria, Endoplasmic Reticulum, Ribosomes. 3. Carbohydrates: Definition, functions, sources, classifications, Monosaccharides, Disaccharides, Polysaccharides, mucopolysaccharide and its importance. 4. Lipids: Definition, function, sources, classification, simple lipid, compound lipid, derived lipid, unsaturated and saturated fatty acid. Essential fatty acids and their importance, Blood lipids and their implications, cholesterol and its importance. 5. Proteins Definition, sources, classification, simple protein conjugated protein, derived proteins and its, properties. 6. Nucleic acid: Structure and function of DNA and RNA, Nucleosides, nucleotides, Genetic code, biologically important nucleotides. 7. Enzymes: Definitions, classification, mode of action, factor affecting enzyme action, clinical importance of enzyme. 8. Vitamins: Classification, fat soluble vitamins, A,D,E & K, water soluble vit. B complex & C, Daily Requirements, Physiological	I I I I I I I I Allocation of teaching hours have been omitted to allow teacher to decide scope and extent. No change in topics and content otherwise. I I I I I I I I

EXISTING		PROPOSED	JUSTIFICATION
18. Isotopes: Isotopes and their role in treatment and diagnosis of diseases. 2 Hrs		diseases.	I I
Recommended Reading: 1. Medical Biochemistry <i>for</i> Physiotherapy students- Harpreet Kaur-- Jaypee Brothers. 2. Textbook of Biochemistry - Chatterjee M.N. - Jaypee Brothers. 3. Textbook of Biochemistry for Medical Students - Vasudevan D.M. - Jaypee Brothers. 4. Clinical Biochemistry - Metabolic & Clinical aspects - Marshall&Banger Churchill Livingstone. 5. Biochemistry by Southerland - Churchill Livingstone		Recommended Reading: 1. Medical Biochemistry <i>for</i> Physiotherapy students- Harpreet Kaur-- Jaypee Brothers. 2. Human Physiology and Biochemistry – Dr. A K Jain 3. Textbook of Biochemistry - Chatterjee M.N. - Jaypee Brothers. 4. Textbook of Biochemistry for Medical Students - Vasudevan D.M. - Jaypee Brothers. 5. Clinical Biochemistry - Metabolic & Clinical aspects - Marshall&Banger Churchill Livingstone. 6. Biochemistry by Southerland - Churchill Livingstone	
Paper – IV ELECTROTHERAPY - I		BPT 104 : ELECTROTHERAPY - I	Subject coding for easy referencing and examination purpose
Teaching Hours: Theory = 100, Practical = 100	Teaching Hours: Theory = 100, Practical/ Lab = 100		No Change
Theory Exam Time: 03 Hours	Theory Exam Time: 03 Hours		
MARKS Theory: 80 + 20 Int. Assessment = 100 Marks Practical: 80 + 20 Int. Assessment = 100 Marks	MARKS Theory: 80 + 20 Int. Assessment = 100 Marks Practical: 80 + 20 Int. Assessment = 100 Marks		
Note: The question paper covering the entire course shall be divided into two sections. Each section to be attempted in a separate answer book and to be evaluated by separate examiners.		Instructions for theory paper setting: The question paper covering the entire course shall be divided into two sections. Both sections will be attempted on a single answer sheet and to be evaluated by a single examiner.	Changed as per prevailing University norms
Section A: Question1: This will consist of Five short answer questions with answer to each question upto five lines in length. All questions will be compulsory. Each question will carry 3 marks total weightage being 15		Section A: Question1: This will consist of Five short answer questions with answer to each question upto five lines in length. All questions will be compulsory. Each question will carry 3 marks total weightage being 15	

EXISTING	PROPOSED	JUSTIFICATION
marks. Question 2: This will consist of one medium answer question with answer to each question upto three pages in length. One question will be set by the examiner and will be compulsory. This question will consist of 10 marks. Question 3: This will consist of two long answer questions with answer to each question upto 5 pages in length. Two questions will be set by the examiner and the candidate will be required to attempt one. Each question will carry 15 marks. Section B: Same as in Section A.	Question 2: This will consist of one medium answer question with answer to each question upto three pages in length. One question will be set by the examiner and will be compulsory. This question will consist of 10 marks. Question 3: This will consist of two long answer questions with answer to each question upto 5 pages in length. Two questions will be set by the examiner and the candidate will be required to attempt one. Each question will carry 15 marks. Section B: Same as in Section A.	Rephrased for clarity.
	COURSE OBJECTIVES AND LEARNING OUTCOMES 1. To make students recall the physics principles, Laws of Electricity, Electromagnetic Spectrum. 2. Describe main electrical supply, Shock and precautions 3. To acquaint students with types and production of various electrical currents, superficial heating modality. 4. To make students aware of various Electro-diagnostic Measures. By the end of the module the student will be able to: 1. Adjudge the role of a therapeutic modality in Rehabilitation. 2. Cognize the indications and contraindications of electrotherapeutic modalities. 3. Formulate the most appropriate electrotherapy modality to use in clinical practice. 4. To know the theory underpinning electrotherapy modalities. Section A	Course Objectives and learning outcomes have been added to meet global standards and expectations.

EXISTING	PROPOSED	JUSTIFICATION
Ionisation and their application in various conditions 3. Iontophoresis - Principles of clinical application, indication, contraindication, precaution, operational skills of equipment & patient preparation. 4. Modified direct current - various pulses, duration and frequency and their effect on Nerve and Muscle tissue. Production of interrupted and surged current & their effects. 5. Modified direct current - Physiological and therapeutic effects, principles of clinical application indications, contra indications, precautions, operational skills of equipment & patient preparation. 6. <u>Transcutaneous Electrical Nerve Stimulation (TENS):</u> a. Types of Low Frequency, pulse widths, frequencies & intensities used as TENS applications. b. Theories of pain relief by TENS. c. Principle of clinical application, effects & uses, indications, contraindications, precautions. operational skills of equipment & patient preparation. .	3. Iontophoresis - Principles of clinical application, indication, contraindication, precaution, operational skills of equipment & patient preparation. 4. Modified direct current - various pulses, duration and frequency and their effect on Nerve and Muscle tissue. Production of interrupted and surged current & their effects. 5. Modified direct current - Physiological and therapeutic effects, principles of clinical application indications, contra indications, precautions, operational skills of equipment & patient preparation. 6. <u>Transcutaneous Electrical Nerve Stimulation (TENS):</u> a. Types of Low Frequency, pulse widths, frequencies & intensities used as TENS applications. b. Theories of pain relief by TENS. c. Principle of clinical application, effects & uses, indications, contraindications, precautions. operational skills of equipment & patient preparation. .	I I I I I I Allocation of teaching hours have been omitted to allow teacher to decide scope and extent. No change in topics and content otherwise. I I I I
Section-IV: Electrical Reactions and Electro - diagnostic tests: 10 Hrs 1. Electrical Stimuli and normal behaviour of Nerve and muscle tissue. 2. Types of lesion and development of reaction of degeneration. 3. Faradic - Intermittent direct current test. 4. S.D. Curve and its application. 5. Chronaxie, Rheobase & pulse ratio. Section-V 20 Hrs 1. Infra red rays - Wavelength, frequency, types & sources of IRR generation, techniques of irradiation, physiological & therapeutic effects, indications, contraindications, precautions,	Unit -IV: Electrical Reactions and Electro - diagnostic tests: 1. Electrical Stimuli and normal behaviour of Nerve and muscle tissue. 2. Types of lesion and development of reaction of degeneration. 3. Faradic - Intermittent direct current test. 4. S.D. Curve and its application. 5. Chronaxie, Rheobase & pulse ratio. Unit -V 1. Infra red rays - Wavelength, frequency, types & sources of IRR generation, techniques of irradiation, physiological & therapeutic effects, indications, contraindications, precautions, operational skills of equipment & patient preparation.	I I I I I I Allocation of teaching hours have been omitted to allow teacher to decide scope and extent. No change in topics and content otherwise.

EXISTING	PROPOSED	JUSTIFICATION
operational skills of equipment & patient preparation. 2. Ultra - violet rays (UVR): a. Wavelength, frequency, types & sources of UVR generation, techniques of irradiation, physiological & therapeutic effects, indications, contraindications, precautions, operational skills of equipment & patient preparation. b. Dosimetry of UVR. Section-VI Superficial heat - Paraffin wax bath, moist heat, electrical heating pads 10 Hrs a) Mechanism of production. b) Mode of heat transfer. c) Physiological & therapeutic effects. Indications, contraindications, precautions, operational skills of equipment & patient preparation.	2. Ultra - violet rays (UVR): a. Wavelength, frequency, types & sources of UVR generation, techniques of irradiation, physiological & therapeutic effects, indications, contraindications, precautions, operational skills of equipment & patient preparation. b. Dosimetry of UVR. Unit -VI Superficial heat - Paraffin wax bath, moist heat, electrical heating pads a) Mechanism of production. b) Mode of heat transfer. c) Physiological & therapeutic effects. Indications, contraindications, precautions, operational skills of equipment & patient preparation.	I I I I I Allocation of teaching hours have been omitted to allow teacher to decide scope and extent. No change in topics and content otherwise. I I I I I
Electrotherapy – I (Practical)	Electrotherapy – I Practical Scheme of Practical Exam in Electrotherapy -I Electrical stimulation and SD Curve: 10 marks Low frequency modality: 15 marks Radiation therapy and Superficial heat: 15 marks External Viva: 15 Marks Internal Viva: 15 Marks Practical Record: 10 Marks	Included for clarity on structure and conduct of practical exam
1. To study the basic operation of electric supply to the equipment & safety devices. 2. To experience sensory and motor stimulation of nerves and muscles by various types of low frequency currents on self. 3. To locate and stimulate different motor points region wise,	1. To study the basic operation of electric supply to the equipment & safety devices. 2. To experience sensory and motor stimulation of nerves and muscles by various types of low frequency currents on self. 3. To locate and stimulate different motor points region wise,	I I I I I

EXISTING	PROPOSED	JUSTIFICATION
including the upper & lower limb, trunk free. - Therapeutic application of different low frequency currents Faradic foot bath, Faradism under pressure, Iontophoresis. - To study the reactions of degeneration of nerves, to plot strength duration curves. - To find Chronaxie and Rheobase. - To study a hydro collator Unit, its operations and therapeutic application of Hot packs - region wise. - To study the various types of Infrared lamps and their application to body region wise. - To study a paraffin wax bath Unit, its operation and different methods of application - regions wise. - To study the different types of Ultra violet Units, their operation, assessment of test dose and application of U.V.R. - region wise. - To study a TENS Stimulator, its operation and application - region wise.	including the upper & lower limb, trunk free. - Therapeutic application of different low frequency currents Faradic foot bath, Faradism under pressure, Iontophoresis. - To study the reactions of degeneration of nerves, to plot strength duration curves. - To find Chronaxie and Rheobase. - To study a hydro collator Unit, its operations and therapeutic application of Hot packs - region wise. - To study the various types of Infrared lamps and their application to body region wise. - To study a paraffin wax bath Unit, its operation and different methods of application - regions wise. - To study the different types of Ultra violet Units, their operation, assessment of test dose and application of U.V.R. - region wise. - To study a TENS Stimulator, its operation and application - region wise.	I I I I I No change I I I I I I I I
Recommended Reading: - Electrotherapy Explained: Principles & Practice - Low & Reed - Butterworth Heinemann. - Clayton's Electrotherapy, (9th edi.) Forster & Palastanga Bailliere Tindall. - Therapeutic Heat and Cold - Lehmann - Williams & Wilkins. - Principles and Practice of Electrotherapy - Kahn - Churchill Livingstone. - Textbook of Electrotherapy – Jagmohan Singh - JAYPEE Bros, New Delhi	Recommended Reading: - Electrotherapy Explained: Principles & Practice - Low & Reed - Butterworth Heinemann. - Clayton's Electrotherapy, (9th edi.) Forster & Palastanga Bailliere Tindall. - Therapeutic Heat and Cold - Lehmann - Williams & Wilkins. - Principles and Practice of Electrotherapy - Kahn - Churchill Livingstone. - Textbook of Electrotherapy – Jagmohan Singh - JAYPEE Bros, New Delhi	
Paper – V EXERCISE THERAPY - I	BPT 105: EXERCISE THERAPY – I	Subject coding for easy referencing and

EXISTING		PROPOSED		JUSTIFICATION
Teaching Hours:	Theory = 100, Practical = 100	Teaching Hours:	Theory = 100, Practical/ Lab = 150	examination purpose
Theory Exam Time:	03 Hours	Theory Exam Time:	03 Hours	Additional practical hours have been added for comprehensive teaching and learning
MARKS	Theory: 80 + 20 Int. Assessment = 100 Marks Practical: 80 + 20 Int. Assessment = 100 Marks	MARKS	Theory: 80 + 20 Int. Assessment = 100 Marks Practical: 80 + 20 Int. Assessment = 100 Marks	
Note: The question paper covering the entire course shall be divided into two sections. Each section to be attempted in a separate answer book and to be evaluated by separate examiners. Section A: Question 1: This will consist of Five short answer questions with answer to each question upto five lines in length. All questions will be compulsory. Each question will carry 3 marks total weightage being 15 marks. Question 2: This will consist of one medium answer question with answer to each question upto three pages in length. One question will be set by the examiner and will be compulsory. This question will consist of 10 marks. Question 3: This will consist of two long answer questions with answer to each question upto 5 pages in length. Two questions will be set by the examiner and the candidate will be required to attempt one. Each question will carry 15 marks. Section B: Same as in Section A.		Instructions for theory paper setting: The question paper covering the entire course shall be divided into two sections. Both sections will be attempted on a single answer sheet and to be evaluated by a single examiner. Section A: Question 1: This will consist of Five short answer questions with answer to each question upto five lines in length. All questions will be compulsory. Each question will carry 3 marks total weightage being 15 marks. Question 2: This will consist of one medium answer question with answer to each question upto three pages in length. One question will be set by the examiner and will be compulsory. This question will consist of 10 marks. Question 3: This will consist of two long answer questions with answer to each question upto 5 pages in length. Two questions will be set by the examiner and the candidate will be required to attempt one. Each question will carry 15 marks. Section B: Same as in Section A.		Changed as per prevailing University norms Rephrased for clarity.

EXISTING	PROPOSED	JUSTIFICATION
	COURSE OBJECTIVES& LEARNING OUTCOMES: On completion of 200 hours of this subject, the students will be able to: 1. Apply and analysis of basic principles, technique and effects of exercises and goal setting for physical disorders as an intervention technique, 2. Understand, integrate and apply the fundamentals principles of movement, motor control, and motor learning. 3. Learn various evaluation techniques their procedures and guidelines like Goniometry, MMT, 4. Learn about various intervention techniques procedures indications, precautions and contraindications of various exercises with or without equipments, soft tissue manipulations, suspension therapy 5. Identify the exercise therapy equipment and demonstrate their use and effects 6. learn prescription and demonstration of exercises as a therapeutic technique to patients. 7. Will be able to apply technique for research purpose	Course Objectives and learning outcomes have been added to meet global standards and expectations.
Section-I Introduction to Exercise therapy, Principles, techniques and general areas of its application, Assessment & its importance. Description of Fundamental starting positions and derives position	40 Hrs Section A UNIT-1 Introduction to Exercise therapy, Principles, techniques and general areas of its application, Assessment & its importance. Description of Fundamental starting positions and derives position	I I I I I

EXISTING	PROPOSED	JUSTIFICATION
including joint positions, muscle work, stability, effects and uses. Introduction to Movements including analysis of joint motion, and muscle work. Classification of movements - Describe the types, technique of application, indications, contraindication, effects and uses of the following: a) Active movement b) Passive movement c) Active assisted movement d) Resisted movement e) To study the principles, techniques of application indication, precaution, effects and uses of Suspension Therapy.	including joint positions, muscle work, stability, effects and uses. Introduction to Movements including analysis of joint motion, and muscle work. Classification of movements - Describe the types, technique of application, indications, contraindication, effects and uses of the following: a) Active movement b) Passive movement c) Active assisted movement d) Resisted movement e) To study the principles, techniques of application indication, precaution, effects and uses of Suspension Therapy.	I I Allocation of teaching hours have been omitted to allow teacher to decide scope and extent. No change in topics and content otherwise. I I I I I I
Section – II Manual Muscle Testing 10 Hrs a) Principles and application techniques of Manual muscle testing. b) Testing position, procedure and grading of muscles of the upper limb, lower limb and trunk etc. Section – III Goniometry 10 Hrs Goniometers and its types a) Principles, techniques and application of Goniometry. b) Testing position, procedure and measurement of R.O.M. of the joints of upper limbs, lower limbs and trunk.	UNIT – II 1. Manual Muscle Testing a. Principles and application techniques of Manual muscle testing. b. Testing position, procedure and grading of muscles of the upper limb, lower limb and trunk etc. UNIT-III Goniometry Goniometers and its types a. Principles, techniques and application of Goniometry. b. Testing position, procedure and measurement of R.O.M. of the joints of upper limbs, lower limbs and trunk.	No change I I I I
Section - IV Soft Tissue Manipulation (Therapeutic Massage) 20 Hrs a) History, various types of soft tissue manipulation techniques. b) Physiological effects of soft tissue manipulation on the following systems of the body, Circulatory, Nervous, Musculoskeletal, Excretory, Respiratory, Integumentary system and Metabolism.	Section B Unit - IV 1. Soft Tissue Manipulation (Therapeutic Massage) a. History, various types of soft tissue manipulation techniques. b. Physiological effects of soft tissue manipulation on the following systems of the body, Circulatory, Nervous, Musculoskeletal, Excretory, Respiratory, Integumentary system and Metabolism.	I I I I I I I

EXISTING	PROPOSED	JUSTIFICATION
c) Classify, define and describe: - effleurage, stroking, kneading, petrissage, deep friction, vibration and shaking etc. d) Preparation of patient: Effects, uses, indications and contraindications of the above manipulation. Section - V Motor Learning 10 Hrs I. <u>Introduction to motor learning</u> - Classification of motor skills. - Measurement of motor performance. II. <u>Introduction to motor control</u> - Theories of motor control. - Applications. III. <u>Learning Environment</u> - Learning of Skill. - Instruction & augmented feedback. - Practice conditions. Section – VI Relaxation & Therapeutic Gymnasium 10 Hrs <u>Relaxation:</u> - Describe relaxation, muscle fatigue, muscle spasm and tension (mental & physical) - Factors contributing to fatigue & tension - Techniques of relaxation (local and general) - Effects, uses and clinical application - Indication & contraindication. <u>Therapeutic Gymnasium</u> - Setup of a gymnasium & its importance. - Various equipment in the gymnasium. Operational skills, effects & uses of each equipment.	c. Classify, define and describe: - effleurage, stroking, kneading, petrissage, deep friction, vibration and shaking etc. d. Preparation of patient: Effects, uses, indications and contraindications of the above manipulation. UNIT– V: Motor Learning <u>Introduction to motor learning</u> - Classification of motor skills. - Measurement of motor performance. <u>Introduction to motor control</u> - Theories of motor control. - Applications. <u>Learning Environment</u> - Learning of Skill. - Instruction & augmented feedback. - Practice conditions. UNIT-VI Relaxation & Therapeutic Gymnasium <u>1. Relaxation:</u> - Describe relaxation, muscle fatigue, muscle spasm and tension (mental & physical) - Factors contributing to fatigue & tension - Techniques of relaxation (local and general) - Effects, uses and clinical application - Indication & contraindication. <u>2. Therapeutic Gymnasium</u> - Setup of a gymnasium & its importance. - Various equipment in the gymnasium. Operational skills, effects & uses of each equipment.	I I I Allocation of teaching hours have been omitted to allow teacher to decide scope and extent. No change in topics and content otherwise. I I I I I I Allocation of teaching hours have been omitted to allow teacher to decide scope and extent. No change in topics and content otherwise. I I I
Exercise Therapy -I Practical		
Scheme of Practical Exam in Exercise Therapy -I		Included for clarity on structure and conduct
Exercise Therapy -I Practical		
Scheme of Practical Exam in Exercise Therapy -I		
Soft tissue manipulation: 10 Marks		

EXISTING	PROPOSED	JUSTIFICATION
Williams and Wilkins. - Principle of Exercise therapy - Gardiner - C.B.S. Delhi. - Beard's Massage - Wood - W.B. Saunders. - Motor Control: Theory and Practical Applications Shumway - Cook & Wallcott - Lippincott. - Hydrotherapy, Principles and Practices - Campion - Butterworth Heinmann. - Muscle testing and functions - Kendall - Williams & Wilkins. - Daniels and Worthingham's - Muscle testing - Hislop & Montgomery - W.B. Saunders. - Measurement of Joint Motion: A Guide to Goniometry - Norkins & White F.A. Davis.	Williams and Wilkins. - Principle of Exercise therapy - Gardiner - C.B.S. Delhi. - Beard's Massage - Wood - W.B. Saunders. - Motor Control: Theory and Practical Applications Shumway - Cook & Wallcott - Lippincott. - Hydrotherapy, Principles and Practices - Campion - Butterworth Heinmann. - Muscle testing and functions - Kendall - Williams & Wilkins. - Daniels and Worthingham's - Muscle testing - Hislop & Montgomery - W.B. Saunders. - Measurement of Joint Motion: A Guide to Goniometry - Norkins & White F.A. Davis.	
Paper – VI Computer Applications (Practical)	BPT 106: Computer Applications (Practical)	Subject coding for easy referencing and examination purpose
Teaching Hours:	Teaching Hours: Theory: 15, Pract/ Lab: 35	Theory and practical hours have been mentioned separately for clarity.
MARKS	Marks: Theory = NIL Theory Exam Time: NIL Practical: 40+ 10 Int. Assess = 50	Theory has been mentioned to maintain uniformity of format
Note : Only Practical examination will be conducted for this paper.	Instructions for theory paper setting: None . ONLY PRACTICAL EXAM WILL BE CONDUCTED FOR THIS SUBJECT	Theory has been mentioned to maintain uniformity of format
	COURSE OBJECTIVES & LEARNING OUTCOMES:	Course Objectives and learning outcomes have

EXISTING		PROPOSED		JUSTIFICATION
BPT SECOND Prof (Total Theory + Practical/Clinical = 1000 hours)		BPT SECOND Prof (Total Theory + Practical/Clinical = 1100 hours)		Hours for all Profs have been made uniform
Paper – I Pathology & Microbiology		BPT 201: PATHOLOGY		Subject coding for easy referencing and examination purpose
Teaching Hours:	Theory = 60+40=100 Practical = NIL	Teaching Hours:	Theory = 100, Practical/ Lab = NIL	Teaching hours have been increased in accordance to importance and content of subject
Theory Exam Time:	03 Hrs.	Exam Time:	03 Hrs.	Exam hours have been increased in accordance to importance and content of subject
MARKS	Theory: 80 + 20 Int. Assessment = 100 Marks	MARKS	Theory: 80 + 20 Int. Assessment = 100 Marks	Exam marks have been increased in accordance to importance and content of subject
Note: The question paper covering the entire course shall be divided into two sections. Each section to be attempted in a separate answer book and to be evaluated by separate examiners.		Instructions for theory paper setting:		
Section A: PATHOLOGY Question1: This will consist of Five short answer questions with answer to each question upto five lines in length. All questions will be compulsory. Each question will carry 3 marks total weightage being 15 marks. Question 2: This will consist of one medium answer question with answer to each question upto three pages in length. One question will be set by the examiner and will be compulsory. This question will consist of 10 marks. Question 3: This will consist of two long answer		Question1: This will consist of Five short answer questions with answer to each question upto five lines in length. All questions will be compulsory. Each question will carry 3 marks total weightage being 15 marks. Question 2: This will consist of one medium answer question with answer to each question upto three pages in length. One question will be set by the examiner and will be compulsory. This question will consist of 10 marks. Question 3: This will consist of two long answer questions with answer to each question upto 5 pages in length. Two questions will		Rephrased for clarity.

EXISTING	PROPOSED	JUSTIFICATION
questions with answer to each question upto 5 pages in length. Two questions will be set by the examiner and the candidate will be required to attempt one. Each question will carry 15 marks. Section B: MICROBIOLOGY Same as in Section A.	be set by the examiner and the candidate will be required to attempt one. Each question will carry 15 marks. COURSE OBJECTIVES & LEARNING OUTCOMES: On completion of this subject, the students will be able to- 1. Learn the pathological changes in various conditions, diseases and disorders, which are commonly treated by physiotherapy. 2. Demonstrate an understanding of the pathology and microbiology of common diseases that therapists would encounter in their daily practice. 3. Understand how to protect themselves and their patients from infections during their interactions.	Course Objectives and learning outcomes have been added to meet global standards and expectations.
SECTION I PATHOLOGY Teaching Hours: 60 Hrs 1. Introduction : Concepts of diseases, classification of lesions. 2. Bacterial, viral and parasitic infections – a general outline. 3. Inflammation and repair, degeneration, necrosis and gangrene. 4. Haemorrhage, shock, embolism, thrombosis. 5. Tuberculosis, Leprosy, Typhoid. 6. Deficiency diseases. 7. Tumours : Aetiology & spread, common tumours. 8. Blood : Anaemia, Heart and blood vessels common congenital anomalies, Rheumatic & Coronary heart diseases.	1. Introduction to Pathology 2. Cell injuries: a) Aetiology and Pathogenesis with a brief recall of important aspects of normal cell structure. b) Reversible cell injury: Types, Sequential changes, Cellular swellings, vacuolation, Hyaline changes, Mucoid changes. c) Irreversible cell injury: Types of Necrosis & Gangrene, Autolysis. d) Pathologic calcification: Dystrophic and Metastatic. Intracellular Accumulations.	Content has been elaborated and added to complement/ justify the increase in marks. I I I I I I I I

EXISTING	PROPOSED	JUSTIFICATION
9. Respiratory System : Pneumonias, Bronchiectasis, Emphysema, Chronic, bronchitis, Asthma. 10. Bone and Joints : Autoimmune diseases, septic arthritis, Osteomyelitis. 11. Skin : Leprosy. 12. Urinary System. 13. Central nervous system : CNS infections, vascular disorders. 14. Scleroderma Arthritis. 15. Scleroderma and Psoriasis. 16. Diseases of muscle including polymyositis, Myopathies. 17. Volkmann's Ischaemia	3. Inflammation and Repair a) Acute inflammation: features, causes, vascular and cellular events. Inflammatory cells and Mediators. b) Chronic inflammation: Causes, Types, Classification nonspecific and granulomatous with examples. c) Repair. Wound healing by primary and secondary union, factors promoting and delaying the process. Healing in specific site including bone healing. 4. Deficiency Diseases 5. Circulatory Disturbances - a) Hyperemia/Ischemia and Haemorrhage b) Edema: Pathogenesis and types. c) Chronic venous congestion: Lung, Liver, Spleen, Systemic Pathology d) Thrombosis and Embolism: Formation, Fate and Effects. e) Infarction: Types, Common sites. f) Shock: Pathogenesis, types, morphologic changes. 6. Growth Disturbances and Neoplasia a) Atrophy, Hypertrophy, Hyperplasia, Aplasia, Hypoplasia, dysplasia. Precancerous lesions. b) Neoplasia: Definition, classification, biological behaviour- Benign and Malignant (brief idea), Carcinoma and Sarcoma. 7. Hematology	I I I

EXISTING	PROPOSED	JUSTIFICATION
	a) Constituents of blood and bone marrow, Regulation of hematopoiesis. b) Anemia: Classification, clinical features & lab diagnosis (brief idea). c) Hemostatic disorders, Vascular and Platelet disorders & lab diagnosis. d) Coagulopathies - (i) Inherited (ii) Acquired with lab diagnosis. e) Leukocytic disorders: Leukocytosis, Leukopenias, Leukemoid reaction. - Leukemia: Classification, clinical manifestation, pathology and Diagnosis (brief idea). 8. Respiratory System - Pneumonia, Bronchitis, Bronchiectasis, Asthma, Tuberculosis, Carcinoma of lungs, Occupational lung diseases 9. Cardiovascular Pathology a) Congenital Heart diseases: Atrial septal defect, Ventricular septal defect, Fallot's tetralogy, Patent ductus arteriosus, Endocarditis, Rheumatic Heart disease. b) Vascular diseases: Atherosclerosis, Monckeberg's medial calcification. c) Ischemic heart Disease: Myocardial infarction. 10. Hepato Biliary Pathology - Jaundice: Types, aetio-pathogenesis and diagnosis. 11. Musculoskeletal Pathology a) Osteomyelitis: acute, chronic, tuberculous, mycetoma	

EXISTING	PROPOSED	JUSTIFICATION
Recommended Reading: 1. Robbins Pathological Basis of Disease – Cotran, Kumar & Robbins – W.B. Saunders. 2. General Pathology – Walter & Israel – Churchill Livingstone. 3. Muir's Textbook of Pathology – Anderson – Edward Arnold Ltd. 4. Textbook of Pathology – Harsh Mohan – Jaypee Brothers. 5. Pathology: Implications for Physical Therapists – Godmannand Boissonault – W.B. Saunders. 6. Essential of Medical Microbiology – Bhatia & Lal – Jaypee Brothers.	b) Metabolic diseases: Rickets/ Osteomalacia, osteoporosis, Hyperparathyroidism, Paget's disease. c) Tumours Classification: Benign, Malignant, Metastatic and synovial sarcoma. d) Arthritis: Suppurative, Rheumatoid. Osteoarthritis, Gout, Tuberculous. e) Volkmann's Ischemic Contractures 12. Endocrine pathology - Non-neoplastic lesions of Thyroid: Thyrotoxicosis, myxedema, 13. Neuropathology - Inflammations and Infections: TB Meningitis, Pyogenic Meningitis, viral meningitis and Brain Abscess, Tuberculosis, Cysticercosis. 14. Dermatopathology: - Skin tumors: Squamous cell carcinoma, Basal cell carcinoma, Melanoma (brief idea) 15. Congenital Myopathy & myasthenia gravis Recommended Reading: 1. Robbins Pathological Basis of Disease – Cotran, Kumar & Robbins – W.B. Saunders. 2. General Pathology – Walter & Israel – Churchill Livingstone. 3. Muir's Textbook of Pathology – Anderson – Edward Arnold Ltd. 4. Textbook of Pathology – Harsh Mohan – Jaypee Brothers. 5. Pathology : Implications for Physical Therapists – Godmann and Boissonault – W.B. Saunders.	

EXISTING	PROPOSED	JUSTIFICATION
7. Medical Microbiology – Mims – Jaypee Brothers. 8. Microbiology: An Introduction for the Health Science – Ackerman and Richards – W.B. Saunders Co.	BPT 202: MICROBIOLOGY Teaching Hours: Theory =50, Practical/ Lab = NIL Exam Time: 1 ½ Hrs. MARKS Theory:80 + 20 Int. Assessment = 100Marks Instructions for theory paper setting: Question1: This will consist of Five short answer questions with answer to each question upto five lines in length. All questions will be compulsory. Each question will carry 3 marks total weightage being 15 marks. Question 2: This will consist of one medium answer question with answer upto three pages in length. This question will be compulsory. This question will carry 10 marks. Question 3: This will consist of two long answer questions with answer to each question upto 5 pages in length. Two questions will be set by the examiner and the candidate will be required to attempt any one and the question will carry 15 marks.	Subject coding for easy referencing and examination purpose Subject has been split and teaching hours assigned according to scope in Physiotherapy practice
		Rephrased for clarity

EXISTING	PROPOSED	JUSTIFICATION
Section II Microbiology Teaching Hours: 40 Hrs 1. Introduction and history of microbiology. 2. Micro-organisms. (a) Classification (b) Shape and arrangement. (c) Special characteristics – spores, capsules, enzymes, motility, reproduction. 3. Disinfection and antiseptics. 4. Sterilization and asepsis. 5. Antibacterial agents – fundamental aspect, susceptibility tests. 6. Infection – source of infection, portals of entry, spread of infection. 7. Non-specific immunity. 8. Immunity – natural and acquired. 9. Allergy and hypersensitivity. 10. Outline of common pathogenic bacteria and diseases produced by them. Treatment and prevention. (i) Respiratory tract infections. (ii) Meningitis.	COURSE OBJECTIVES& LEARNING OUTCOMES: On completion of this subject, the students will be able to- 1. Learn the pathological changes in various conditions, diseases and disorders, which are commonly treated by physiotherapy. 2. Demonstrate an understanding of the pathology and microbiology of common diseases that therapists would encounter in their daily practice. 3. Understand how to protect themselves and their patients from infections during their interactions.	Course Objectives and learning outcomes have been added to meet global standards and expectations. Content has been elaborated and added to complement the increase in marks. I I I I Allocation of teaching hours have been omitted to allow teacher to decide scope and extent. I I I I I I I I I I

EXISTING	PROPOSED	JUSTIFICATION
(iii) Enteric infections. (iv) Anaerobic infections. (v) Urinary tract infections. (vi) Leprosy, tuberculosis and miscellaneous infections. (vii) Wound infections. (viii) Sexually transmitted diseases. (ix) Hospital acquired infections. 11. Pathogenic yeast's and fungi 12. Virology – Virus infections with special mention of Hepatitis, Poliomyelitis and Rabies.	10. Food sanitation a) Hygiene in restaurants & kitchens. b) Health of food handlers & hygiene. c) Disease caused by infected food & water. 11. ImmUnity a) Active, passive b) Natural, acquired c) Antigen d) Antibody, type of antibodies e) Antigen antibody reactions. f) Mechanism of immUnity g) Immunization. 12. AIDS - Aetiology, modes of transmission, diagnostic procedure. 13. Handling of infected material.	I I I I I I I I I I I
	Recommended Reading: 1. Essential of Medical Microbiology – Bhatia & Lal – Jaypee Brothers. 2. Medical Microbiology – Mims – Jaypee Brothers. 3. Microbiology : An Introduction for the Health Science – Ackerman and Richards – W.B. Saunders	
Paper - II: Pharmacology Teaching Hours: Theory = 50 Practical = NIL Theory Exam Time: 03 Hours MARKS Theory: 40+ 10 Int. Assessment = 50 Marks Practical: NIL	BPT 203: Pharmacology Teaching Hours: Theory = 100, Practical/ Lab = NIL Theory Exam Time: 03 Hours MARKS Theory: 80 + 20 Int. Assessment = 100 Marks Practical: NIL	Subject coding for easy referencing and examination purpose Teaching hours have been increase considering the syllabus content and scope in physiotherapy practice

EXISTING	PROPOSED	JUSTIFICATION
Note: The question paper covering the entire course shall be divided into one section.	Instructions for theory paper setting: Question 1: This will consist of <u>Five</u> short answer questions with answer to each question upto five lines in length. All questions will be compulsory. Each question will carry 3 marks total weightage being 15 marks. Question 2: This will consist of <u>one</u> medium answer question with answer upto three pages in length. This question will be compulsory. This question will carry 10 marks. Question 3: This will consist of two long answer questions with answer to each question upto 5 pages in length. <u>Two</u> questions will be set by the examiner and the candidate will be required to attempt any one and the question will carry 15 marks.	Rephrased for clarity
1. General action of drugs. 2. Drug allergy and idiosyncrasy 3. Drug toxicity.	COURSE OBJECTIVES& LEARNING OUTCOMES: On completion of this subject, the students will be able to- 1. Possess a relevant knowledge in basic principles of pharmacology and its recent advances. 2. Understand the basic pharmacology of common drugs used, their importance in the overall treatment including Physiotherapy. 3. Understand the general principles of drug action and the handling of drugs by the body. 4. Understand the contribution of both drug and physiotherapy factors in the outcome of treatment.	Course Objectives and learning outcomes have been added to meet global standards and expectations. I I I

EXISTING	PROPOSED	JUSTIFICATION
4. Metabolic fate of drug. 5. Methods of administration. 6. Chemical character of drugs. 7. Common Drugs acting on Central nervous system, Peripheral nervous system, Neuromuscular junction and muscles. 8. Common Drugs acting on cardio-respiratory system. 9. Common Antibiotics & CHaemotherapeutic agents. 10. Hormones, Vitamins and drugs affecting endocrine functions.	4. Metabolic fate of drug. 5. Methods of administration. 6. Chemical character of drugs. 7. Common Drugs acting on Central nervous system, Peripheral nervous system, Neuromuscular junction and muscles. 8. Common Drugs acting on cardio-respiratory system. 9. Common Antibiotics & C Haemotherapeutic agents. 10. Hormones, Vitamins and drugs affecting endocrine functions.	I I I I No change I I
Recommended Reading: 1. Pharmacology and Pharmacotherapeutics – R.S. Satoskar – Popular Publications, Bombay. 2. The Pharmacologic Principles of Medical Practice – Krantz & Jelleff – Calcutta Scientific Book Agency. 3. Pharmacology – Praseem K. Das. – Churchill Livingstone. 4. Essential of Medical Pharmacology – K.D. Tripathi – Jaypee Brothers. 5. Pharmacology for Physiotherapist – Ramesh and Shenoy – Jaypee brothers	Recommended Reading: 1. Pharmacology and Pharmacotherapeutics – R.S. Satoskar – Popular Publications, Bombay. 2. The Pharmacologic Principles of Medical Practice – Krantz & Jelleff – Calcutta Scientific Book Agency. 3. Pharmacology – Praseem K. Das. – Churchill Livingstone. 4. Essential of Medical Pharmacology – K.D. Tripathi – Jaypee Brothers. 5. Pharmacology for Physiotherapist – Ramesh and Shenoy – Jaypee brothers	
Paper – III Electrotherapy – II Teaching Hours: Theory = 150, Practical = 150 Theory Exam Time: 03 Hours MARKS Theory: 80 + 20 Int. Assessment = 100 Marks Practical: 80 + 20 Int. Assessment = 100 Marks	BPT 204: Electrotherapy – II Teaching Hours: Theory = 100, Practical/ Lab = 150 Theory Exam Time: 03 Hours MARKS Theory: 80 + 20 Int. Assessment = 100 Marks Practical: 80 + 20 Int. Assessment = 100 Marks	Subject coding for easy referencing and examination purpose Theory hours have been rationalized considering the content of syllabus for this subject

EXISTING	PROPOSED	JUSTIFICATION
Note: The question paper covering the entire course shall be divided into two sections. Each section to be attempted in a separate answer book and to be evaluated by separate examiners. Section A: Question 1: This will consist of Five short answer questions with answer to each question upto five lines in length. All questions will be compulsory. Each question will carry 3 marks total weightage being 15 marks. Question 2: This will consist of one medium answer question with answer to each question upto three pages in length. One question will be set by the examiner and will be compulsory. This question will consist of 10 marks. Question 3: This will consist of two long answer questions with answer to each question upto 5 pages in length. Two questions will be set by the examiner and the candidate will be required to attempt one. Each question will carry 15 marks. Section B: Same as in Section A.	Instructions for theory paper setting: The question paper covering the entire course shall be divided into two sections. Both sections will be attempted on a single answer sheet and to be evaluated by a single examiner. Section A: Question 1: This will consist of Five short answer questions with answer to each question upto five lines in length. All questions will be compulsory. Each question will carry 3 marks total weightage being 15 marks. Question 2: This will consist of one medium answer question with answer upto three pages in length. This question will be compulsory. This question will carry 10 marks. Question 3: This will consist of two long answer questions with answer to each question upto 5 pages in length. Two questions will be set by the examiner and the candidate will be required to attempt any one and the question will carry 15 marks. Section B: Same as in Section A.	Changed as per prevailing University norms Rephrased for clarity
	COURSE OBJECTIVES AND LEARNING OUTCOMES: 1. To make students recall the types and production of various electrical currents and various superficial heating modalities. 2. To acquaint students with indications, contraindications, operational methods and different techniques of	Course Objectives and learning outcomes have been added to meet global standards and expectations.

EXISTING	PROPOSED	JUSTIFICATION
	application of various modalities such as shortwave diathermy, microwave diathermy, interferential therapy, ultrasound and LASER. - To make students learn about effectiveness of cryotherapy and its different methods of applications along with its contraindications. - To make students aware of various Electro-diagnostic Measures such as E.M.F. and E.N.G. - To teach students about the instrumentation of biofeedback. By the end of the module, the students will be able to: - Proclaim the role of various therapeutic modalities in Rehabilitation. - Identify the use of appropriate modality depending on the presenting complaints of the patient.	
SECTION – I 30Hrs - Review of Neuro – muscular Physiology including effects of electrical stimulation. - Physiological responses to heat gain or loss on various tissues of the body. - Therapeutic effects of heat, cold and electrical currents. - Physical principles of Electro-magnetic radiation. - Physics of sound including characteristics and propagation. Section II 60Hrs - High frequency currents (S.W.D. & M.W.D.) – Production, biophysical effects, types, therapeutic effects, techniques of	Section A SECTION – I - Review of Neuro – muscular Physiology including effects of electrical stimulation. - Physiological responses to heat gain or loss on various tissues of the body. - Therapeutic effects of heat, cold and electrical currents. - Physical principles of Electro-magnetic radiation. - Physics of sound including characteristics and propagation. Section II - High frequency currents (S.W.D. & M.W.D.) – Production, biophysical effects, types, therapeutic effects, techniques of	I I I Allocation of teaching hours have been omitted to allow teacher to decide scope and extent. No change in topics and content otherwise. I

EXISTING	PROPOSED	JUSTIFICATION
application, indications, contraindications, precautions, operational skills and patient preparation. 2. Medium frequency currents (Interferential therapy) – Conceptual framework of medium frequency current therapy, production, biophysical effects, types, therapeutic effects, techniques of application, indications, contraindications, precautions, operational skills and patient preparation. 3. High frequency sound waves (Ultrasound) – Production, biophysical effects, types therapeutic effects, techniques of application, indications, contraindications, precautions, operational skills and patient preparation.	application, indications, contraindications, precautions, operational skills and patient preparation. 2. Medium frequency currents (Interferential therapy) – Conceptual framework of medium frequency current therapy, production, biophysical effects, types, therapeutic effects, techniques of application, indications, contraindications, precautions, operational skills and patient preparation. 3. High frequency sound waves (Ultrasound) – Production, biophysical effects, types therapeutic effects, techniques of application, indications, contraindications, precautions, operational skills and patient preparation.	I I Allocation of teaching hours have been omitted to allow teacher to decide scope and extent. No change in topics and content otherwise. I I I
Section III 40Hrs 1. Therapeutic light in Physiotherapy (LASER) – Definition, historical background, physical principles, biophysical effects, types, production, therapeutic effects, techniques of application, indications, contraindications, precautions, operational skills and patient preparation. 2. Therapeutic cold (Cryotherapy) - Sources, biophysical effects, types, therapeutic effects, indications, contraindications, precautions, application technique and patient preparation. 3. Therapeutic mechanical effects, indications, contraindications, precautions, operational skills and patient preparation. Section IV 20Hrs 1. Electro-diagnosis – Instrumentation, definition & basic techniques of E.M.F. and E.N.G. 2. Bio-feedback – Instrumentation, principles, therapeutic effects, indications, contraindications, limitations, precautions, operational skills and patient preparation.	Section B Section III 40Hrs 1. Therapeutic light in Physiotherapy (LASER) – Definition, historical background, physical principles, biophysical effects, types, production, therapeutic effects, techniques of application, indications, contraindications, precautions, operational skills and patient preparation. 2. Therapeutic cold (Cryotherapy) - Sources, biophysical effects, types, therapeutic effects, indications, contraindications, precautions, application technique and patient preparation. 3. Therapeutic mechanical effects, indications, contraindications, precautions, operational skills and patient preparation. Section IV 20Hrs 1. Electro-diagnosis – Instrumentation, definition & basic techniques of E.M.F. and E.N.G. 2. Bio-feedback – Instrumentation, principles, therapeutic effects, indications, contraindications, limitations, precautions, operational skills and patient preparation.	I I I I I I Allocation of teaching hours have been omitted to allow teacher to decide scope and extent. No change in topics and content otherwise. I I I I

EXISTING	PROPOSED	JUSTIFICATION
ELECTROTHERAPY – II (PRACTICAL)	ELECTROTHERAPY – II PRACTICAL	
	Scheme of Practical exam in Electrophysiology – II Medium Frequency Current: 10 Marks High Frequency Current: 15 Marks LASER, US, Cryotherapy: 15 Marks External Viva: 15 Marks Internal Viva: 15 Marks Practical Record: 10 Marks	Included for clarity on structure and conduct of practical exam
1. To study a short wave diathermy Unit, its operation and different methods of application - region wise. 2. To study a Micro wave diathermy Unit, its operation and different methods of application – region wise. 3. To study an Ultrasound Unit, its operation and different methods of application – region wise. 4. To study a Laser Unit, its operation and different methods of application – region wise. 5. To study various forms of therapeutic cold application region wise including – ice, cold packs, vapour coolant sprays etc. 6. To study a Intermittent therapy Unit, its operation and different methods of application – region wise. 7. To study a Intermittent pneumatic therapy Unit, its operation and different methods of application – region wise. 8. To observe various Electro – myography (EMG) procedures. 9. To observe various Electro – neurography (ENG) procedures. 10. To study a Bio feedback Unit, its operation and different methods of application – region wise.	1. To study a short wave diathermy Unit, its operation and different methods of application – region wise. 2. To study a Micro wave diathermy Unit, its operation and different methods of application – region wise. 3. To study an Ultrasound Unit, its operation and different methods of application – region wise. 4. To study a Laser Unit, its operation and different methods of application – region wise. 5. To study various forms of therapeutic cold application region wise including – ice, cold packs, vapour coolant sprays etc. 6. To study Intermittent therapy Unit, its operation and different methods of application – region wise. 7. To study an Intermittent pneumatic therapy Unit, its operation and different methods of application – region wise. 8. To observe various Electro – myography (EMG) procedures. 9. To observe various Electro – neurography (ENG) procedures. 10. To study a Bio feedback Unit, its operation and different methods of application – region wise.	I I I I I I I I I I No change I I I I I I I
Recommended Reading: 1. Electrophysiology Explained : Principles & Practice Low & Reed – Butterworth Heinemann.	Recommended Reading: 1. Electrophysiology Explained: Principles & Practice Low & Reed – Butterworth Heinemann.	

EXISTING		PROPOSED		JUSTIFICATION
2. Clayton's Electrotherapy (10th Edition) – Kitchen & Bazin – W.B. Saunders. 3. Therapeutic Heat and Cold Lehmann – Williams and Wilkins. 4. Principles and Practice of Electrotherapy – Kahn – Churchill Livingstone. 5. Electrotherapy : Clinics in Physical Therapy – Wolf – Churchill Livingstone 6. Step by Step Practical Electrotherapy – Jagmohan Singh - JAYPEE Bros, New Delhi.		2. Clayton's Electrotherapy (10th Edition) – Kitchen & Bazin – W.B. Saunders. 3. Therapeutic Heat and Cold Lehmann – Williams and Wilkins. 4. Principles and Practice of Electrotherapy – Kahn – Churchill Livingstone. 5. Electrotherapy : Clinics in Physical Therapy – Wolf – Churchill Livingstone 6. Step by Step Practical Electrotherapy – Jagmohan Singh - JAYPEE Bros, New Delhi.		
Paper – IV Exercise Therapy – II		BPT 205: Exercise Therapy – II		Subject coding for easy referencing and examination purpose
Teaching Hours:	Theory = 150, Practical = 150	Teaching Hours:	Theory = 100, Practical/ Lab = 150	Theory hours have been rationalized according to content of syllabus for this subject.
Theory Exam Time:	03 Hours	Theory Exam Time:	03 Hours	
MARKS	Theory: 80 + 20 Int. Assessment = 100 Marks Practical: 80 + 20 Int. Assessment = 100 Marks	MARKS	Theory: 80 + 20 Int. Assessment = 100 Marks Practical: 80 + 20 Int. Assessment = 100 Marks	
Note: The question paper covering the entire course shall be divided into two sections. Each section to be attempted in a separate answer book and to be evaluated by separate examiners. Section A: Question1: This will consist of Five short answer questions with answer to each question upto five lines in length. All questions will be compulsory. Each question will carry 3 marks total weightage being 15 marks.		Instructions for theory paper setting: The question paper covering the entire course shall be divided into two sections. Both sections will be attempted on a single answer sheet and to be evaluated by a single examiner. Section A: Question1: This will consist of Five short answer questions with answer to each question upto five lines in length. All questions will be compulsory. Each question will carry 3 marks total weightage being 15 marks.		Changed as per prevailing University norms

EXISTING	PROPOSED	JUSTIFICATION
Question 2: This will consist of one medium answer question with answer to each question upto three pages in length. One question will be set by the examiner and will be compulsory. This question will consist of 10 marks. Question 3: This will consist of two long answer questions with answer to each question upto 5 pages in length. Two questions will be set by the examiner and the candidate will be required to attempt one. Each question will carry 15 marks. Section B: Same as in Section A.	Question 2: This will consist of one medium answer question with answer upto three pages in length. This question will be compulsory. This question will carry 10 marks. Question 3: This will consist of two long answer questions with answer to each question upto 5 pages in length. Two questions will be set by the examiner and the candidate will be required to attempt any one and the question will carry 15 marks. Section B: Same as in Section A.	Rephrased for clarity
	COURSE OBJECTIVES& LEARNING OUTCOMES: The OBJECTIVES of the course is that after the specified hours of lectures and demonstrations the student will be able to- 1. The student will learn the principles, classification, techniques and effects of therapeutic exercises along with aerobic and anaerobic exercises 2. The student will understand region wise assessment and evaluation of a patient 3. The student will have the basic understanding of joint mobility and muscle insufficiency 4. The students will learn to gain better knowledge about neural mechanisms of neuromuscular coordination and will	Course Objectives and learning outcomes have been added to meet global standards and expectations.

EXISTING	PROPOSED	JUSTIFICATION
	understand the concept of functional re-education 5. The student will be able to assess normal posture and gait and will apply knowledge of walking aids in the process of rehabilitation 6. The student will understand the principle, effects, types, indications, contraindications and precautions of hydrotherapy 7. The student will demonstrate the techniques of mobilization, PNF and traction and breathing exercises 8. The student will understand the focus of improving the functional status of the patient. 9. The student will understand the importance of group therapy and yoga	
Section – I : Therapeutic Exercise: 50 Hrs 1. Principle, Classification, techniques, physiological & therapeutic effects, indications & contraindications of therapeutic exercises. Also, study aerobic and anaerobic exercises. 2. Assessment & evaluation of a patient (region wise) to plan a therapeutic exercise programme. 3. Joint Mobility – Aetogenesis of joint stiffness, general techniques of mobilization, effects, indications, contraindications & precautions. 4. Muscle Insufficiency – Aetogenesis of muscle insufficiency (Strength, tone, power, endurance & volume), general	Section A UNIT – I : Therapeutic Exercise: 1. Principle, Classification, techniques, physiological & therapeutic effects, indications & contraindications of therapeutic exercises. Also, study aerobic and anaerobic exercises. 2. Stretching: Classification, techniques, physiological & therapeutic effects, indications & contraindications of stretching. 3. Joint Mobility – Aetogenesis of joint stiffness, general techniques of mobilization, effects, indications, contraindications & precautions. 4. Muscle Insufficiency – Aetogenesis of muscle insufficiency (Strength, tone, power, endurance & volume), general techniques of strengthening effects, indication, contraindications & precautions.	I I I Allocation of teaching hours have been omitted to allow teacher to decide scope and extent. No change in topics and content otherwise. I I I I

EXISTING	PROPOSED	JUSTIFICATION
techniques of strengthening effects, indication, contraindications & precautions. 5. Neuromuscular Inco-ordination: Normal neuromuscular coordination, Aetiogenesis of neuromuscular incoordination & general therapeutic techniques, effects, indication, contraindications & precautions. 6. Functional re-education – General therapeutic techniques to re-educate ADL function. Section– II: Posture, Balance Gait 30Hrs 1. Normal Posture -= Overview of the mechanism of normal posture 2. Abnormal Posture – Assessment. Types. Aetiogenesis. Management. Including, therapeutic exercises. 3. Static and Dynamic Balance – Assessment & management including therapeutic exercises. 4. Gait-Overview of normal gait & its components. 5. Gait deviations – Assessment types, aetiogenesis, management, including therapeutic exercises. 6. Types of walking aids, indications, efforts and various training techniques. Section – III: Hydrotherapy 10Hrs 1. Basic Principles of fluid mechanics as they relate to	5. Neuromuscular Inco-ordination: Normal neuromuscular coordination, Aetiogenesis of neuromuscular incoordination & general therapeutic techniques, effects, indication, contraindications & precautions. 6. Functional re-education – General therapeutic techniques to re-educate ADL function. UNIT – II: Posture, Balance &Gait 1. Normal Posture -= Overview of the mechanism of normal posture 2. Abnormal Posture – Assessment. Types. Aetiogenesis. Management. Including, therapeutic exercises. 3. Static and Dynamic Balance – Assessment & management including therapeutic exercises. 4. Gait-Overview of normal gait & its components. 5. Gait deviations – Assessment types, aetiogenesis, management, including therapeutic exercises. 6. Types of walking aids, indications, efforts and various training techniques. Section B UNIT–III: Hydrotherapy 1. Basic Principles of fluid mechanics as they relate to	I Allocation of teaching hours have been omitted to allow teacher to decide scope and extent. No change in topics and content otherwise. I I I I I I I Allocation of teaching hours have been omitted to allow teacher to decide scope and extent. No change in topics and content otherwise. I I I I I I I I

EXISTING	PROPOSED	JUSTIFICATION
hydrotherapy. - Physiological & therapeutic effects of hydrotherapy including joint mobility muscle strengthening & wound care etc. - Types of Hydrotherapy equipment, indications, contraindications, operation skills & patient preparation. Section – IV Special Techniques: - Introduction to special mobilization & manipulation techniques, effects, indications & contraindications. - Conceptual framework, principle of proprioceptive neuromuscular facilitation (PNF) techniques, including indications, therapeutic effects and precautions. - Principles of traction, Physiological & therapeutic effects classification, types, indications, contraindications, techniques of application, operational skills & precautions. - Review normal breathing mechanism types techniques, indications, contraindications, therapeutic effects & precaution of breathing exercises. - Group Therapy – Types advantages & disadvantages. - Exercises for the normal person == Importance and effects of exercise to maintain optimal health & its role in the prevention of diseases. Types, advantages disadvantages, indications, contraindications & precautions for all age groups. - Introduction to Yoga – Conceptual framework, various “asanas” the body – mind relationship, effects & precautions.	hydrotherapy. - Physiological & therapeutic effects of hydrotherapy including joint mobility muscle strengthening & wound care etc. - Types of Hydrotherapy equipment, indications, contraindications, operation skills & patient preparation. UNIT – IV: Special Techniques - Introduction to Basic Mobilization, & Manipulation Techniques effects, indications & contraindications. - Conceptual framework, principle of proprioceptive neuromuscular facilitation (PNF) techniques, including indications, therapeutic effects and precautions. - Principles of traction, Physiological & therapeutic effects classification, types, indications, contraindications, techniques of application, operational skills & precautions. - Review normal breathing mechanism types techniques, indications, contraindications, therapeutic effects & precaution of breathing exercises. - Group Therapy – Types advantages & disadvantages. - Exercises for the normal person == Importance and effects of exercise to maintain optimal health & its role in the prevention of diseases. Types, advantages disadvantages, indications, contraindications & precautions for all age groups. - Introduction to Yoga – Conceptual framework, various “asanas” the body – mind relationship, effects & precautions.	Allocation of teaching hours have been omitted to allow teacher to decide scope and extent. I I I I I No change apart for the term Basic Mobilization that replaces special mobilization because only basic techniques are taught in UG program and Special Techniques are taught in PG program. I I I I I I I Included for clarity on structure and conduct of
Exercise Therapy – II (Practical)	Exercise Therapy – II Practical Scheme of practical Exam in Exercise Therapy – II	

EXISTING	PROPOSED	JUSTIFICATION
	Stretching and Peripheral joint mobilization: 10 Marks Strength training of muscle: 10 Marks Crutches and Gait: 10 Marks Posture and coordination: 10 Marks Viva: 30 Marks Practical Record: 10 Marks	practical exam
1. To practice assessment & evaluative procedures, including motor, sensory, neuromotor co-ordination, vital capacity, limb length & higher functions. 2. To study & practice the various techniques of mobilization of joints region wise. 3. To study & Practice the various techniques of progressive strengthening exercises of muscles region wise. 4. To study & Practise the use of various ambulation aids in gait training. 5. To assess & evaluate ADL's and practice various training techniques. 6. To study & practice mat exercises. 7. To assess & evaluate normal & abnormal posture & practice various corrective techniques. 8. To assess & evaluate equilibrium/ balance & practice various techniques to improve balance. 9. To study the structure & functions of hydrotherapy equipments& their applications. 10. To study & practice various traction techniques, including manual, mechanical & electrical procedures. 11. To study & practice various group exercise therapies. 12. To practice & experience effects of basic Yoga "asanas". 13. To study, plan & Practice exercise programmes for normal persons of various age groups.	1. To practice assessment & evaluative procedures, including motor, sensory, neuromotor co-ordination, vital capacity, limb length & higher functions. 2. To study & practice the various techniques of mobilization of joints region wise. 3. To study & Practice the various techniques of progressive strengthening exercises of muscles region wise. 4. To study & Practise the use of various ambulation aids in gait training. 5. To assess & evaluate ADL's and practice various training techniques. 6. To study & practice mat exercises. 7. To assess & evaluate normal & abnormal posture & practice various corrective techniques. 8. To assess & evaluate equilibrium/ balance & practice various techniques to improve balance. 9. To study the structure & functions of hydrotherapy equipment & their applications. 10. To study & practice various traction techniques, including manual, mechanical & electrical procedures. 11. To study & practice various group exercise therapies. 12. To practice & experience effects of basic Yoga "asanas". 13. To study, plan & Practice exercise programmes for normal persons of various age groups.	I I I I I I I I I No change I I I I I I I
Recommended Reading:	Recommended Reading:	

EXISTING	PROPOSED	JUSTIFICATION
1. Practical Exercise Therapy – Hollis- Blackwell Scientific Publications. 2. Therapeutic Exercises – Basmajian – William & Wilkins. 3. Therapeutic Exercise Foundations and Techniques Kisner& Colby – F.A. Davis 4. Proprioceptive Neuromuscular Facilitation – Voss et al – William and Wilkins. 5. Principle of Exercise Therapy – Gardiner- C.B.S. Delhi. 6. Orthopaedics Physical Therapy – Woods- Churchill Livingstone. 7. Manipulation and Mobilisation extremities and spinal techniques- Edmond- Mosby. 8. Aquatic Exercise Therapy- Bates and Hanson – W.B. Saunders. 9. Manual examination and treatment of spine and extremities- Wadsworth- Lippincott. 10. Hydrotherapy: Principles and Practise- Campion – Butterworth Heinmann.	1. Practical Exercise Therapy – Hollis- Blackwell Scientific Publications. 2. Therapeutic Exercises – Basmajian – William & Wilkins. 3. Therapeutic Exercise Foundations and Techniques Kisner& Colby – F.A. Davis 4. Proprioceptive Neuromuscular Facilitation – Voss et al – William and Wilkins. 5. Principle of Exercise Therapy – Gardiner- C.B.S. Delhi. 6. Orthopaedics Physical Therapy – Woods- Churchill Livingstone. 7. Manipulation and Mobilisation extremities and spinal techniques- Edmond- Mosby. 8. Aquatic Exercise Therapy- Bates and Hanson – W.B. Saunders. 9. Manual examination and treatment of spine and extremities- Wadsworth- Lippincott. 10. Hydrotherapy: Principles and Practise- Campion – Butterworth Heinmann.	
Paper –V Biomechanics	BPT 206:Biomechanics & Kinesiology	Subject coding for easy referencing and examination purpose Nomenclature modified to reflect topics of Kinesiology that are already a part of syllabus
Teaching Hours: Theory = 75, Practical = 75	Teaching Hours: Theory = 100, Practical / Lab= 100	Teaching hours increased in accordance with the importance of the subject for physiotherapists.
Theory Exam Time: 03 Hours	Theory Exam Time: 03 Hours	

EXISTING		PROPOSED	JUSTIFICATION
MARKS	Theory: 80 + 20 Int. Assessment = 100 Marks Practical: 40 + 10 Int. Assessment = 50 Marks	MARKS Theory: 80 + 20 Int. Assessment = 100 Marks Practical: 80 + 20 Int. Assessment = 100 Marks	Practical marks increased in accordance with the importance of subject for physiotherapists.
Note: The question paper covering the entire course shall be divided into two sections. Each section to be attempted in a separate answer book and to be evaluated by separate examiners. Section A: Question1: This will consist of Five short answer questions with answer to each question upto five lines in length. All questions will be compulsory. Each question will carry 3 marks total weightage being 15 marks. Question 2: This will consist of one medium answer question with answer to each question upto three pages in length. One question will be set by the examiner and will be compulsory. This question will consist of 10 marks. Question 3: This will consist of two long answer questions with answer to each question upto 5 pages in length. Two questions will be set by the examiner and the candidate will be required to attempt one. Each question will carry 15 marks. Section B: Same as in Section A.		Instructions for theory paper setting: The question paper covering the entire course shall be divided into two sections. Both sections will be attempted on a single answer sheet and to be evaluated by a single examiner. Section A: Question1: This will consist of Five short answer questions with answer to each question upto five lines in length. All questions will be compulsory. Each question will carry 3 marks total weightage being 15 marks. Question 2: This will consist of one medium answer question with answer upto three pages in length. This question will be compulsory. This question will carry 10 marks. Question 3: This will consist of two long answer questions with answer to each question upto 5 pages in length. Two questions will be set by the examiner and the candidate will be required to attempt any one and the question will carry 15 marks. Section B: Same as in Section A.	Changed as per prevailing University norms

EXISTING	PROPOSED	JUSTIFICATION
	1. To make the students aware of basic biomechanical principles in relation to human body, Newtonian mechanics, Linear kinetics of Human motion, various kinematics and kinetic concepts. 2. To make students understand mechanical and material properties, characteristics, adaptation potential of biological tissues. 3. To make students appreciate the muscular system along with different types and work of muscles. 4. To make students acquaint with characteristics, various gait patterns and applied Biomechanics At the end of this module, the students will be: 1. Will learn about the biomechanical measures of the human movement like stability, equilibrium, laws of physics, vectors, displacement, gait analysis. 2. Will be able to apply and describe the biomechanical principles as related to the movement 3. Will be able to recognize the factors responsible for determining the rehabilitation protocol 4. Will be able to appreciate the osteokinematics and arthokinematics of the skeletal system.	learning outcomes have been added to meet global standards and expectations.
Section – I Mechanics 10Hrs a) Introduction to mechanics including motion, forces, parallel forces system. b) Newton's law of motion, concurrent force systems – composition forces, muscle action line etc. c) Centre of Gravity, line of gravity, stability and equilibrium. d) Introduction of Bio-Mechanics and terminology.	Unit-I:Mechanics Section A a) Introduction to mechanics including motion, forces, parallel forces system. b) Newton's law of motion, concurrent force systems – composition forces, muscle action line etc. c) Centre of Gravity, line of gravity, stability and equilibrium. d) Introduction of Bio-Mechanics and terminology.	I I Teaching hours increased but no change in content. Allocation of teaching hours have been omitted to allow teacher to decide scope

EXISTING	PROPOSED	JUSTIFICATION
Section – II Joint Structure and Function : 20 Hrs - Basic principles of Joint design and a human joint. - Tissues present in human joint including fibrous tissue, bone cartilage and connective tissue. - Classification of joints. - Joint function, Kinematics chains and range of motion. - Recall anatomy and study the biomechanics of the spine, shoulder girdle, joints of the upper extremity, pelvic girdle and the joints of the lower extremity.	Unit-II:Joint Structure and Function: - Basic principles of Joint design and a human joint. - Tissues present in human joint including fibrous tissue, bone cartilage and connective tissue. - Classification of joints. - Joint function, Kinematics chains and range of motion. - Recall anatomy and study the biomechanics of the spine, Biomechanics of shoulder girdle and joints of upper extremity, Biomechanics of pelvic girdle and joints of lower extremity.	and extent. I I I I I I I I I I
Section B		
Section – III Muscle Structure and function : 15 Hrs - Mobility and stability functions of muscle. - Elements of muscle structure and its properties. - Types of muscles contractions and muscle work. - Classification of muscles and their functions. - Group action of muscles, Co-ordinated movement. Section – IV Posture &Gait : 30Hrs - Posture – Definition, factors responsible for posture, relationship of gravity on posture. - Postural imbalance – factors responsible for imbalance in Static and dynamic positions including ergonomics. - Description of Normal gait, determinants of gait, spatio temporal features and analysis. - Gait deviations – Types, Causative factors and analysis.	Unit-III: Muscle Structure and Function: - Mobility and stability functions of muscle. - Elements of muscle structure and its properties. - Types of muscles contractions and muscle work. - Classification of muscles and their functions. - Group action of muscles, Co-ordinated movement. Unit – IV: Posture & Gait - Posture – Definition, factors responsible for posture, relationship of gravity on posture. - Postural imbalance – factors responsible for imbalance in Static and dynamic positions including ergonomics. - Description of Normal gait, determinants of gait, spatio temporal features and analysis. - Gait deviations – Types, Causative factors and analysis.	I I I I I Allocation of teaching hours have been omitted to allow teacher to decide scope and extent. No change in topics and content otherwise. I I I I I I I

EXISTING	PROPOSED	JUSTIFICATION
		I I
PRACTICALS	BIOMECHANICS AND KINESIOLOGY PRACTICAL	
	Scheme of Practical Exams in Biomechanics and Kinesiology Biomechanics of Upper limb : 10 Marks Biomechanics of Lower limb : 10 Marks Biomechanics of Vertebral Column, Posture and Gait: 20 Marks Viva : 30 Marks Practical Record: 10 marks	Included for clarity on structure and conduct of practical exam
- To study the effects of forces on objects. - To find out the C.G. of an object. - To identify axis and planes of motion at the joints of spine, shoulder, girdle, joints of upper extremity, Pelvic girdle and joints of lower extremity. - To study the different types of muscle contraction, muscle work, group action of muscles of co-ordinated movements. - Analysis of Normal posture respect to L.O.G. and the optimal position of joints in Antro-posterior and lateral views. - Analysis of normal gait and measurement of spatic temporal features.	- To study the effects of forces on objects. - To find out the C.G. of an object. - To identify axis and planes of motion at the joints of spine, shoulder, girdle, joints of upper extremity, Pelvic girdle and joints of lower extremity. - To study the different types of muscle contraction, muscle work, group action of muscles of co-ordinated movements. - Analysis of Normal posture respect to L.O.G. and the optimal position of joints in Antero-posterior and lateral views. - Analysis of normal gait and measurement of spatial temporal features.	I I I I I I No change I I I
Recommended Reading:	Recommended Reading:	
- Joint Structure and Function – A Comprehensive Analysis – Norkins&Levangie – F.A. Davis. - Measurement of Joint Motion – A Guide to Goniometry – Norkins& White - F.A. Davis. - Brunnstrom's Clinical Kinesiology – Smith et al – F.A. Davis. - Basic Biomechanics explained – Low & Reed – Butterworth Heinmann. - Kinesiology: Applied to Pathological Motion – Soderberg Lippincott.	- Joint Structure and Function – A Comprehensive Analysis – Norkins&Levangie – F.A. Davis. - Measurement of Joint Motion – A Guide to Goniometry – Norkins& White - F.A. Davis. - Brunnstrom's Clinical Kinesiology – Smith et al – F.A. Davis. - Basic Biomechanics explained – Low & Reed – Butterworth Heinmann. - Kinesiology: Applied to Pathological Motion Soderberg - Lippincott.	

EXISTING	PROPOSED	JUSTIFICATION
Paper–VI Sociology & Psychology Teaching Hours: Theory = 100 (50+50) Theory Exam Time: 03 Hours MARKS Theory: 80 + 20 Int. Assessment = 100 Marks Practical: NIL Note: The question paper covering the entire course shall be divided into two sections. Each section to be attempted in a separate answer book and to be evaluated by separate examiners. Section A: SOCIOLOGY Question 1: This will consist of Five short answer questions with answer to each question upto five lines in length. All questions will be compulsory. Each question will carry 3 marks total weightage being 15 marks. Question 2: This will consist of one medium answer question with answer to each question upto three pages in length. One question will be set by the examiner and will be compulsory. This question will consist of 10 marks. Question 3: This will consist of two long answer questions with answer to each question upto 5 pages in length. Two questions will be set by the examiner and the candidate will be required to attempt one. Each question will carry 15 marks. Section B: PSYCHOLOGY	BPT 207: Sociology & Psychology Teaching Hours: Theory = 150 (75+75), Practical/ Lab = Nil Theory Exam Time: 03 Hours MARKS Theory: 80 + 20 Int. Assessment = 100 Marks Practical: NIL Instructions for theory paper setting: The question paper covering the entire course shall be divided into two sections. Both sections will be attempted on a single answer sheet and to be evaluated by a single examiner. Section A: SOCIOLOGY Question 1: This will consist of Five short answer questions with answer to each question upto five lines in length. All questions will be compulsory. Each question will carry 3 marks total weightage being 15 marks. Question 2: This will consist of one medium answer question with answer upto three pages in length. This question will be compulsory. This question will carry 10 marks. Question 3: This will consist of two long answer questions with answer to each question upto 5 pages in length. Two questions will be set by the examiner and the candidate will be required to attempt any one and the question will carry 15 marks.	Additional theory hours have been added for comprehensive teaching and learning Changed as per prevailing University norms Rephrased for clarity

EXISTING

PROPOSED

JUSTIFICATION

Same as in Section A.

Section B: PSYCHOLOGY

Same as in Section A.

COURSE OBJECTIVES & LEARNING OUTCOMES:

The OBJECTIVES of the course is that after the specified hours of lectures and demonstrations the student will be able to -

1. Define the term sociology and its importance in the health delivery system, understand the concept of Socialization, Social Groups, Family Influence, Community Influence, Cultural Influence and Caste system.
2. To understand the role of social worker, develop, build and maintains rapport, trust, and ethical professional relationships through effective communication.
3. Establish and maintain inter professional relationships, socio-Economic and Cultural issues related to morbidity
4. Understand the OBJECTIVES methods of family planning.
5. Understand the significance of social interactions in the process of rehabilitation and appreciate the role of therapist as a member of society and the interdependence between individuals and society.
6. Understand that, Psychology has a key role to play in physiotherapy treatment and highlighted extensive use of psychological approaches such as listening skills, empathy, verbal and non verbal communication in practice.
7. Motivate the patient to managing well their emotions, relations and help them to improve their coping skills
8. Learning Psychology help them to fulfill the role of physiotherapist up to the expectation of the patients.
9. Different Counseling techniques enable them to deal effectively with the patient of chronic illnesses, e.g., stroke, limb impairment in young age due to accident.
10. Can deal with the stresses of the patients other than the

Course Objectives and learning outcomes have been added to meet global standards and expectations.

EXISTING	PROPOSED	JUSTIFICATION
behaviour, cultural meaning of sickness, response & choice of treatment (role of culture as social consciousness in moulding the perception of reality), culture induced symptoms and disease, sub - culture of medical workers. 4 Hrs 8. Caste system: Features of modern caste system and its trends. 2 Hrs 9. Social change: Meaning of social change, factors of social change, human adaption and social change, social change and stress, social change and deviance, social change and health programmes, the role of social planning in the improvement of health and in rehabilitation. 4 Hrs 10. Social Control: Meaning of social control, role of norms, folkways, customs, morals, religion, law and other means of social control in the regulation of human behaviour, social deviance and disease. 3 Hrs 11. Social Problems of the Disabled: Consequences of the following social problems in relation to sickness and disability; remedies to prevent these problems: 5 Hrs - Population explosion - Poverty and unemployment Beggary - Juvenile delinquency - Prostitution - Alcoholism - Problems of women in employment 12. Social Security: Social security and social legislation in relation to the disabled. 3 Hrs 13. Social Worker: The role of medical social worker. 3 Hrs Recommended Reading: - Megee - Sociology - Drydon Press Illinois - Kupuswamy – Social Changes in India - Vikas, Delhi - Ahuja - Social Problems - Bookhive, Delhi	symptoms and disease, sub - culture of medical workers. 8. Caste system: Features of modern caste system and its trends. 9. Social change: Meaning of social change, factors of social change, human adaption and social change, social change and stress, social change and deviance, social change and health programmes, the role of social planning in the improvement of health and in rehabilitation. 10. Social Control: Meaning of social control, role of norms, folkways, customs, morals, religion, law and other means of social control in the regulation of human behaviour, social deviance and disease. 11. Social Problems of the Disabled: Consequences of the following social problems in relation to sickness and disability; remedies to prevent these problems: - Population explosion - Poverty and unemployment Beggary - Juvenile delinquency - Prostitution - Alcoholism - Problems of women in employment 12. Social Security: Social security and social legislation in relation to the disabled. 13. Social Worker: The role of medical social worker.	I I I I I I I Allocation of teaching hours have been omitted to allow teacher to decide scope and extent. No change in topics and content otherwise.
Recommended Reading: - Megee - Sociology - Drydon Press Illinois - Kupuswamy – Social Changes in India - Vikas, Delhi - Ahuja - Social Problems - Bookhive, Delhi	Recommended Reading: - Textbook of Sociology BA Part 1 by S. Kapila - Megee - Sociology - Drydon Press, Illinois - Kupuswamy – Social Changes in India - Vikas, Delhi	Allocation of teaching hours have been omitted to allow teacher to decide scope and extent. No change in topics and content otherwise. I I I

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EXISTING	PROPOSED	JUSTIFICATION
a) List of senses : Vision, Hearing, Olfactory, Gustatory and cutaneous sensation, movement, equilibrium and visceral sense. Define attention and list factors that determine attention : nature of stimulus intensity, colour, change, extensity, repetition, movement, size, curiosity, primary motives. b) Define perception and list the principles of perception : Figure ground, constancy, similarity, proximity, closure, continuity values and interest, past experience context, needs, moods, religion, sex and age, perceived susceptibility, perceived seriousness, perceived benefits and socioeconomic status. c) Define illusion and hallucination. d) List visual, auditory, cutaneous, gustatory and olfactory hallucination. 12. Democratic and Authoritarian Leadership : Qualities of leadership : Physical factors, intelligence, self-confidence, sociability, will and dominance. Define attitude, Change of attitude by: Additional information, changes in-group-affiliation, enforced modification by law and procedures that affect personality (Psychotherapy, Counseling and religious conversion). 13. Defence Mechanisms of the Ego: Denial, rationalization, projection, reaction formation, identification, repression, emotional insulation, undoing, interjection, acting out depersonalization. Health Psychology 1. Psychological Reactions of a Patient : Psychological reactions of a patient during admission and treatment anxiety, shock, denial, suspicion, questioning, loneliness, guilt, rejection, fear, withdrawal, depression, egocentricity, concern about small matters, narrowed interests, emotional	a) List of senses : Vision, Hearing, Olfactory, Gustatory and cutaneous sensation, movement, equilibrium and visceral sense. Define attention and list factors that determine attention : nature of stimulus intensity, colour, change, extensity, repetition, movement, size, curiosity, primary motives. b) Define perception and list the principles of perception : Figure ground, constancy, similarity, proximity, closure, continuity values and interest, past experience context, needs, moods, religion, sex and age, perceived susceptibility, perceived seriousness, perceived benefits and socioeconomic status. c) Define illusion and hallucination. d) List visual, auditory, cutaneous, gustatory and olfactory hallucination. 12. Democratic and Authoritarian Leadership : Qualities of leadership : Physical factors, intelligence, self-confidence, sociability, will and dominance. Define attitude, Change of attitude by: Additional information, changes in-group-affiliation, enforced modification by law and procedures that affect personality (Psychotherapy, Counseling and religious conversion). 13. Defence Mechanisms of the Ego: Denial, rationalization, projection, reaction formation, identification, repression, emotional insulation, undoing, interjection, acting out depersonalization. Health Psychology 1. Psychological Reactions of a Patient : Psychological reactions of a patient during admission and treatment anxiety, shock, denial, suspicion, questioning, loneliness, regression, shame, guilt, rejection, fear, withdrawal, depression, egocentricity, concern about small matters,	I I I I Allocation of teaching hours have been omitted to allow teacher to decide scope and extent. No change in topics and content otherwise. I I I I I I I I Allocation of teaching hours have been omitted to allow teacher to decide scope and extent. No change in topics and content otherwise. I I I I

EXISTING	PROPOSED	JUSTIFICATION
over reactions, perpetual changes, confusion, disorientation, hallucinations, delusions, anger, hostility, loss of hope. 2. Reactions to Loss : Reactions to loss, death and bereavement shock and disbelief, development of awareness, restitution, resolution : Stages of acceptance as proposed by Kubler – Ross. 3. Stress : Physiological and Psychological relation to health and sickness : psychosomatic, professional stress burnout. 4. Communications : a) Types verbal, non-verbal, elements in communication, barriers to good communication, developing effective communication, specific communication techniques. b) Counseling : Definition, Aim, differentiate from guidance, principles in counseling and personality qualities of counselors. 5. Compliance :- Nature, factors, contributing to non-compliance, improving compliance. 6. Emotional Needs :- Emotional needs and psychological factors in relation to unconscious patients, handicapped patients, bed-ridden patients, chronic pain, spinal cord injury, paralysis, cerebral palsy, burns, amputations, disfigurement, head injury, degenerative disorders, parkinsonism, leprosy, incontinence and mental illness. 7. Geriatric Psychology : Specific psychological reactions and needs of geriatric patients. 8. Pediatric Psychology : Specific psychological reactions and needs of pediatric patients. 9. Behaviour Modifications : Application of various conditioning and learning principles to modify patient behaviours. 10. Substance Abuse : Psychological aspects of substance abuse : smoking, alcoholism and drug addiction.	narrowed interests, emotional over reactions, perpetual changes, confusion, disorientation, hallucinations, delusions, anger, hostility, loss of hope. 2. Reactions to Loss : Reactions to loss, death and bereavement shock and disbelief, development of awareness, restitution, resolution : Stages of acceptance as proposed by Kubler – Ross. 3. Stress : Physiological and Psychological relation to health and sickness : psychosomatic, professional stress burnout. 4. Communications : a) Types verbal, non-verbal, elements in communication, barriers to good communication, developing effective communication, specific communication techniques. b) Counseling : Definition, Aim, differentiate from guidance, principles in counseling and personality qualities of counselors. 5. Compliance :- Nature, factors, contributing to non-compliance, improving compliance. 6. Emotional Needs :- Emotional needs and psychological factors in relation to unconscious patients, handicapped patients, bed-ridden patients, chronic pain, spinal cord injury, paralysis, cerebral palsy, burns, amputations, disfigurement, head injury, degenerative disorders, parkinsonism, leprosy, incontinence and mental illness. 7. Geriatric Psychology : Specific psychological reactions and needs of geriatric patients. 8. Paediatric Psychology : Specific psychological reactions and needs of pediatric patients. 9. Behaviour Modifications: Application of various conditioning and learning principles to modify patient behaviours.	I I I Allocation of teaching hours have been omitted to allow teacher to decide scope and extent. No change in topics and content otherwise. I I I I I I I I Allocation of teaching hours have been omitted to allow teacher to decide scope and extent. No change in topics and content otherwise. I I I I I

EXISTING	PROPOSED	JUSTIFICATION
11. Personality Styles : Different personality styles of patients.	10. Substance Abuse: Psychological aspects of substance abuse : smoking, alcoholism and drug addiction. 11. Personality Styles : Different personality styles of patients.	I I I I
Recommended Reading: 1. Introduction to Psychology – Mums – I.D.P. Co. 2. Foundation of Psychology – Weld – Publishing House, Bombay. 3. Introduction to social psychology – Akolkar – Oxford House. 4. Psychology and Sociology – Applied to Medicine – Porter & Adler – W.B. Saunders. 5. Behavioural Sciences for Medical Undergraduates – Manju Mehta – Jaypee Brothers. 6. Elementary Psychology – Mohsin – Moti Lal BanarsiDass, Delhi.	Recommended Reading: 1. Introduction to Psychology – Mums – I.D.P. Co. 2. Foundation of Psychology – Weld – Publishing House, Bombay. 3. Introduction to social psychology – Akolkar – Oxford Publishing House. 4. Psychology and Sociology – Applied to Medicine – Porter & Adler – W.B. Saunders. 5. Behavioural Sciences for Medical Undergraduates – Manju Mehta – Jaypee Brothers. 6. Elementary Psychology – Mohsin – Moti Lal BanarsiDass, Delhi.	

EXISTING	PROPOSED	JUSTIFICATION
BPT Third Year (Total Theory + Practical/Clinical = 1000 hours)	BPT THIRD Prof (Total Theory + Practical/Clinical = 1100 hours)	Teaching Hours have been made uniform for all Profs
Paper – I Orthopaedics	BPT 301: Orthopaedics	
Teaching Hours: Theory = 100 Practical = 100	Teaching Hours: Theory = 100 Practical/ Clinical Training = 100	No Change
Theory Exam Time: 03 Hours	Theory Exam Time: 03 Hours	
MARKS Theory: 80 + 20 Int. Assessment = 100 Marks Practical: 80 + 20 Int. Assessment = 100 Marks	MARKS Theory: 80 + 20 Int. Assessment = 100 Marks Practical: 80 + 20 Int. Assessment = 100 Marks	
Note: The question paper covering the entire course shall be divided into two sections. Each section to be attempted in a separate answer book and to be evaluated by separate examiners.	Instructions for theory paper setting: The question paper covering the entire course shall be divided into two sections. Both sections will be attempted on a single answer sheet and to be evaluated by a single examiner.	Changed as per prevailing University norms
Section A: Question1: This will consist of Five short answer questions with answer to each question upto five lines in length. All questions will be compulsory. Each question will carry 3 marks total weightage being 15 marks. Question 2: This will consist of one medium answer question with answer to each question upto three pages in length. One question will be set by the examiner and will be compulsory. This question will consist of 10 marks.	Section A: Question1: This will consist of Five short answer questions with answer to each question upto five lines in length. All questions will be compulsory. Each question will carry 3 marks total weightage being 15 marks. Question 2: This will consist of one medium answer question with answer upto three pages in length. This question will be compulsory. This question will carry 10 marks.	
Question 3: This will consist of two long answer questions with answer to each question upto 5 pages in length. Two questions will be set by the examiner and the candidate will be required to attempt one. Each question will carry 15 marks.	Question 3: This will consist of two long answer questions with answer to each question upto 5 pages in length. Two questions will be set by the examiner and the candidate will be required to attempt any one and the question will carry 15 marks.	Rephrased for clarity

EXISTING	PROPOSED	JUSTIFICATION
Same as in Section A.	Section B: Same as in Section A. COURSE OBJECTIVES & LEARNING OUTCOMES: The OBJECTIVES of the course is that after the specified hours of lectures and demonstrations the student will be able to- 1. The student will learn common orthopedic terminology, clinical examination, common investigations such as X-ray and imaging techniques and conservative management of orthopedic conditions 2. The student will be able to understand common surgical procedures, soft tissue injuries, bone and joint tumors and peripheral nerve injuries 3. The student will be able to understand the types of fractures, displacement and recurrent dislocations, methods of immobilization, fracture healing, complications of fractures of upper limb, lower limb and vertebral column. 4. The student will have a good understanding of definition, types, indications, level of amputation for upper and lower limb, clinical examination of stump, its care and bandaging, Principles of prosthetic fitting, pre and post prosthetic management. 5. The student will understand the etiology, clinical features, management and complications of septic arthritis, osteomyelitis and tuberculosis specially spinal tuberculosis. 6. The student will understand common sports injuries, its	Course Objectives and learning outcomes have been added to meet global standards and expectations.

EXISTING	PROPOSED	JUSTIFICATION
	classification, diagnosis and management.	
Section I : 10 Hrs Introduction to Orthopaedics – Introduction to orthopaedic terminology. Types of pathology commonly dealt with, clinical examination, common investigations X-rays & imaging techniques and outline of non-operative management. Principles of operative treatment :- List indications, contraindication and briefly outline principles of : Athrodesis, Arthroplasty, Osteotomy, Bonegrafting Tendon – Transfers and Arthroplasty. Sprains, Strains & Contractures :- List common sites of sprain, strains & contractures and describe the clinical manifestations and treatment. Viz. tennis elbow, golfer's elbow. Dequervain's disease, tenovaginitis, trigger, finger, carpal tunnel syndrome and plantar fasciitis etc. Sports Injuries :- Injuries related to common sports their classification and management.	Section A UNIT I : Orthopaedic basics Introduction to Orthopaedics – Introduction to orthopaedic terminology. Types of pathology commonly dealt with, clinical examination, common investigations X-rays & imaging techniques and outline of non-operative management. Principles of operative treatment:-List indications, contraindication and briefly outline principles of : Athrodesis, Arthroplasty, Osteotomy, Bone grafting and Tendon Transfers. Sprains, Strains & Contractures:- List common sites of sprain, strains & contractures and describe the clinical manifestations and treatment. Viz. tennis elbow, golfer's elbow. De Quervain's disease, tenovaginitis, trigger, finger, carpal tunnel syndrome and plantar fasciitis etc. Sports Injuries:- Injuries related to common sports their classification and management Basic First aid Management	I I I Allocation of teaching hours have been omitted to allow teacher to decide scope and extent. No change in topics and content otherwise. I I I I I Added as an essential element for health professionals
Section – II 30 Hrs Fractures and Dislocations : General Principles, outline the following : - Types of Fractures including patterns. Open & closed fractures and fracture dislocations. - Differences between dislocation & subluxation. - General & Local signs & symptoms of fractures & dislocation. - Principle of management of fractures & dislocations. - Prevention & treatment of complication including. Fracture – disease, Volkmann's ischaemic contracture, Sudeck's Atrophy, Carpal Tunnel Syndrome, Myositis	UNIT – II: Traumatology Fractures and Dislocations : General Principles, outline the following : - Types of Fractures including patterns. Open & closed fractures and fracture dislocations. - Differences between dislocation & subluxation. - General & Local signs & symptoms of fractures & dislocation. - Principle of management of fractures & dislocations. - Prevention & treatment of complication including. Fracture – disease, Volkmann's ischaemic contracture, Sudeck's Atrophy, Myositis ossificans, Fracture healing.	I I I I I Allocation of teaching hours have been omitted to allow teacher to decide scope and extent. No change in topics and content otherwise.

EXISTING	PROPOSED	JUSTIFICATION
vi. Fracture healing. 2. Upper Limb Fractures & Dislocations a) Enumerate major long bone fractures and joint injuries. b) Briefly describe their clinical features, principles of management and complications. 3. Lower Limb Fractures & Dislocations. a) Enumerate major long bone fractures and joint injuries. b) Briefly describe their clinical features, principles of management and complication. 4. Spinal Fractures and Dislocations : Outline the mechanism, clinical features, principles of management and complications of spinal injuries. 5. Recurrent Dislocations : Outline the mechanism, clinical features, principles of management and complications of recurrent dislocation of the shoulder and patella.	2. Upper Limb Fractures & Dislocations a) Enumerate major long bone fractures and joint injuries. b) Briefly describe their clinical features, principles of management and complications. c) Hand Injuries:- Outline of clinical features, management and complications of : Skin and soft tissue injury, tendon injury, bone and joint injury. 3. Lower Limb Fractures & Dislocations. a) Enumerate major long bone fractures and joint injuries. b) Briefly describe their clinical features, principles of management and complication. 4. Spinal Fractures and Dislocations: Outline the mechanism, clinical features, principles of management and complications of spinal injuries. 5. Recurrent Dislocations: Outline the mechanism, clinical features, principles of management and complications of recurrent dislocation of the shoulder and patella.	I I I I Hand injuries have been relocated from Section V of old syllabus as they belong to Unit of trauma I I I I I No Change I I
Section III 1. Amputations a) Classify amputations, List indication for surgery. b) Outline pre-operative, operative and prosthetic management. c) Outline prevention and treatment of complications. 2. Bone & Joint Infections : Outline the etiology, clinical features, management and complications of septic arthritis osteomyelitis, Tuberculosis (including spinal T.B.). 3. Bones Joint Tumors :- Classify the outline the clinical features, management and complications of the following	Section B UNIT III 1. Amputations a) Classify amputations, List indication for surgery. b) Outline pre-operative, operative and prosthetic management. c) Outline prevention and treatment of complications. 2. Bone & Joint Infections : Outline the aetiology, clinical features, management and complications of septic arthritis osteomyelitis, Tuberculosis (including spinal T.B.). 3. Bones Joint Tumours :- Classify the outline the clinical features, management and complications of the following	I I I Allocation of teaching hours have been omitted to allow teacher to decide scope and extent. No change in topics and content otherwise.

EXISTING	PROPOSED	JUSTIFICATION
(benign / malignant bone and joint tumors, osteomas, osteosarcomas, osteoclastomas, Ewing's sarcoma, multiple myeloma). Section IV 20 Hrs 1. Chronic Arthritis :- Outline of pathology : clinical features, mechanism of deformities, management and complications of : Rheumatoid arthritis. Osteoarthritis of major joints and spine, Ankylosing spondylitis. 2. Neck & Back Pain, Painful Arc Syndrome, Tendonitis, Fascitis & Spasmodic Torticollis. Outline the above including clinical features and management. 3. Spinal Deformities :- Classify spinal deformities and outline the salient clinical features, management and complications of Scoliosis, Kyphosis and Lordosis. Section – V 30 Hrs 1. Poliomyelitis :- Describe the pathology, microbiology, prevention, managements and complications of polio. Outline the treatment of residual paralysis including use of orthoses. Principles of muscle transfers and corrective surgery. 2. Congenital Deformities :- Outline the clinical features and management of CTEV, CDH, Flat foot, vertical talus, limb deficiency (radial club hand and femoral, tibial and fibula deficiencies meningocele, Arthrogryphosis multiplex congenita and Osteogenesis imperfecta, Cerebral palsy. 3. Peripheral Nerve Injuries :- Outline the clinical features and management, including reconstructive surgery of : a) Radial, median and ulnar nerve lesions. b) Sciatic and lateral popliteal lesions. c) Brachial Plexus injuries including Erbs, Klumpke's and crutch palsy. 4. Hand Injuries :- Outline of clinical features, management and complications of : Skin and soft tissue injury, tendon	(benign / malignant bone and joint tumours, osteomas, osteosarcomas, osteoclastomas, Ewing's sarcoma, multiple myeloma). UNIT- IV 1. Chronic Arthritis :- Outline of pathology : clinical features, mechanism of deformities, management and complications of : Rheumatoid arthritis. Osteoarthritis of major joints and spine, Ankylosing spondylitis. 2. Neck & Back Pain, Painful Arc Syndrome, Tendonitis, Fascitis & Spasmodic Torticollis. Outline the above including clinical features and management. 3. Spinal Deformities :- Classify spinal deformities and outline the salient clinical features, management and complications of Scoliosis, Kyphosis and Lordosis. 4. Congenital Deformities:- Outline the clinical features and management of CTEV, CDH, Flat foot, vertical talus, limb deficiency (radial club hand and femoral, tibia and fibula deficiencies meningocele, Arthrogryphosis multiplex congenita and Osteogenesis imperfecta, Cerebral palsy.	I I I I No change No change I I I I I I No change I I I I I Units on poliomyelitis and leprosy have been deleted as they are rarely seen now-a-days in Indian population. I I I I Unit on peripheral nerve injuries has been omitted since it is being covered under 402:

EXISTING	PROPOSED	JUSTIFICATION
injury, bone and joint injury. 5. Leprosy : Outline of clinical features, management and complications of neuritis, muscle paralysis, tropic ulceration and hand and feet deformities.	Orthopaedics Practical Osteology/ Instrument: 20 Marks Radiographs : 20 Marks Case Based Discussion: 20 Marks Viva:20 Marks	NEUROLOGY subject in BPT-4th year.
Recommended Reading: 1. Watson-Jones, Fractures and Joint Injuries – Wilson – Churchill Livingstone. 2. Clinical Orthopaedic Examination – McRae – Churchill Livingstone. 3. Concise System of Orthopaedics and Fractures – Apley – Butterworth Heinmann. 4. Outline of Fractures – Adam – Churchill Livingstone. 5. Outline of Orthopaedics – Adam – Churchill Livingstone. 6. Physical examination in orthopaedics – Apley – Butterworth Heinmann. 7. Clinical Orthopaedics Diagnosis – Pandey & Pandey – Jaypee Brothers.	Recommended Reading: 1. Watson-Jones, Fractures and Joint Injuries – Wilson – Churchill Livingstone. 2. Clinical Orthopaedic Examination – McRae – Churchill Livingstone. 3. Concise System of Orthopaedics and Fractures – Apley – Butterworth Heinmann. 4. Outline of Fractures – Adam – Churchill Livingstone. 5. Outline of Orthopaedics – Adam – Churchill Livingstone. 6. Physical examination in orthopaedics – Apley – Butterworth Heinmann. 7. Clinical Orthopaedics Diagnosis – Pandey & Pandey – Jaypee Brothers.	Included for clarity on structure and conduct of practical exam
Paper II General Medicine Teaching Hours: Theory = 100 Practical = 100 Theory Exam Time: 03 Hours MARKS Theory: 80 + 20 Int. Assessment = 100 Marks	BPT 302: General Medicine Teaching Hours: Theory = 100 Practical/ Clinical Training = 100 Theory Exam Time: 03 Hours MARKS Theory: 80 + 20 Int. Assessment = 100 Marks	No Change

EXISTING	PROPOSED	JUSTIFICATION
Practical: 80 + 20 Int. Assessment = 100 Marks Note: The question paper covering the entire course shall be divided into two sections. Each section to be attempted in a separate answer book and to be evaluated by separate examiners. Section A: Question1: This will consist of Five short answer questions with answer to each question upto five lines in length. All questions will be compulsory. Each question will carry 3 marks total weightage being 15 marks. Question 2: This will consist of one medium answer question with answer to each question upto three pages in length. One question will be set by the examiner and will be compulsory. This question will consist of 10 marks. Question 3: This will consist of two long answer questions with answer to each question upto 5 pages in length. Two questions will be set by the examiner and the candidate will be required to attempt one. Each question will carry 15 marks. Section B: Same as in Section A.	Practical: 80 + 20 Int. Assessment = 100 Marks Instructions for theory paper setting: The question paper covering the entire course shall be divided into two sections. Both sections will be attempted on a single answer sheet and to be evaluated by a single examiner. Section A: Question1: This will consist of Five short answer questions with answer to each question upto five lines in length. All questions will be compulsory. Each question will carry 3 marks total weightage being 15 marks. Question 2: This will consist of one medium answer question with answer upto three pages in length. This question will be compulsory. This question will carry 10 marks. Question 3: This will consist of two long answer questions with answer to each question upto 5 pages in length. Two questions will be set by the examiner and the candidate will be required to attempt any one and the question will carry 15 marks. Section B: Same as in Section A.	Changed as per prevailing University norms Rephrased for clarity
	COURSE OBJECTIVES& LEARNING OUTCOMES: Learning and understanding the involvement of the various body systems by the diseases and their management is very important for any medical student. Following are the OBJECTIVES and learning outcomes of Medicine in	Course Objectives and learning outcomes have been added to meet global standards and expectations.

EXISTING	PROPOSED	JUSTIFICATION
	Physiotherapy. 1. 1 Introduction and Brief outline of subject of medicine - a medical patient, common signs & symptoms of disease involving different organ systems. 2. Understanding the common symptoms and how to do General physical examination, importance of examining vitals like Pulse, Blood pressure, Respiratory rate, Temperature and their co-relation with various diseases. 3. Understanding the etiology, pathogenesis, pathology, Clinical symptoms of various diseases of Cardiac, Renal, Respiratory, Gastric systems and the drugs used to treat the diseases involving the organ systems. 4. Learning various investigation procedures to diagnose the diseases and substantiating the findings of examination of various body organs 5. Understanding the role of Physiotherapy in treating some of the diseases e.g Post Myocardial infarction, Lung abscess, Bronchiectasis etc. 6. Understanding the role of physiotherapy in preventing complications and management of these complications in certain chronic diseases like Diabetes and other metabolic disorders. 7. Learning Paediatrics to understand the diseases in newborns, infants and children esp. the congenital diseases, infections in them, immunisation for prevention of certain diseases 8. Able to educate their patients regarding the prevention of diseases and helping them by providing physiotherapy	

EXISTING	PROPOSED	JUSTIFICATION
Section I : 25 Hrs Introduction to modes of transfer of communicable diseases & general preventive measures. Bacterial Diseases : Tuberculosis, Leprosy, Rheumatic fever, Tetanus, Typhoid fever, Diphtheria, Pneumonia, Bacillary Dysentery and Measles. Viral Diseases : Herpes – simplex and zoster, Varicella, Measles, Mumps, Hepatitis B and C, AIDS and influenza. Metabolic and Deficiency Diseases : Diabetes, Anaemia, Vitamin & Nutritional Deficiency diseases, diseases of the endocrine glands. Section II 30 Hrs 1. Common Diseases of Respiratory System : Asthma, Bronchitis, Massive collapse of lungs, Bronchiectasis, Bronchial Pneumonia, lung abscess, Emphysema, Empyema, Paralysis of diaphragm and vocal cords, chronic infection of larynx and trachea. Abnormalities of tracheal infract of lungs, chronic passive congestion, chronic obstructive pulmonary disease, chest wall deformities. 2. Common Diseases of Circulatory System :- Thrombosis, Embolism, Gangrene, Valvular disease, Haemorrhage, various diseases of arteries, diseases of blood forming organs, Anaemia, Peripheral Vascular diseases, disease of the lymphatic systems : Diseases of the heart – Hypertension, Hypotension, Aortic aneurysm, Endocarditis, Pericarditis, Cardiac failure, coronary heart diseases, congenital heart malformation and its manifestation etc. 3. Diseases of Digestive Systems :- Pharyngitis, spasm of the Oesophagus, Diverticulum stenosis, Gastric ulcer, Hememesis,	care. Section A UNIT I : 1. Introduction to modes of transfer of communicable diseases & general preventive measures. 2. Bacterial Diseases: Rheumatic fever, Leprosy, Tetanus, Diphtheria, Bacillary Dysentery and Measles. 3. Viral Diseases: Herpes – simplex and zoster Measles, Mumps, Hepatitis B and C, AIDS and influenza. Polio myelitis 4. Metabolic and Deficiency Diseases: Diabetes, Anaemia, Vitamin & Nutritional Deficiency diseases, diseases of the endocrine glands. UNIT II : 1. Common Diseases of Respiratory System : Asthma, Bronchitis, Massive collapse of lungs, Bronchiectasis, Bronchial Pneumonia, lung abscess, Emphysema, Empyema, Paralysis of diaphragm and vocal cords, chronic infection of larynx and trachea. Abnormalities of tracheal infract of lungs, chronic passive congestion, chronic obstructive pulmonary disease, chest wall deformities. 2. Common Diseases of Circulatory System :- Diseases of vessels - Thrombosis, Embolism, Gangrene, Valvular disease, Haemorrhage, various diseases of arteries, Diseases of blood - Anaemia, Haemophilia, Thalassemia Diseases of the heart – Hypertension, Hypotension, Aortic aneurysm, Endocarditis, Pericarditis, Cardiac failure, coronary heart diseases, congenital heart malformation and its manifestation.	I I I I I I I Polio myelitis have been added since the disease has not yet been declared to be eradicated from India I I I No Change I I I I Haemophilia and Thalassemia are important blood diseases that were missing in the old syllabus and have been included. I I

EXISTING	PROPOSED	JUSTIFICATION
Pyloric stenosis, Dyspepsia, Vomiting, Diarrhoea, Duodenal ulcer etc. 4. Diseases of Liver :- Jaundice Cirrhosis of liver, Abscess of liver, Ascitis. 5. Diseases of Kidney :- Polyuria, Hematuria, Uremia, Anuria, Nephritis, Urinary infections, Urinary calculi.	Diseases of digestive system, liver and kidney have been shifted to Unit III of Section B to balance the two Sections	
Section III: Diseases of Skin 15 Hrs - Characteristics of normal skin, abnormal changes, types of skin lesions. - Conditions – Leprosy, Acne, Boil, Carbuncles, Impetigo, Infections of skin, Herpes, Urticaria, Psoriasis, Skin disorders associated with circulatory disturbances, Warts, Corn, Defects in Pigmentation, Psoriasis, Leukoderma, Fungal infections, Alopecia, Dermatitis, Eczema, Skin-allergies, Venereal disease. Section IV : Paediatrics 15 Hrs - Review normal foetal development & child birth, including assessment of a neonate. - Development of a normal child – neuromotor, physical growth, cognitive, intellectual, social etc. - The examination and assessment of a pediatric patient. - Congenital & acquired musculo skeletal disorders – aetiology, clinical manifestation & principles of	Section B UNIT III: Skin Conditions – Leprosy, Acne, Boil, Carbuncles, Impetigo. Infections of skin- Herpes, Urticaria, Psoriasis Skin disorders associated with circulatory disturbances - Warts, Corn Defects in Pigmentation - Leukoderma Fungal infections -Alopecia, Dermatitis, Eczema Diseases of Digestive Systems:- Pharyngitis, Gastric ulcer, Duodenal ulcer, Hematemesis, Dyspepsia, Vomiting, Diarrhoea. Diseases of Liver:-Jaundice, Cirrhosis of liver, Abscess of liver, Ascitis. Diseases of Kidney: Polyuria, Haematuria, Uraemia, Anuria, Nephritis, Urinary infections, Urinary calculi. UNIT-IV: Paediatrics & Geriatrics - Review normal foetal development & child birth, including assessment of a neonate. - Development of a normal child – neuro-motor, physical growth, cognitive, intellectual, social etc. - The examination and assessment of a paediatric patient. - Congenital & acquired musculoskeletal disorders – aetiology, clinical manifestation & principles of	I I I I I No Change I I I Shifted from Section II of old syllabus. I I I I I I No Change I I I I I I

EXISTING	PROPOSED	JUSTIFICATION
management. 5. Congenital & acquired Cardio-pulmonary disorders – aetiology, clinical manifestation & principles of management. 6. Congenital & acquired neurological disorders (CNS & PNS) – aetiology, clinical manifestation & principles of management. 7. Hereditary disorders – aetiology, clinical manifestation & principles of management. 8. Nutritional Vitamins – Deficiency & development disorders – aetiology, clinical manifestation & principles of management. 9. Burns, Injuries & accident – Types & principles of management, including preventive care. 10. Surgical intervention – Indications & common surgical procedure.	management. 5. Congenital & acquired Cardio-pulmonary disorders – aetiology, clinical manifestation & principles of management. 6. Congenital & acquired neurological disorders (CNS & PNS) – aetiology, clinical manifestation & principles of management. 7. Hereditary disorders – aetiology, clinical manifestation & principles of management. 8. Nutritional Vitamins – Deficiency & development disorders – aetiology, clinical manifestation & principles of management.	I I Sections IV (9) (10) of old syllabus have been removed as they are also covered under Surgery in Final Prof. I I I I No Change I I I I I
Section V Geriatrics 15 Hrs 1. Normal aging – definition the anatomical, physiological and cognitive changes related to aging. 2. Epidemiology and socio-economic impact of aging. 3. The examination and assessment of a geriatric patient. 4. Musculo skeletal disorders – aetiology, clinical manifestation & principles of management. 5. Cardio – pulmonary disorders – aetiology, clinical manifestation & principles of management. 6. Neurological disorders (CNS & PNS) – aetiology, clinical manifestation & principles of management. 7. Diet & Nutritional requirement of the elderly. Nutritional disorders & their management. 8. Burns, Injuries & accident as related to the elderly & preventive care. 9. Dementia – Types and principles of management.	Geriatrics 1. Normal aging – definition the anatomical, physiological and cognitive changes related to aging. 2. Epidemiology and socio-economic impact of aging. 3. The examination and assessment of a geriatric patient. 4. Diet & Nutritional requirement of the elderly. Nutritional disorders & their management.	Sections IV (4)(5)(6)(8)(9)(10) in old syllabus have been removed as they are covered under relevant subjects of Ortho, Cardio, Neuro and Surgery as appropriate. I I I

EXISTING	PROPOSED	JUSTIFICATION
10. Overview of depressive disorders in the elderly.	General Medicine Practical Case study & assessment- paediatrics: 20 marks Case study & assessment - geriatrics: 20 marks Internal Viva: 20 Marks External Viva: 20 Marks	Included for clarity on structure and conduct of practical exam
Recommended Reading: 1. Davidson's Principles and Practices of Medicine – Edward – Churchill Livingstone. 2. Hutchinson's Clinical Methods – Swash – Bailliere Tindall. 3. A Short Textbook of Medicine – Krishna Rao – Jaypee Brothers. 4. The Short Textbook of Paediatrics – Gupte – Jaypee. 5. A Short Textbook of Psychiatry – Ahuja Niraj – Jaypee Brothers. 6. Textbook of Paediatrics – Parsarthy – Jaypee. 7. Geriatric Physical Therapy – Guccione – Mosby. 8. Motor Assessment of the Developing infant – Piper & Davrah – W.B. Saunders.	Recommended Reading: 1. Davidson's Principles and Practices of Medicine – Edward – Churchill Livingstone. 2. Hutchinson's Clinical Methods – Swash – Bailliere Tindall. 3. A Short Textbook of Medicine – Krishna Rao – Jaypee Brothers. 4. The Short Textbook of Paediatrics – Gupte – Jaypee. 5. A Short Textbook of Psychiatry – Ahuja Niraj – Jaypee Brothers. 6. Textbook of Paediatrics – Parsarthy – Jaypee. 7. Geriatric Physical Therapy – Guccione – Mosby. 8. Motor Assessment of the Developing infant – Piper & Davrah – W.B. Saunders	
Paper – III Physiotherapy in Orthopaedic Conditions	BPT 303: Physiotherapy in Orthopaedic Conditions	
Teaching Hours:	Theory = 125 Practical = 150	Additional practical hours have been added for comprehensive teaching and learning
Theory Exam Time: 03 Hours	Theory Exam Time: 03 Hours	

EXISTING		PROPOSED	JUSTIFICATION
MARKS	Theory: 80 + 20 Int. Assessment = 100 Marks Practical: 80 + 20 Int. Assessment = 100 Marks	MARKS Theory: 80 + 20 Int. Assessment = 100 Marks Practical: 80 + 20 Int. Assessment = 100 Marks	
Note: The question paper covering the entire course shall be divided into two sections. Each section to be attempted in a separate answer book and to be evaluated by separate examiners. Section A: Question1: This will consist of Five short answer questions with answer to each question upto five lines in length. All questions will be compulsory. Each question will carry 3 marks total weightage being 15 marks. Question 2: This will consist of one medium answer question with answer to each question upto three pages in length. One question will be set by the examiner and will be compulsory. This question will consist of 10 marks. Question 3: This will consist of two long answer questions with answer to each question upto 5 pages in length. Two questions will be set by the examiner and the candidate will be required to attempt one. Each question will carry 15 marks. Section B: Same as in Section A.		Instructions for theory paper setting: The question paper covering the entire course shall be divided into two sections. Both sections will be attempted on a single answer sheet and to be evaluated by a single examiner. Section A: Question1: This will consist of Five short answer questions with answer to each question upto five lines in length. All questions will be compulsory. Each question will carry 3 marks total weightage being 15 marks. Question 2: This will consist of one medium answer question with answer upto three pages in length. This question will be compulsory. This question will carry 10 marks. Question 3: This will consist of two long answer questions with answer to each question upto 5 pages in length. Two questions will be set by the examiner and the candidate will be required to attempt any one and the question will carry 15 marks. Section B: Same as in Section A.	Changed as per prevailing University norms Rephrased for clarity
		COURSE OBJECTIVES& LEARNING OUTCOMES:	Course Objectives and learning outcomes have
		The OBJECTIVES of the course is that after the specified hours of	

EXISTING	PROPOSED	JUSTIFICATION
	lectures and demonstrations the student will be able to- 1. The students will have the basic knowledge of common orthopedic surgeries 2. The students will apply knowledge to demonstrate the applications of various Physiotherapeutic modalities following orthopedic surgeries. 3. The student will understand the types of fractures and displacement, methods of immobilization, fracture healing and factors affecting it, complications of fractures of upper limb, lower limb and vertebral column along with their Physiotherapeutic management. 4. The student will learn Physiotherapy management following common surgical procedures, soft tissues injuries, congenital and acquired deformities and various degenerative conditions. 5. The student will have a good understanding of definition, types, indications, level of amputation for upper and lower limb, clinical examination of stump, its care and bandaging, Principles of prosthetic fitting, pre and post prosthetic management. 6. The student will understand the etiology, clinical features, management and complications of septic arthritis, osteomyelitis and tuberculosis especially spinal tuberculosis. 7. The student will understand common sports injuries, its classification, and diagnosis along with Physiotherapy management.	been added to meet global standards and expectations.

EXISTING	PROPOSED	JUSTIFICATION
Theory	Section A	
1. Brief review of the following surgical condition and various physiotherapeutic modalities, aims, means and technique of physiotherapy should be taught. 10 Hrs 2. Traumatology General physiotherapeutic approach for the following conditions: 40 Hrs A. Fracture and dislocations; Classification and type of displacement, method of immobilization, healing of fractures and factors affecting union, delayed union etc. common sites of fractures. 20 Hrs B. Specific fractures and their complete physiotherapeutic management. 20 Hrs Upper Limb; Clavical, humerus, ulna, radius, crush injuries of hand. Lower Limb; fracture neck of femur, shaft of femur patella tibia fibula, pott's fracture, fracture of tarsal and metatarsals. Spine : fracture and dislocations of cervical, thoracic and lumbar vertebrae with and without neurological deficits. 3. Surgical procedures; Pre and post operative management of common corrective procedure like arthroplasty, arthrodesis, osteotomy, tendon transplants, soft tissue release grafting, including polio residual paralysis and leprosy deformities corrections. 15 Hrs 4. Injuries : Soft tissue injuries, synovitis, capsulitis volkman's ischemic contracture etc. tear of semilunar cartilage and cruciate ligaments of knee, menisectomy, patellectomy, internal derangement of knee. 10 Hrs	Brief review of the following surgical condition and various physiotherapeutic modalities, aims, means and technique of physiotherapy should be taught. 1. Injuries: Soft tissue injuries, synovitis, capsulitis volkman's ischemic contracture etc. tear of semilunar cartilage and cruciate ligaments of knee, internal derangement of knee. 2. Traumatology General physiotherapeutic approach for the following conditions: a. Fracture and dislocations; Classification and type of displacement, method of immobilization, healing of fractures and factors affecting union, delayed union etc. common sites of fractures. b. Specific fractures and their complete physiotherapeutic management. Upper Limb: Clavicle, humerus, ulna, radius, crush injuries of hand. Lower Limb: fracture neck of femur, shaft of femur patella tibia fibula, Pott's fracture, fracture of tarsal and metatarsals. Spine: fracture and dislocations of cervical, thoracic and lumbar vertebrae with and without neurological deficits. 3. Surgical procedures: Pre and post-operative management Common corrective procedures like arthroplasty, arthrodesis, osteotomy, menisectomy, patellectomy, tendon transplants. Soft tissue release and grafting for correction of deformities of cerebral palsy, leprosy and post-polio residual paralysis.	I I I I Allocation of teaching hours have been omitted to allow teacher to decide scope and extent. No change in topics and content otherwise. I I I I I I I I I Cerebral palsy is an important condition that needs mention and inclusion for deformity correction. I I I I I

EXISTING	PROPOSED	JUSTIFICATION
above mentioned conditions to be demonstrated and practiced by the students in clinical setup.	above mentioned conditions to be demonstrated and practiced by the students in clinical setup.	
Recommended Reading: 1. Cash's Textbook of Orthopaedics and Rheumatology for Physiotherapists – Downie – Jaypee Brothers. 2. Tidy's Physiotherapy – Thomson et al – Butterworth Heinmann. 3. Essentials of Orthopaedics and applied physiotherapy – Joshi and Kotwal – B.L. Churchill Livingstone. 4. Tetraplegia & Paraplegia – Bromley – W.B. Saunders. 5. Orthopaedic Physiotherapy – Donatelli & Wooden – W.B. Saunders. 6. Rheumatological Physiotherapy – David – Mosby. 7. Orthopaedic Physiotherapy Tids well – Mosby. 8. Physiotherapy for Amputee – Engstrom & Van de van – Churchill Livingstone. 9. Sports Injuries : Diagnosis and Management : Norris Butterworth Heinmann.	Recommended Reading: 1. Cash's Textbook of Orthopaedics and Rheumatology for Physiotherapists – Downie – Jaypee Brothers. 2. Tidy's Physiotherapy – Thomson et al – Butterworth Heinmann. 3. Essentials of Orthopaedics and applied physiotherapy – Joshi and Kotwal – B.L. Churchill Livingstone. 4. Tetraplegia & Paraplegia – Bromley – W.B. Saunders. 5. Orthopaedic Physiotherapy – Donatelli & Wooden – W.B. Saunders. 6. Rheumatological Physiotherapy – David – Mosby. 7. Orthopaedic Physiotherapy - Tidswell – Mosby. 8. Physiotherapy for Amputee – Engstrom & Van de van – Churchill Livingstone. 9. Sports Injuries: Diagnosis and Management: Norris Butterworth Heinmann.	
Paper – IV Physiotherapy in Medical Conditions	BPT 304: Physiotherapy in Medical Conditions	
Teaching Hours: Theory = 125 Practical = 150	Teaching Hours: Theory = 125, Practical / Clinical Training = 175	Additional practical hours have been added for comprehensive teaching and learning
Theory Exam Time: 03 Hours MARKS Theory: 80 + 20 Int. Assessment = 100 Marks	Theory Exam Time: 03 Hours MARKS Theory: 80 + 20 Int. Assessment = 100 Marks	

EXISTING	PROPOSED	JUSTIFICATION
Practical: 80 + 20 Int. Assessment = 100 Marks Note: The question paper covering the entire course shall be divided into two sections. Each section to be attempted in a separate answer book and to be evaluated by separate examiners. Section A: Question 1: This will consist of Five short answer questions with answer to each question upto five lines in length. All questions will be compulsory. Each question will carry 3 marks total weightage being 15 marks. Question 2: This will consist of one medium answer question with answer to each question upto three pages in length. One question will be set by the examiner and will be compulsory. This question will consist of 10 marks. Question 3: This will consist of two long answer questions with answer to each question upto 5 pages in length. Two questions will be set by the examiner and the candidate will be required to attempt one. Each question will carry 15 marks. Section B: Same as in Section A.	Practical: 80 + 20 Int. Assessment = 100 Marks Instructions for theory paper setting: The question paper covering the entire course shall be divided into two sections. Both sections will be attempted on a single answer sheet and to be evaluated by a single examiner. Section A: Question 1: This will consist of Five short answer questions with answer to each question upto five lines in length. All questions will be compulsory. Each question will carry 3 marks total weightage being 15 marks. Question 2: This will consist of one medium answer question with answer upto three pages in length. This question will be compulsory. This question will carry 10 marks. Question 3: This will consist of two long answer questions with answer to each question upto 5 pages in length. Two questions will be set by the examiner and the candidate will be required to attempt any one and the question will carry 15 marks. Section B: Same as in Section A. COURSE OBJECTIVES & LEARNING OUTCOMES: The OBJECTIVES of the course is that after the specified hours of lectures and demonstrations the student will be able to- 1. Acquire the knowledge of Etiology, Patho-physiology, signs and symptoms and management in brief of the infectious diseases, diseases of metabolism especially obesity and other	Changed as per prevailing University norms Rephrased for clarity Course Objectives and learning outcomes have been added to meet global standards and expectations.

EXISTING	PROPOSED	JUSTIFICATION
	related medical conditions. 2. Acquire knowledge in structure, function of the skin and about various primary, secondary and special skin lesions related to systemic disorders 3. Acquire knowledge of etiology, clinical features and management of bacterial, fungal, viral, allergic, autoimmune skin diseases, sexually transmitted diseases, psychiatric conditions and leprosy. 4. Describe aetiology, pathophysiology, sign and symptoms, clinical evaluation and management of the various cardiovascular and respiratory disorders with interpretation of investigations: chest x-ray, Echocardiography, blood gas analysis, blood investigations and pulmonary function test 5. Acquire the knowledge of auto-immune & rheumatological conditions with special emphasis to those involving Musculoskeletal system and skin, with regards to etiology, pathophysiology, signs and symptoms, differential diagnosis and medical management of same 6. Identify, discuss and analyse cardio vascular and pulmonary dysfunction based on pathophysiological principles and arrive at the diagnosis 7. Describe normal development and growth of a child, importance of immunization and breast feeding and psychological aspect of development 8. Acquired skill of clinical examination of a neonate/child with respect to neurological function. 9. Describe and manage the various musculoskeletal, cardiopulmonary and neurological disorders in elderly.	
	Section A	

EXISTING	PROPOSED	JUSTIFICATION
Section I : General Medicine Review of the Pathological and principles of management by Physiotherapy to the following conditions : 1. Inflammation – acute, chronic and suppurative. 2. Oedema – Traumatic, obstructive, Paralytic, Oedema due to poor muscle and laxity of the fascia. 3. Arthritis and Allied Conditions (in details) : a) Osteo – arthritis – generalized, Degenerative and traumatic, spondylosis and disorders. b) Rheumatoid Arthritis, Still's disease, infective Arthritis. c) Spondylitis, Ankylosing Spondylitis. d) Nonarticular Rheumatism – Fibrositis, Myalgia, bursitis, Periarthritis etc. 4. Common conditions of Skin – Acne, Psoriasis, Alopecia, Leucoderma, Leprosy, Sexually transmitted diseases. 5. Deficiency diseases – Rickets, Diabetes, Obesity, Osteoporosis and other deficiency disorders related to Physiotherapy. 6. Psychiatric Disorders – Psychosis, Psychoneurosis, Senile dementia.	Unit I : PT in General Medicine Review of the Pathological and principles of management by Physiotherapy to the following conditions : 1. Inflammation – acute, chronic and suppurative. 2. Oedema – Traumatic, obstructive, Paralytic, Oedema due to poor muscle and laxity of the fascia. 3. Arthritis and Allied Conditions (in details) : a) Osteo – arthritis – generalized, Degenerative and traumatic, spondylosis and disorders. b) Rheumatoid Arthritis, Still's disease, infective Arthritis. c) Spondylitis, Ankylosing Spondylitis. d) Nonarticular Rheumatism – Fibrositis, Myalgia, bursitis, Periarthritis etc. 4. Common conditions of Skin – Acne, Psoriasis, Alopecia, Leucoderma, Leprosy, Sexually transmitted diseases. 5. Deficiency diseases – Rickets, Diabetes, Obesity, Osteoporosis and other deficiency disorders related to Physiotherapy. 6. Psychiatric Disorders – Psychosis, Psychoneurosis, Senile dementia.	Unit Title has been amended to reflect the physiotherapy component. Allocation of teaching hours have been omitted to allow teacher to decide scope and extent. I I I I I I I I
Section II Respiratory Review of mechanism of normal respiration. Chest examination, including auscultation, percussion. Knowledge of various investigative procedures (invasive and noninvasive) used in the diagnosis of various respiratory disorders. Review of pathological changes and principle of management by physiotherapy of the following conditions: Bronchitis, Asthma, Lung abscess, Bronchiectasis, Emphysema, COPD. Pleurisy and Empyema, Pneumonia.	Unit II: PT in Respiratory Conditions 1. Review of mechanism of normal respiration. 2. Chest examination, including auscultation, percussion. 3. Knowledge of various procedures (invasive and non-invasive) used in the diagnosis and management of various respiratory disorders. Review of pathological changes and principle of management by physiotherapy of the following conditions: 1) Bronchitis, Asthma, Lung abscess, Bronchiectasis, Emphysema, COPD. 2) Pleurisy and Empyema, Pneumonia. 3) Bacterial Disease. 4) Rheumatic fever, carcinoma of respiratory tract.	Unit Title has been amended to reflect the physiotherapy component. Allocation of teaching hours have been omitted to allow teacher to decide scope and extent. I

EXISTING	PROPOSED	JUSTIFICATION
disorders. 5) Cerebral palsy, myopathy and muscular dystrophies. Section V Geriatrics 20 Hrs A. Review of the examination & assessment of a Geriatric patient. B. Review of pathological changes and principle of management by physiotherapy of the following conditions : 1) Musculoskeletal disorders 2) Cardiopulmonary disorders. 3) Neurological disorders (CNS & PNS). 4) Injuries & accidents specific to the aged.	disorders. 5) Cerebral palsy, myopathy and muscular dystrophies. Unit V: PT in Geriatric conditions A. Review of the examination & assessment of a Geriatric patient. B. Review of pathological changes and principle of management by physiotherapy of the following conditions : 1) Musculoskeletal disorders 2) Cardiopulmonary disorders. 3) Neurological disorders (CNS & PNS). 4) Injuries & accidents specific to the aged.	I I I No Change I I I I I
	PT in Medical Conditions Practical Internal Viva: 20 Marks External Viva: 20 Marks Case Study 1- Paediatric Conditions: 20 marks Case Study 2- Geriatric Conditions: 20 Marks	Included for clarity on structure and conduct of practical exam
Recommended Reading: 1. Cash's Textbook of general medical and surgical conditions for Physiotherapists -Downie – Jaypee Brothers. 2. Essentials of Cardiopulmonary physical therapy – Hillegass&Sadowsky – W.B. Saunders. 3. Cash's Textbook of Chest, Heart and Vascular Disorders for Physiotherapists – Downie – J.F. Brothers. 4. The Brompton Guide to Chest Physical Therapy. 5. Cardiopulmonary Physical Therapy – Irwin and Tecklin – Mosby. 6. Cardiovascular / Respiratory Physiotherapy – Smith & Ball – Mosby. 7. ACSM Guidelines for Exercise testing and Prescription – ACSM – Williams and Wilkins. 8. Chest Physiotherapy in Intensive Care Unit – Mackenzie et al – Williams and Wilkins. 9. Motor Assessment of Developing Infant – Piper & Darrah – W.B.,	Recommended Reading: 1. Cash's Textbook of general medical and surgical conditions for Physiotherapists -Downie – Jaypee Brothers. 2. Essentials of Cardiopulmonary physical therapy – Hillegass&Sadowsky – W.B. Saunders. 3. Cash's Textbook of Chest, Heart and Vascular Disorders for Physiotherapists – Downie – J.F. Brothers. 4. The Brompton Guide to Chest Physical Therapy. 5. Cardiopulmonary Physical Therapy – Irwin and Tecklin – Mosby. 6. Cardiovascular / Respiratory Physiotherapy – Smith & Ball – Mosby. 7. ACSM Guidelines for Exercise testing and Prescription – ACSM – Williams and Wilkins. 8. Chest Physiotherapy in Intensive Care Unit – Mackenzie et al –	

EXISTING		PROPOSED	JUSTIFICATION
Saunders. 10. Paediatric Physical Therapy – Tecklin – Lippincott. 11. Treatment of Cerebral Palsy and Motor Delay – Levitts – Blackwell Scientific Publications, London. 12. Physiotherapy in Paediatrics – Shephered – Butterworth Heimmann. 13. Geriatric Physical Therapy – Gucciona – Mosby.		9. Williams and Wilkins. Motor Assessment of Developing Infant – Piper & Darrah – W.B., Saunders.	
Paper – V Research Methodology and Biostatistics		BPT 305: Research Methodology and Biostatistics	
Teaching Hours:	Theory = 50 Practical = Nil	Teaching Hours: Theory = 100 Practical/ Clinical Training = Nil	Time has been increased considering the importance and content of the subject.
Theory Exam Time: 03 Hours		Theory Exam Time: 03 Hours	
MARKS	Theory: 80 + 20 Int. Assessment = 100 Marks Practical: Nil	MARKS Theory: 80 + 20 Int. Assessment = 100 Marks Practical: Nil	
Note: The question paper covering the entire course shall be divided into two sections. Each section to be attempted in a separate answer book and to be evaluated by separate examiners.		Instructions for theory paper setting: The question paper covering the entire course shall be divided into two sections. Both sections will be attempted on a single answer sheet and to be evaluated by a single examiner.	Changed as per prevailing University norms
Section A: Question1: This will consist of Five short answer questions with answer to each question upto five lines in length. All questions will be compulsory. Each question will carry 3 marks total weightage being 15 marks.		Section A: Question1: This will consist of Five short answer questions with answer to each question upto five lines in length. All questions will be compulsory. Each question will carry 3 marks total weightage being 15 marks.	
		Question 2: This will consist of one medium answer question with answer upto three pages in length. This question will be compulsory.	

EXISTING	PROPOSED	JUSTIFICATION
Question 2: This will consist of one medium answer question with answer to each question upto three pages in length. One question will be set by the examiner and will be compulsory. This question will consist of 10 marks. Question 3: This will consist of two long answer questions with answer to each question upto 5 pages in length. Two questions will be set by the examiner and the candidate will be required to attempt one. Each question will carry 15 marks. Section B: Same as in Section A.	This question will carry 10 marks. Question 3: This will consist of two long answer questions with answer to each question upto 5 pages in length. Two questions will be set by the examiner and the candidate will be required to attempt any one and the question will carry 15 marks. Section B: Same as in Section A. COURSE OBJECTIVES & LEARNING OUTCOMES: On completion of this subject, the students will be able to- 1. Apply the principles of research and biostatistics to health practice including the design and implementation of health related research studies. 2. Plan and execute a research study, including clinical trials. 3. Use / organize bio-statistical analysis using computers and software and prepare reports / papers. 4. Critically evaluate research activities. 5. Make recommendations on policy and procedures. 6. Plan and conduct an educational session / programme.	Rephrased for clarity Course Objectives and learning outcomes have been added to meet global standards and expectations.
	Section A: Research Methodology	
Research Methodology Section I : 1. Introduction : Importance of research in clinical practice, scientific approach, characteristics, purposes and limitations. 15 Hrs	UNIT I : 1. Introduction to Research methodology: Meaning of research, OBJECTIVES of research, Motivation in research, Types of research & research approaches, Research methods	I I I Topics have been

EXISTING	PROPOSED	JUSTIFICATION
Recommended Reading: 1. Methods in Biostatistics – Mahajan – J.P. 2. Statistics in Medicine – Colton – Little Brown, Boston. 3. Research for Physiotherapist : Project Design and Analysis – Hicks – Churchill Livingstone. 4. Biostatistics : The manual for statistics methods for use in health and nutrition – K.V. Rao. 5. Research methods in Behavioural Sciences – Mohsin – Orient Publications.	Recommended Reading: 1. Methods in Biostatistics – Mahajan – J.P. 2. Statistics in Medicine – Colton – Little Brown, Boston. 3. Research for Physiotherapist : Project Design and Analysis – Hicks – Churchill Livingstone. 4. Biostatistics : The manual for statistics methods for use in health and nutrition – K.V. Rao. 5. Research methods in Behavioural Sciences – Mohsin – Orient Publications.	

EXISTING	PROPOSED	JUSTIFICATION
BPT Fourth Year (Total Theory + Practical/Clinical = 1000 hours) Paper – 1 General Surgery Teaching Hours: Theory = 100 Practical = 100 Theory Exam Time: 03 Hours MARKS Theory: 80 + 20 Int. Assessment = 100 Marks Practical: 80 + 20 Int. Assessment = 100 Marks Note: The question paper covering the entire course shall be divided into two sections. Each section to be attempted in a separate answer book and to be evaluated by separate examiners. Section A: Question1: This will consist of Five short answer questions with answer to each question upto five lines in length. All questions will be compulsory. Each question will carry 3 marks total weightage being 15 marks. Question 2: This will consist of one medium answer question with answer upto three pages in length. This question will be compulsory. This question will carry 10 marks. Question 3: This will consist of two long answer questions with answer to each question upto 5 pages in length. Two questions will be set by the examiner and the candidate will be required to attempt one.	BPT Fourth Year (Total Theory + Practical/Clinical = 1100 hours) BPT 401: General Surgery Teaching Hours: Theory = 100, Practical / Clinical Training = 100 Theory Exam Time: 03 Hours MARKS Theory: 80 + 20 Int. Assessment = 100 Marks Practical: 80 + 20 Int. Assessment = 100 Marks Instructions for theory paper setting: The question paper covering the entire course shall be divided into two sections. Both sections will be attempted on a single answer sheet and to be evaluated by a single examiner. Section A: Question1: This will consist of Five short answer questions with answer to each question upto five lines in length. All questions will be compulsory. Each question will carry 3 marks total weightage being 15 marks. Question 2: This will consist of one medium answer question with answer upto three pages in length. This question will be compulsory. This question will carry 10 marks. Question 3: This will consist of two long answer questions with answer to each question upto 5 pages in length. Two questions will be set by the examiner and the candidate will be required to attempt any one and the question will carry 15 marks. Section B:	Teaching hours have been made uniform across all profs Changed as per prevailing University norms Rephrased for clarity

EXISTING	PROPOSED	JUSTIFICATION
Each question will carry 15 marks. Section B: Same as in Section A.	Same as in Section A.	
	COURSE OBJECTIVES& LEARNING OUTCOMES: The OBJECTIVES of the course is that after the specified hours of lectures and demonstrations the student will be able to - 1. Understand & describe pre operative evaluation of various surgical indications in abdominal thoracic, Neuro Surgical & Peripheral vascular conditions. 2. Understand the anatomy, physiology and various conditions in Obstetrics and Gynaecological conditions relevant to Physiotherapy. 3. Discuss various complications during pregnancy, labor, puerperium and postnatal stage, pre and post-menopausal stage and various aspects of urogenital dysfunction and the management in brief. 4. Understand surgical steps & approaches in short & should be able to describe components of soft tissues cut to reach target tissue & complications. 5. Assess post operative complications & its implications in ward treatment, prognosis, morbidity & mortality. 6. Describe effects of surgical trauma & Anaesthesia in post operative course. 7. Understand classify, clinically assess, evaluate & describe surgical management in brief in. a) Wounds and Ulcers b) Burns	Course Objectives and learning outcomes have been added to meet global standards and expectations.

EXISTING	PROPOSED	JUSTIFICATION
	c) Head Injuries. 8. Understand the anatomy, physiology and various conditions in Obstetrics and Gynaecological conditions relevant to Physiotherapy. 9. Acquire the knowledge of various conditions of Eye and ENT.	
	Section A	
Section I: 10 Hrs 1. Introduction to principles of surgery and its procedure. 2. Shock – definition, types, clinical, feature, pathology & management. 3. Haemorrhage – common sites, complication, clinical features & management. 4. Blood Transfusion – Blood group matching, indication & complication. 5. Anaesthesia – Principles of anaesthesia, types & procedure. Section II: 20 Hrs 1. Wounds, Tissue repair, Classification – Acute Wounds, Chronic wounds, Scars & their Management. 2. Wound infections : Psychology & manifestation, Types of infections & their management. 3. Tumors and Ulcers : a) Tumors – Types of Management b) Ulcers – Types & Management. 4. Burns – Causes, Classification, Clinical features & Management. 5. Skin Grafting – Indications, Types & Procedures. 6. Hand Infections – Types & Management. 7. General Injuries – Types & Management.	Unit I: 1. Introduction to principles of surgery and its procedure. 2. Shock – definition, types, clinical, feature, pathology & management. 3. Haemorrhage – common sites, complication, clinical features & management. 4. Blood Transfusion – Blood group matching, indication & complication. 5. Anaesthesia – Principles of anaesthesia, types & procedure. Unit II: 1. Wounds, Tissue repair, Classification – Acute Wounds, Chronic wounds, Scars & their Management. 2. Wound infections: Physiology & manifestation, Types of infections & their management. 3. Tumors and Ulcers: (a) Tumors- Types of Management (b) Ulcers- Types of Management 4. Burn: Causes, Classification, Clinical Features and Management. 5. Skin Grafting- Indications, Types & Procedures. 6. Hand Infections- Types & Management. 7. General Injuries- Types & Management.	I I I I No Change I I I I I I I No change I I I I I I I I I

EXISTING	PROPOSED	JUSTIFICATION
Section III 10 Hrs 1. Complications of Surgery. 2. Abdominal Surgery – Types of Incisions & common surgical procedures. 3. Thoracic and Cardiac Surgery – Types of incision and common surgical procedures.	Unit III: Obstetrics & Gynaecology: 1. Pregnancy, stages of labor and its complications, Indications and types of surgical procedures. 2. Gynaecological disorders – Salpingitis, parametritis, Retro-uterus, prolapse of uterus, pelvic inflammatory Diseases, urinary incontinence. SECTION B	I I Units have been shuffled to make both sections equal. No change in content of syllabus of this subject I I I I I I I
Section IV 20 Hrs Obstetrics & Gynaecology 1. Pregnancy, stages of labour and its complications, indications and types of surgical procedures. 2. Gynaecological disorders – Salpingitis, parametritis, retro-uterus, prolapse of uterus, pelvic inflammatory diseases, urinary incontinence.	Unit IV: 1. Complications of Surgery 2. Abdominal Surgery- Types of Incision & common surgical procedures. 3. Thoracic and Cardiac Surgery – Types of Incision and common surgical procedures.	I I I I I I I
Section – V 20 Hrs Ophthalmology 1. Common conditions of eye: Cataract, Glaucoma, Diabetic complications of eye, injuries, inflammations and other infections of eye. 2. Ptosis. 3. Blindness – common causes & management. 4. Refractions – testing, errors & remedies. 5. Strabismus – types, features & corrective measures.	Unit V: Ophthalmology: 14. Common conditions of eye: Cataract, Glaucoma, Diabetic complications of eye, injuries, inflammations and other infections of eye. 15. Ptosis. 16. Blindness – common causes & management. 17. Refractions – testing, errors & remedies. 18. Strabismus – types, features & corrective measures.	No change I I I I I I I
Section VI 20 Hrs Ear, Nose & Throat (ENT)	Unit VI: Otorhinolaryngology (ENT): 1. Introduction – Outline mechanism of audition, olfaction & speech.	I I I I I

EXISTING	PROPOSED	JUSTIFICATION
1. Introduction – Outline, mechanism of audition, olfaction & speech. 2. Classify causes of hearing impairment, assessment techniques, conservative & surgical management. 3. Hearing Aids – types & indications. 4. Outline common ENT infections & lesions, which affect hearing, breathing, speech & their management. 5. Outline the function of vestibular organ, its common disorders & their management.	2. Classify causes of hearing impairment, assessment techniques, conservative & surgical management. 3. Hearing Aids – types & indications. 4. Outline common ENT infections & lesions, which affect hearing, breathing, speech & their management. 5. Outline the function of vestibular organ, its common disorders & their management.	I No change I I I I I
	General Surgery Practical	
Recommended Reading: Baily and Love – Short Practice of Surgery – Mann and Rains – H.K. Levis Publications, London. 2. Undergraduate Surgery – Nan – Academic Publishers, Calcutta. 3. Textbook of Surgery – Gupta R.L. – Jaypee. 4. Principles and Practices of trauma care – Kocher – Jaypee. 5. Clinical Methods – S. Das – Calcutta	Identification and description of common surgical items: 20 marks Viva External: 30 marks Viva Internal: 30 marks Recommended Reading: 1. Baily and Love – Short Practice of Surgery – Mann and Rains – H.K. Levis Publications, London. 2. Undergraduate Surgery – Nan – Academic Publishers, Calcutta. 3. Textbook of Surgery – Gupta R.L. – Jaypee. 4. Principles and Practices of trauma care – Kocher – Jaypee. 5. Clinical Methods – S. Das – Calcutta.	Included for clarity on structure and conduct of practical exam
Paper –II Neurology	BPT 402: Neurology	
Teaching Hours: Theory = 100, Practical = 100	Teaching Hours: Theory = 100, Practical/ Clinical Training = 100	

EXISTING		PROPOSED	JUSTIFICATION
Theory Exam Time: 03 Hours		Theory Exam Time: 03 Hours	
MARKS	Theory: 80 + 20 Int. Assessment = 100 Marks Practical: 80 + 20 Int. Assessment = 100 Marks	MARKS Theory: 80 + 20 Int. Assessment = 100 Marks Practical: 80 + 20 Int. Assessment = 100 Marks	No Change
Note: The question paper covering the entire course shall be divided into two sections. Each section to be attempted in a separate answer book and to be evaluated by separate examiners. Section A: Question1: This will consist of Five short answer questions with answer to each question upto five lines in length. All questions will be compulsory. Each question will carry 3 marks total weightage being 15 marks. Question 2: This will consist of one medium answer question with answer to each question upto three pages in length. One question will be set by the examiner and will be compulsory. This question will consist of 10 marks. Question 3: This will consist of two long answer questions with answer to each question upto 5 pages in length. Two questions will be set by the examiner and the candidate will be required to attempt one. Each question will carry 15 marks. Section B: Same as in Section A.		Instructions for theory paper setting: The question paper covering the entire course shall be divided into two sections. Both sections will be attempted on a single answer sheet. Section A: Question1: This will consist of Five short answer questions with answer to each question upto five lines in length. All questions will be compulsory. Each question will carry 3 marks total weightage being 15 marks. Question 2: This will consist of one medium answer question with answer upto three pages in length. This question will be compulsory. This question will carry 10 marks. Question 3: This will consist of two long answer questions with answer to each question upto 5 pages in length. Two questions will be set by the examiner and the candidate will be required to attempt any one and the question will carry 15 marks. Section B: Same as in Section A.	

EXISTING	PROPOSED	JUSTIFICATION
	COURSE OBJECTIVES& LEARNING OUTCOMES: 1. To make students aware of parts of brain and spinal cord and the related clinical anatomy. 2. To make them understand basic examination and assessment of neurological system in adults. 3. Know the aetiology, classification , pathology, clinical features, relevant investigations, complications, surgical and non surgical management of various Neurological conditions : congenital and childhood disorders, Head Injury, Spinal Cord Injury, Transverse Myelitis, Multiple Sclerosis, infections of Brain and Spinal Cord, Peripheral Nerve Disorders, Tumours , Neuropsychological Disorders 4. Demonstration of working knowledge of neuro-anatomical features and physiology and pathophysiology of sensori - neuro- motor systems. On completion of this course, the students will be able to: 1. Comprehend the structure and function of parts of Nervous System. 2. Correlate the knowledge gained in understanding neurological dysfunction. 3. Correlate the clinical manifestations to the organ of dysfunction of the Nervous System. 4. Understand clinical reasoning skills and an evidence based approach to decision making in neurological conditions. 5. Appreciate the role of the client and health care professionals in holistic management of neurological patient.	Course Objectives and learning outcomes have been added to meet global standards and expectations.
Section I : 1. Neuroanatomy : Review the basic anatomy of the brain and spinal cord including Blood supply of the brain and spinal cord, anatomy of the visual pathway, connections of the cerebellum	Section A Unit I : 1. Neuroanatomy : Review the basic anatomy of the brain and spinal cord including Blood supply of the brain and spinal cord, anatomy of	I I I I

EXISTING	PROPOSED	JUSTIFICATION
	Case study: 20 Marks External Viva: 20 Marks Internal Viva: 20 Marks	
Recommended Reading: 1. Davidson's Principles and practices of medicine – Edward – Churchill Livingstone. 2. Brain's Diseases of the Nervous System – Nalton – ELBS. 3. Guided to clinical Neurology – Mohn&Gaectier – Churchill Livingstone. 4. Principles of Neurology – Victor – McGraw Hill International edition.	Recommended Reading: 1. Davidson's Principles and practices of medicine – Edward – Churchill Livingstone. 2. Brain's Diseases of the Nervous System – Nalton – ELBS. 3. Guided to clinical Neurology – Mohn&Gaectier – Churchill Livingstone. 4. Principles of Neurology – Victor – McGraw Hill International edition.	
Paper – III Physiotherapy in Neurological Conditions	BPT 403: Physiotherapy in Neurological Conditions	
Teaching Hours: Theory = 100 Practical = 100	Teaching Hours: Theory = 100 Practical/ Clinical Training = 150	Practical hours have been added for comprehensive teaching and learning
Theory Exam Time: 03 Hours	Theory Exam Time: 03 Hours	
MARKS Theory: 80 + 20 Int. Assessment = 100 Marks Practical: 80 + 20 Int. Assessment = 100 Marks	MARKS Theory: 80 + 20 Int. Assessment = 100 Marks Practical: 80 + 20 Int. Assessment = 100 Marks	
Note: The question paper covering the entire course shall be divided into two sections. Each section to be attempted in a separate answer book and to be evaluated by	Instructions for theory paper setting: The question paper covering the entire course shall be divided into two sections. Both sections will be attempted on a single answer sheet. Section A: Question1: This will consist of Five short answer questions with	

EXISTING	PROPOSED	JUSTIFICATION
separate examiners. Section A: Question 1: This will consist of Five short answer questions with answer to each question upto five lines in length. All questions will be compulsory. Each question will carry 3 marks total weightage being 15 marks. Question 2: This will consist of one medium answer question with answer to each question upto three pages in length. One question will be set by the examiner and will be compulsory. This question will consist of 10 marks. Question 3: This will consist of two long answer questions with answer to each question upto 5 pages in length. Two questions will be set by the examiner and the candidate will be required to attempt one. Each question will carry 15 marks. Section B: Same as in Section A.	answer to each question upto five lines in length. All questions will be compulsory. Each question will carry 3 marks total weightage being 15 marks. Question 2: This will consist of one medium answer question with answer upto three pages in length. This question will be compulsory. This question will carry 10 marks. Question 3: This will consist of two long answer questions with answer to each question upto 5 pages in length. Two questions will be set by the examiner and the candidate will be required to attempt any one and the question will carry 15 marks. Section B: Same as in Section A. COURSE OBJECTIVES& LEARNING OUTCOMES: The OBJECTIVES of the course is that after the specified hours of lectures and demonstrations the student will be able to- 1. Identify disabilities due to neurological dysfunction, plan and set treatment goals and apply the skills gained in exercise therapy and electrotherapy in these clinical situations to restore neurological function. 2. Understand the basic concepts, etiology, Classification, Pathology, Clinical Features, Relevant Investigations, Complications, Surgical &Non Surgical Management of various	Course Objectives and learning outcomes have been added to meet global standards and expectations.

EXISTING	PROPOSED	JUSTIFICATION
Section I : Neurology 1. Examination of Neurological disorders and principles of treatment. 2. Knowledge of various investigative procedures (invasive & noninvasive) used in the diagnosis of various neurological disorders. 3. Review of pathological changes and principle of management & physiotherapy of the following conditions : a) Hemiplegia, Paraplegia, Tabes dorsalis, cerebellar ataxia, extra pyramidal lesions, Guillain Barre Syndrome, Parkinsonism. b) Disseminated sclerosis, Amyotrophic lateral sclerosis, Syringomyelia subacute combined degeneration of cord motor neuron disease. c) Peripheral Nerve and cranial Nerve lesions.	Neurological Conditions. 3. Perform as a competent physiotherapist and assess, identify, analyze neuro-motor & psychosomatic dysfunction in adults & pediatrics and co-relate the finding with provisional diagnosis, interpretation of routine neurological investigations & arrive at functional diagnosis with clinical reasoning. 4. Evaluate patients for abnormalities in neurodevelopment and functional limitations and execute all routine physiotherapeutic procedures as per the evaluation to restore neurological function. 5. Able to operate the physiotherapy equipment used in the treatment of patient, physiotherapy treatment planning (both electrotherapy and exercise therapy), execute short term & long-term goals with appropriate therapeutic interventions & modify treatment techniques according to stage of disease. 6. Able to provide patient education about various physiotherapeutic interventions to the patient and care givers.	
Section A 1. Examination of Neurological disorders and principles of treatment. 2. Review of pathological changes and principle of management & physiotherapy of the following conditions: a) Peripheral Nerve and cranial Nerve lesions. b) Neuritis and Neuralgia - Brachial, sciatic etc. c) Infections – Poliomyelitis, meningitis, Encephalitis, Polyneuritis Transverse myelitis.		No change in content. The content has been segregated into two sections as per exam guidelines. I I I I No change I I I I

EXISTING	PROPOSED	JUSTIFICATION
4. Tetraplegia & Paraplegia – A guide for physiotherapist – Bromley – Churchill Livingstone. 5. Neurological Physiotherapy – A problem solving approach – Susan Edwards – Churchill Livingstone. 6. Neurological Rehabilitation – Umpherd- Mosby. 7. Motor Assessment of Developing Infant – Piper & Darrah – W.B., Saunders. 8. Treatment of Cerebral Palsy and Motor Delay – Levitts – Blackwell Scientific Publications, London.	Butterworth Heinmann. 3. Neurological Rehabilitation – Carr & Shepherd – Butterworth Heinmann. 4. Tetraplegia & Paraplegia – A guide for physiotherapist – Bromley – Churchill Livingstone. 5. Neurological Physiotherapy – A problem solving approach – Susan Edwards – Churchill Livingstone. 6. Neurological Rehabilitation – Umpherd- Mosby. 7. Motor Assessment of Developing Infant – Piper & Darrah – W.B., Saunders. 8. Treatment of Cerebral Palsy and Motor Delay – Levitts – Blackwell Scientific Publications, London.	
Paper IV: Physiotherapy in Surgical Conditions	BPT 404: Physiotherapy in Surgical, Cardio Thoracic and Vascular Surgical Conditions	Title of the subject has been changed to reflect the Thoracic Surgery content in the subject
Teaching Hours: Theory = 100 Practical = 100	Teaching Hours: Theory = 100, Practical/ Clinical Training = 150	Practical hours have been added for comprehensive teaching and learning
Theory Exam Time: 03 Hours	Theory Exam Time: 03 Hours	
MARKS Theory: 80 + 20 Int. Assessment = 100 Marks Practical: 80 + 20 Int. Assessment = 100 Marks	MARKS Theory: 80 + 20 Int. Assessment = 100 Marks Practical: 80 + 20 Int. Assessment = 100 Marks	

EXISTING	PROPOSED	JUSTIFICATION
Note: The question paper covering the entire course shall be divided into two sections. Each section to be attempted in a separate answer book and to be evaluated by separate examiners. Section A: Question1: This will consist of Five short answer questions with answer to each question upto five lines in length. All questions will be compulsory. Each question will carry 3 marks total weightage being 15 marks. Question 2: This will consist of one medium answer question with answer to each question upto three pages in length. One question will be set by the examiner and will be compulsory. This question will consist of 10 marks. Question 3: This will consist of two long answer questions with answer to each question upto 5 pages in length. Two questions will be set by the examiner and the candidate will be required to attempt one. Each question will carry 15 marks. Section B: Same as in Section A.	Instructions for theory paper setting: The question paper covering the entire course shall be divided into two sections. Both sections will be attempted on a single answer sheet. Section A: Question1: This will consist of Five short answer questions with answer to each question upto five lines in length. All questions will be compulsory. Each question will carry 3 marks total weightage being 15 marks. Question 2: This will consist of one medium answer question with answer upto three pages in length. This question will be compulsory. This question will carry 10 marks. Question 3: This will consist of two long answer questions with answer to each question upto 5 pages in length. Two questions will be set by the examiner and the candidate will be required to attempt any one and the question will carry 15 marks. Section B: Same as in Section A.	
	COURSE OBJECTIVES& LEARNING OUTCOMES: The OBJECTIVES of the course is that after the specified hours of lectures and demonstrations the student will be able to- 1. Discuss and analyze cardio vascular and pulmonary	Course Objectives and learning outcomes have been added to meet global standards and expectations.

EXISTING	PROPOSED	JUSTIFICATION
	dysfunction based on pathophysiological principles and arrive at the appropriate diagnosis 2. Apply knowledge of rationale of basic investigative approaches in the surgical intervention regimes related to cardio vascular and pulmonary impairment 3. Apply the effective physiotherapeutic measures (with appropriate clinical reasoning) with special emphasis to breathing retraining, nebulization, humidification, bronchial hygiene, general mobilization and exercise conditioning in general surgical conditions 4. Understand the knowledge of the overview of patients care at the intensive care area, artificial ventilation, suctioning, positioning for bronchial hygiene and continuous monitoring of the patient at the intensive care area 5. Execute the skill of evaluation and interpretation of functional capacity using simple exercise testing procedure. 6. Acquire the knowledge of evaluation and physiotherapy treatment for obstetrics and gynecological conditions 7. Acquire the skill of clinical examination of the pelvic floor dysfunction and its rehabilitation. 8. Acquire the knowledge of various conditions where physiotherapy plays a vital role in the rehabilitation (eye and ENT conditions) 9. Assess the various degrees of burns, plan and implement physiotherapy techniques for the rehabilitation of a burn and wound patient. 10. Understand the pathophysiological changes, principles, pre & post operative management of the brain, vertebral column and peripheral nerve surgeries.	
	Section A	

EXISTING	PROPOSED	JUSTIFICATION
- Common surgeries of the cranium & brain. - Common surgeries of vertebral column & spinal cord. - Common surgeries of peripheral nerves. - Surgical interventions in traumatic head injuries.	intervention for child delivery Ante natal & post natal, physiotherapy. Section IV - Wounds, Burns & Plastic Surgery Review of pathological changes and principle of pre and post operative management by physiotherapy of the following conditions : - Wounds, ulcers, pressure sores. - Burns & their complications. - Common reconstructive surgical proceedings of the management of wounds, ulcers, burns & consequent contractures & deformities. Section V - Neurosurgery Review of pathological changes and principle of pre and post operative management by physiotherapy of the following conditions : - Common surgeries of the cranium & brain. - Common surgeries of vertebral column & spinal cord. - Common surgeries of peripheral nerves. - Surgical interventions in traumatic head injuries.	No change I I I I I I I I I I I No Change I I I I I I I I I I
	PT in Surgical, Cardiothoracic and Vascular Surgical Conditions Practical	
	Assessment of Cardiovascular and Respiratory Status: 20 Marks	Included for clarity on structure and conduct

EXISTING		PROPOSED	JUSTIFICATION
		Case Study: 20 Marks External Viva: 20 Marks Internal Viva: 20 Marks	of practical exam
Recommended Reading: 1. Cash's Textbook of general medical and surgical conditions for physiotherapists – Downie – Jaypee Brothers. 2. Cash's textbook of heart, chest and vascular disorders for physiotherapists – Downie – Jaypee Brothers. 3. Principles and practices of cardiopulmonary physical therapy – Frown Felter – Mosby. 4. Chest physiotherapy in intensive care Unit – Mackenzie – Williams & Wilkins. 5. Restoration of Motor Functions in stroke patient : A Physiotherapist Approach – Johnstone Churchill Livingstone. 6. Physiotherapy in obstetrics and gynaecology – Polden – F.A. Davis.		Recommended Reading: 1. Cash's Textbook of general medical and surgical conditions for physiotherapists – Downie – Jaypee Brothers. 2. Cash's textbook of heart, chest and vascular disorders for physiotherapists – Downie – Jaypee Brothers. 3. Principles and practices of cardiopulmonary physical therapy – Frown Felter – Mosby. 4. Chest physiotherapy in intensive care Unit – Mackenzie – Williams & Wilkins. 5. Restoration of Motor Functions in stroke patient : A Physiotherapist Approach – Johnstone Churchill Livingstone. 6. Physiotherapy in obstetrics and gynaecology – Polden – F.A. Davis.	
Paper – V Physiotherapy Ethics, Administration & Rehabilitation,		BPT 405: Physiotherapy Ethics, Administration & Rehabilitation	
Teaching Hours:	Theory = 100 Practical = 100	Teaching Hours:	Theory = 100 Practical / Clinical Training = 100
Theory Exam Time:	03 Hours	Theory Exam Time:	03 Hours
MARKS	Theory: 80 + 20 Int. Assessment = 100 Marks Practical: 80 + 20 Int. Assessment = 100 Marks	MARKS	Theory: 80 + 20 Int. Assessment = 100 Marks Practical: 80 + 20 Int. Assessment = 100 Marks
Note: The question paper covering the entire course shall be		Instructions for theory paper setting:	
			No Change

EXISTING	PROPOSED	JUSTIFICATION
divided into two sections. Each section to be attempted in a separate answer book and to be evaluated by separate examiners. Section A: Question 1: This will consist of Five short answer questions with answer to each question upto five lines in length. All questions will be compulsory. Each question will carry 3 marks total weightage being 15 marks. Question 2: This will consist of one medium answer question with answer to each question upto three pages in length. One question will be set by the examiner and will be compulsory. This question will consist of 10 marks. Question 3: This will consist of two long answer questions with answer to each question upto 5 pages in length. Two questions will be set by the examiner and the candidate will be required to attempt one. Each question will carry 15 marks. Section B: Same as in Section A.	The question paper covering the entire course shall be divided into two sections. Both sections will be attempted on a single answer sheet. Section A: Question 1: This will consist of Five short answer questions with answer to each question upto five lines in length. All questions will be compulsory. Each question will carry 3 marks total weightage being 15 marks. Question 2: This will consist of one medium answer question with answer upto three pages in length. This question will be compulsory. This question will carry 10 marks. Question 3: This will consist of two long answer questions with answer to each question upto 5 pages in length. Two questions will be set by the examiner and the candidate will be required to attempt any one and the question will carry 15 marks. Section B: Same as in Section A.	
	COURSE OBJECTIVES&LEARNING OUTCOMES: The OBJECTIVES of the course is that after the specified hours of lectures and demonstrations the student will be able to- 1. Comprehend the concept and models of Disability and Rehabilitation. 2. Recount the history & development of Physiotherapy as a profession.	Course Objectives and learning outcomes have been added to meet global standards and expectations.

EXISTING	PROPOSED	JUSTIFICATION
- Protection from Malpractice claims, Consumer Protection Act - Liability and Documentations.	- Protection from Malpractice claims, Consumer Protection Act - Liability and Documentations.	I I I I I I I I
Section III Principles of Rehabilitation		
Section III A		
20 Hrs		
1. Conceptual framework of rehabilitation, roles of rehabilitation team members, definitions and various models of rehabilitation.	1. Conceptual framework of rehabilitation, roles of rehabilitation team members, definitions and various models of rehabilitation.	I
2. Epidemiology of disability with emphasis on locomotor disability, its implications – individual, family, social, economic and the state.	2. Epidemiology of disability with emphasis on locomotor disability, its implications – individual, family, social, economic and the state.	I
3. Preventive aspects of disability and organizational skills to manage it.	3. Preventive aspects of disability and organizational skills to manage it.	I
4. Community Based Rehabilitation and outreach programmes to rehabilitate persons with disabilities living in rural areas.	4. Community Based Rehabilitation and outreach programmes to rehabilitate persons with disabilities living in rural areas.	I
5. Statutory provisions, Schemes of assistance to persons with disability.	5. Statutory provisions, Schemes of assistance to persons with disability.	I
6. Role of NGOs in rehabilitation of the persons with disabilities.	6. Role of NGOs in rehabilitation of the persons with disabilities.	I
7. Basic principles of administration and finance including personnel management and budget preparation and procurement etc.	7. Basic principles of administration and finance including personnel management and budget preparation and procurement etc.	I
Section – III B		
15 Hrs		
1. Principles of Orthotics – types, indications, contra-indications, assessment (check out) uses and fitting – region wise.	1. Principles of administration and finance including personnel management and budget preparation and procurement etc.	No Change
2. Fabrication of simple splints and self-help devices for upper and lower extremity – indications and application.		I
3. Principles of Prosthetics – types, indications, contra-indications, assessment (check out), uses and fitting – upper and lower extremity.		I
Section III C		
10 Hrs		
1. Principles of Orthotics – types, indications, contra-indications,		I

EXISTING	PROPOSED	JUSTIFICATION
	Unit VII 1. Definition, scope & importance of Activities of Daily Living (ADLs). 2. The teaching and training of (a) wheel chair activities, (b) bed activities (c) transfer activities (d) Locomotor activities (e) Self care activities, such as toilet, eating, dressing etc.	I I I
	PRACTICALS	
	Identification & Description of Orthoses: 20 Marks Identification & Description of Prostheses: 20 Marks External Viva: 20 Marks Internal Viva: 20 Marks	
1. Introduction, Identification & Indications for the application of various aids & appliances like common splints, orthotics & prosthetic devices. 2. Visit to some NGO's dealing with persons with disabilities. 3. Learning basic principles of pre-vocational evaluation & occupational therapy. 4. Learning basic principles of vocational training.	1. Introduction, Identification & Indications for the application of various aids & appliances like common splints, orthotics & prosthetic devices. 2. Visit to some NGO's dealing with persons with disabilities. 3. Learning basic principles of pre-vocational evaluation & occupational therapy. 4. Learning basic principles of vocational training. 5. Demonstration and learning of transfers in and out of bed, wheelchair etc. 6. Demonstration and learning of ADL activities.	
Recommended Reading: 1. Physical Rehabilitation – assessment & Treatment – Sullivan & Schmitz – F.A. Davis. 2. Occupational Therapy and Physical dysfunction : Principles, Skills & Practices – Turner, Foster & Johnson – Churchill Livingstone. 3. Hand Splitting – Wilson – W.B. Saunders.	Recommended Reading: 1. Physical Rehabilitation – assessment & Treatment – Sullivan & Schmitz – F.A. Davis. 2. Occupational Therapy and Physical dysfunction : Principles, Skills & Practices – Turner, Foster & Johnson – Churchill Livingstone. 3. Hand Splitting – Wilson – W.B. Saunders.	

EXISTING	PROPOSED	JUSTIFICATION
4. Orthotics in Rehabilitation : Splinting the hand and the body – McKeek& Morgan – F.A. Davis. 5. Atlas of Limb Prosthetics – American Academy of Orthopaedic Surgeon - Mosby. 6. Atlas of Orthotics – American Academy of Orthopaedic Surgeon – Mosby. 7. Krusen's Handbook of Physical Medicine & Rehabilitation – Kottke& Lehmann – W.B. Saunders. 8. Willard and Speckman's occupational therapy – Neistadt&Crepeau – Lippincott.	&Practices – Turner, Foster & Johnson – Churchill Livingstone. 3. Hand Splitting – Wilson – W.B. Saunders. 4. Orthotics in Rehabilitation : Splinting the hand and the body – McKeek& Morgan – F.A. Davis. 5. Atlas of Limb Prosthetics – American Academy of Orthopaedic Surgeon - Mosby. 6. Atlas of Orthotics – American Academy of Orthopaedic Surgeon – Mosby. 7. Krusen's Handbook of Physical Medicine & Rehabilitation – Kottke& Lehmann – W.B. Saunders. 8. Willard and Speckman's occupational therapy – Neistadt&Crepeau – Lippincott.	

Considered the recommendations of the Faculty of Physiotherapy made in its meeting held on 27.09.2022 vide para-9 and **RESOLVED**: To recommend to the Board of Management for approval of the clarification in respect of provisions under New BPT (Syllabus/Regulations) implemented w.e.f. 2021 admission batch as under:

- i) **BPT 2nd Prof - Pharmacology subject= The Theory paper of Pharmacology shall be of 3 hours duration instead of 1½ hour.**
- ii) **BPT 2nd Prof. - Psychology & Sociology= The theory paper of Psychology & Sociology is to be attempted by the students on Separate answer sheets & to be evaluated by separate evaluators.**
- iii) **Old & New Scheme theory Papers=The Theory papers for students admitted prior to year 2021 and w.e.f. year 2021 & onward batch shall be different.**