



SRI MANAKULA VINAYAGAR ENGINEERING COLLEGE

(An Autonomous Institution)

(Approved by AICTE, New Delhi & Affiliated to Pondicherry University)
(Accredited by NBA-AICTE, New Delhi, ISO 9001:2000 Certified Institution &
Accredited by NAAC with "A" Grade)

Madagadipet, Puducherry - 605 107



COLLEGE OF PHYSIOTHERAPY

Minutes of 1st BoS Meeting

Bachelor of Physiotherapy (BPT)

Venue : GD Hall,
Sri Manakula Vinayagar Engineering College

Date & Time : 3rd December 2021 at 09:30 A.M



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Madagadipet, Puducherry - 605 107



COLLEGE OF PHYSIOTHERAPY

Minutes of 1st Board of Studies Meeting

The First Board of Studies meeting for starting the programme Bachelor of Physiotherapy (BPT) in COLLEGE OF PHYSIOTHERAPY was held on **3rd December 2021 at 9:30 AM** in the Conference Hall, Sri Manakula Vinayagar Engineering College.

The following members were present in the BoS meeting

Sl. No	Name of the Member with Designation and official Address	Members as per UGC Norms
1	Dr. R. Rishikesavan, M.P.T Dean, College of Physiotherapy Sri Manakula Vinayagar Engineering College Madagadipet, Puducherry - 605107	Chairman
2	Dr. Balu, M.P.T Professor Arupadaiveedu Medical College, Kirumambakkam, Puducherry - 607403	Subject Expert (University Nominee))
3	Dr. A.Dinakaran, M.P.T Principal, Adhiparasakthi College of Physiotherapy, Melmaruvathur - 603319	Subject Expert (Academic Council Nominee)
4	Dr.KSI. Murali sankar, M.P.T Director School of Physiotherapy Arupadaiveedu Medical College, Kirumambakkam, Puducherry	Subject Expert (Academic Council Nominee)
5	Dr.S.D.Lakshmivasan, B.P.T, PG.D.D.T Chief Physiotherapist, Sri Kumaran Physiotherapist Clinic, Villupuram – 605602	Representative from Industry
6	Dr. K. Ezhilan, M.P.T Professor & Head, Physiotherapy Sri Manakula Vinayagar Medical College & Hospital Madagadipet, Puducherry – 605107	Member
7	Dr. M. Nakkiran, M.P.T Asst. Professor College of Physiotherapy Sri Manakula Vinayagar Engineering College Madagadipet, Puducherry – 605107	Member

8	Dr. S. Anbumalar Dean Academics, Sri Manakula Vinayagar Engineering College Madagadipet, Puducherry - 605107	Special Invitee
9	Dr. R. Subramanian Associate Dean – Academics, Sri Manakula Vinayagar Engineering College Madagadipet, Puducherry - 605107	Special Invitee

Agenda of the Meeting

1. To seek the permission of the members of the Board of studies for starting the new programme Bachelor of Physiotherapy(B.P.T)

- (i) The UGC has made the conferment of the Autonomous Status to Sri Manakula Vinayagar Engineering College, Madagadipet, Puducherry-605107 affiliated to Pondicherry University vide its letter No. F.22-1/2017(AC) dated 26th September 2019 and the same was approved by Pondicherry University on 19th June 2020 vide its letter No. PU/AW4/17/MVEC/2020-21/166 dated 19.6.2020 for a period of ten years with effect from 2019-20 to 2028-2029
- (ii) The Provisions are made available to start new courses in the autonomous institutions as per the UGC regulations 2018 under section 10.1 and 10.2 and also specified in the Gazette notification March 2014 on specification of degrees.
- (iii) The Government of Puducherry accorded necessary NOC to start new under graduate (four year +six months internship) programme, **Bachelor of Physiotherapy (B.P.T)** with an annual intake of 100 students from the academic year 2021-22 in Sri Manakula Vinayagar Engineering College, Madagadipet, Puducherry and also permitted to allot 50 percent of the total intake of the above course to the Government of Puducherry as Govt. quota and to be filled through CENTAC, Puducherry.
- (iv) The Pondicherry University nominated **Dr.Balu M.P.T**, Professor in Arupadai veedu Medical college, Puducherry as University Nominee for the Board of Studies of Sri Manakula Vinayagar Engineering College (Autonomous Institution) in respect of the course **Bachelor of Physiotherapy (B.P.T) offered as per the UGC regulations 2018 for Autonomous Colleges.**

2 To approve the SMVEC **Autonomous Regulations R 2021 for the Programme, Bachelor of Physiotherapy(BPT), in College of Physiotherapy**

3 To approve curriculum, syllabi for first and second semester of **Bachelor of Physiotherapy (B.P.T)** under SMVEC Autonomous Regulations **R2021.**

4 Any other item with the permission of the chair

Minutes of the Meeting

Dr. R. Rishikesavan, M.P.T, Chairman, BoS welcome the Board members and presented the agenda.

BOS / 2021 / COPT / 1.1

The Chairman, BoS, appraised the agenda and seeking the permission of the members of the Board of studies for starting the new programme in Bachelor of Physiotherapy (B.P.T) for the academic year 2021.

The BoS noted the Agenda and approved for starting of new programme in Bachelor of Physiotherapy (B.P.T) in College of Physiotherapy, Sri Manakula Vinayagar Engineering College for the academic year 2021.

(Approval letters, NOC, etc. are given in Annexure I)

BOS / 2021 / COPT / 1.2

The BoS approved the SMVEC Autonomous Regulations R2021 for the programme, Bachelor of Physiotherapy (B.P.T) in the College of Physiotherapy.

(Regulation R2021 is given in the Annexure II)

BOS / 2021 / COPT / 1.3

The BoS approved the curriculum, syllabi for first and second semesters Bachelor of Physiotherapy (B.P.T) programme under SMVEC Autonomous Regulations R2021 to be implemented from the academic year 2021-2022.

(Curriculum, syllabi for first and second semesters of Bachelor of Physiotherapy (B.P.T) programme is given in Annexure III)

The first BoS meeting approved the SMVEC **Autonomous Regulations R 2021 and the curriculum, syllabi of first and second semesters for the programme, Bachelor of Physiotherapy (B.P.T)** for the academic year 2021-2022 and the meeting was concluded at 1 PM. with vote of thanks by **Dr. R. Rishikesavan, M.P.T**, Chairman, Board of Studies, College of Physiotherapy, Sri Manakula Vinayagar Engineering College.



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Madagadipet, Puducherry - 605 107

College of Physiotherapy MEMBERS OF BOARD OF STUDIES

Sl.No	Name of the Member with Designation and official Address	Members as per UGC norms	Signature
1	Dr. R. Rishikesavan, M.P.T Dean, College of Physiotherapy Sri Manakula Vinayagar Engineering College Madagadipet, Puducherry - 605107	Chairman	
2	Dr. Balu, M.P.T Professor Arupadaiveedu Medical College, Kirumambakkam, Puducherry - 607403	Subject Expert (University Nominee)	
3	Dr. A. Dinakaran, M.P.T (Paediatric Neurology) Principal, Adhiparasakthi College of Physiotherapy, Melmaruvathur - 603319	Subject Expert (Academic Council Nominee)	
4	Dr. K.S.I. Murali sankar, M.P.T Director School of Physiotherapy Arupadaiveedu Medical College, Kirumambakkam, Puducherry	Subject Expert (Academic Council Nominee)	
5	Dr. S.D. Lakshmi vasan, B.P.T, PG.D.D.T Chief Physiotherapist, Sri Kumaran Physiotherapist Clinic, Villupuram - 605602	Representative from Industry	
6	Dr. K. Ezhilan, M.P.T Professor & Head, Physiotherapy Sri Manakula Vinayagar Medical College & Hospital Madagadipet, Puducherry - 605107	Member	
7	Dr. M. Nakkiran, M.P.T Asst. Professor College of Physiotherapy Sri Manakula Vinayagar Engineering College Madagadipet, Puducherry - 605107	Member	
8	Dr. S. Anbumalar Dean Academics, Sri Manakula Vinayagar Engineering College Madagadipet, Puducherry - 605107	Special Invitee	
9	Dr. R. Subramaniyan Associate Dean Academics, Sri Manakula Vinayagar Engineering College Madagadipet, Puducherry - 605107	Special Invitee	

Annexure – I

Approval letters and NOC certificate



ज्ञान-विज्ञान विमुक्तये

डॉ. देव स्वरुप

पूर्व कुलपति, राजस्थान विश्वविद्यालय, जयपुर
अपर सचिव

Dr. Dev Swarup

Former Vice-Chancellor, University of Rajasthan, Jaipur
Additional Secretary



सत्यमेव जयते

विश्वविद्यालय अनुदान आयोग
University Grants Commission

(मानव संसाधन विकास मंत्रालय, भारत सरकार)
(Ministry of Human Resource Development, Govt. of India)

बहादुर शाह जफ़र मार्ग, नई दिल्ली-110002
Bahadur Shah Zafar Marg, New Delhi-110002

दूरभाष Phone : 011-23212027

E-mail : devswarupugc@gmail.com | dev.ugc@nic.in

SPEED POST

No.F. 22-1/2017(AC)

September, 2019

The Registrar,
Podicherry University
R.V. Nagar, Kalapet
Puducherry-605 014

26 SEP 2019

Sub:- Conferment of Autonomous Status to Sri Manakula Vinayagar Engineering College, Madagdipet, Puducherry-605 107 affiliated to Pondicherry University

Sir/Madam,

This is with reference to the proposal submitted by Sri Manakula Vinayagar Engineering College, Madagdipet, Puducherry-605 107 affiliated to Pondicherry University under the UGC Scheme for Autonomous Colleges.

The Standing Committee constituted by University Grants Commission, in its meeting held on 25.09.2019 decided to grant autonomous status to Sri Manakula Vinayagar Engineering College, Madagdipet, Puducherry-605 107 affiliated to Pondicherry University for a period of ten years w.e.f. 2019-2020 to 2028-2029.

The University is requested to issue necessary notification/order regarding the grant of autonomous status to the college as per UGC (Conferment of Autonomous Status Upon Colleges and Measures for Maintenance of Standards in Autonomous Colleges) Regulations, 2018 for Autonomous Colleges. The college, if eligible, shall apply for autonomy grant as per the norms laid down in the Regulations.

The autonomous college is required to abide by all the provisions of the UGC Regulations for Autonomous Colleges. The Regulations are available on the UGC website, www.ugc.ac.in. The college shall also apply in the prescribed format to University Grants Commission for extension of autonomous status six months prior to the expiry of the autonomous cycle.

Yours faithfully,

(Dev Swarup)

Cont..

Copy to:-

2 :

1. The Principal Secretary,
Govt. of Pondicherry
Chief. Secretariat,
Beach Road, Goubert Revenue,
Puducherry – 605001
2. The Joint Secretary
UGC South Eastern Regional Office,
PB No. 152, APSFC Building,
4th Floor, 5-9-194, Chirag Ali Lane,
Hyderabad-500 001
3. The Principal,
Sri Manakula Vinayagar Engineering College,
Madagdipet,
Puducherry-605 107

A copy of the UGC Expert Committee report is enclosed herewith for information and appropriate action by college

- 4 Meeting Cell
- 5 Concerned file
- 6 Guard file


(Dev Swarup)



PONDICHERRY UNIVERSITY

(A Central University established under an Act of Parliament 1985)

R.V. Nagar, Kalapet, Puducherry-605 014

Phone: 0413-2654202, Fax: 0413-2655734

E-mail: registrar@pondiuni.edu.in, pu_registrar@yahoo.co.in

Dr. B. CHITHRA
REGISTRAR (i/c)

No. PU/AW4/17/MVEC//2020-21/ 166

Date: 19.06.2020

To

The Principal,
Sri Manakula Vinayagar Engineering College,
Madagadipet,
Puducherry- 605 107.

Sir,

Sub: Pondicherry University - Grant of Autonomous Status to **Sri Manakula Vinayagar Engineering College** for a period of ten years from the Academic Year 2019-20 to 2028-29 – Orders issued – Reg.

Ref: 1.UGC letter No. F-22-1/2017(AC), dated 26.09.2019.
2.This Office letter No. PU/AW4/17/SMVEC/2019-20/111, dated 15.11.2019
3.Your letter No.SMVEC/Autonomous fee/2019-20/2377, dated 17.3.2020.
4.Your letter No.SMVEC/A-2/Autonomous plan/2019-20/2379, dated 18.3.2020.

-0-

Pursuant to the UGC agreeing to grant autonomous status to **Sri Manakula Vinayagar Engineering College** vide reference 1st cited, approval of the University conferring autonomous status to **Sri Manakula Vinayagar Engineering College, Puducherry** for a period of ten years from 2019-2020 to 2028-2029 is hereby accorded **subject to ratification by Academic Council/Executive Council of the University.**

The college shall abide by all the provisions of the UGC (Conferment of Autonomous Status upon Colleges and Measures for Maintenance of Standards in Autonomous Colleges) Regulations, 2018 for Autonomous Colleges.

The autonomy granted to the College shall cover the programmes at all levels such as **UG, PG and Ph.D offered by the College** and the students enrolled at the time of granting autonomy to the College shall also be covered under autonomy as provided in the said UGC Regulations, 2018.

Yours faithfully,

B. Chithra

(B. CHITHRA)
REGISTRAR(i/c)

Copy to:

1. Dr. Dev Swarup, Additional Secretary, UGC, Bahadur Shah Zafar Mark, New Delhi.
2. The Regional Officer, AICTE, Shastri Bhavan, 26, Haddows Road, Nungambakkam, Chennai – 600 006.
3. The Registrar, **Council of Architecture**, Indian Habital Centre, Core – 64, 1st Floor, Lodhi Road, New Delhi -110 003.
4. The Secretary (Education), Govt. of Puducherry, Puducherry – 605 001.
5. The Director, Directorate of Higher and Technical Education, GOP, Puducherry- 605 008.
6. The Convener, CENTAC, Pondicherry Engineering Campus, puducherry- 605 014.
7. Controller of Examinations, Pondicherry University.
8. The Asst. Registrar (Aca - Admission), Pondicherry University.

No. 723/Health/H5/2019-20/64
GOVERNMENT OF PUDUCHERRY
HEALTH SECRETARIAT

Puducherry dated: 07.09.2021

To

✓ The Principal-cum-Director,
Sri Manakula Vinayagar Engineering College,
Mahadadipet, Puducherry – 605 107.

Sir,

Sub: Health Secretariat – **Essentiality Certificate/NOC** to start new Undergraduate programme in **Bachelor of Physiotherapy (BPT)** with an annual intake of 100 students from the academic year 2021-22 by **Sri Manakula Vinayagar Engineering College, College of Physiotherapy, Puducherry** – Orders - Issued.

Ref: 1. Your letter No. SMVEC/A-2/NOC-BPT/2021-22/2568, dated 24.08.2021.
2. Inspection Report dated 14.09.2021
3. Letter No. 13509/DHFWS/BOME/E3/Seat-Enhc-NOC/2021-22, dated 16.09.2021 of the OSD, Directorate of Health and Family Welfare Services, Puducherry.

I am directed to convey **No Objection** of this Administration to start new Undergraduate programme in **Bachelor of Physiotherapy (BPT)** course with an annual intake of 100 students from the academic year 2021-22 by Sri Manakula Vinayagar Engineering College, College of Physiotherapy, Puducherry.

2. The permission is accorded subject to the following terms and conditions:
- 50% of seats from the total intake of students in each of the above courses have to be allotted to Government quota through CENTAC, Puducherry.
 - The College should adhere to the fees fixed by the Fee Committee, Government of Puducherry in respect of Degree course (B.P.T.) constituted by Government of Puducherry to regulate fee structure in Self-financing unaided professional Colleges in the Union Territory of Puducherry.
 - Affiliation and permission from statutory councils shall be obtained for B.P.T course before the classes are commenced.

Yours faithfully,



(A. PUNITHAMARY)
UNDER SECRETARY TO GOVERNMENT (HEALTH)

Copy to:

The Director of Health and Family Welfare Services,
Puducherry.



PONDICHERRY UNIVERSITY

(A Central University established under an Act of Parliament 1985)

AFFILIATION WING

COLLEGE DEVELOPMENT COUNCIL

Admn. Building, R.V. Nagar, Kalapet, Puducherry-605 014

e-mail:pudeancdc@gmail.com

Phone:0413-2654258, 2654257

Dr.K.Chandra Sekhara Rao

Dean(i/c), CDC

Ref.No. PU/AW-4/SMVEC/2020-21/ 936

Date: 29.06.2021

To

The Principal

Sri Manakula Vinayagar Engineering College

Madagadipet

Puducherry – 605 107.



Sir,

Sub: PU- Nomination of faculty members to the Board of Studies of Sri Manakula vinayagar Engineering College (Autonomous), Puducherry – Reg.

- Ref:** 1.SMVEC/A-2/BOS-Expert Members/2020-21/2523, dt.25.03.2021
2.SMVEC/A-2/BOS-Expert Members-Engg/2020-21/2525, dt.30.03.2021
3.SMVEC/A-2/BOS-Expert Members/2020-21/2541, dt.09.06.2021
4.SMVEC/A-2/BOS-Expert Members/2020-21/2542, dt.09.06.2021

With reference to the letters cited above, I am to inform that the following experts have been nominated as University Nominees for the Board of Studies in respect of courses proposed to be offered in your College as per the UGC Regulations 2018 for Autonomous Colleges:

1. B.Sc. Biotechnology

1. Dr. V. Arul
Professor
Dept. of Biotechnology
Pondicherry University, Puducherry

2. B.Sc. Nutrition and Dietetics

1. Dr. Sheila John
Associate Professor and Head
Department of Home Science, Women's Christian College,
Chennai

3. B. A. Tamil

1. Dr. R. Sampath
Director
Pondicherry Institute of Linguistics and Culture, Puducherry

4. **B.Sc. in Cardiac Perfusion Technology, B.Sc. Neuro Care Technology, B.Sc. Respiratory Care Technology**

1. Dr. M. Sudagaran
Professor of Medicine
Pondicherry Institute of Medical Sciences, Puducherry

5. **B.Sc. Reproductive Medicine and Clinical Embryology, B.Sc. Uro Care Technology, B.Sc. Hematology & Blood Banking Technology and B.Sc. Medical Ultrasonography**

1. Dr. L.N. Dorairajan
Professor of Urology
JIPMER, Puducherry

6. **Bachelor of Physiotherapy (BPT)**

1. Dr. Balu, M.P.T.
Professor
Aarupadai Veedu Medical College, Puducherry

7. **B.Tech. Computer Science and Design and M.Tech. Computer Science and Engineering (Integrated programme)**

1. Dr. M. Thangaraj
Professor & Head
Dept. of Computer Science
Madurai Kamaraj University, Madurai

8. **B.Sc. Agriculture and B.Sc. Horticulture**

1. Dr. R. Ramesh Kumar,
Professor in Horticulture
Faculty of Agriculture
Annamalai University, Chidambaram

The Board of Studies may be constituted as per the UGC Regulations with intimation to the University.

Yours faithfully,

(K. CHANDRA SEKHARA RAO)
DEAN (I/C), CDC

Annexure – II

COLLEGE OF PHYSIOTHERAPY

Regulations

for

Bachelor of Physiotherapy (BPT)



SRI MANAKULA VINAYAGAR ENGINEERING COLLEGE

(An Autonomous Institution)

Puducherry - 605 107

COLLEGE OF PHYSIOTHERAPY

BACHELOR OF PHYSIOTHERAPY

Academic Regulations 2021

for the students admitted from the academic year 2021 - 2022

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1. INTRODUCTION

- College of Physiotherapy, Sri Manakula Vinayagar Engineering College (SMVEC) envisions to foster knowledge, skills, attitude and values of the aspiring youth to enable them to become global citizens. To achieve this process, the institution has evolved a flexible integrated academic curriculum designed in accordance with the Outcome Based Education (OBE which is acquired by the learners of a programme under 'Learner Centric' Model.
- The provisions made in this document shall govern the policies, procedures, curriculum, conduct of the examinations and evaluation systems.
- The semester system shall be adopted for academic activities in the college. Normally, odd semester starts in second week of June and even semester starts in second week of December.
- The rules and regulations shall be subjected to amendment made by the Academic Council (AC) from time to time based on the recommendations of the Board of Studies (BoS).

2. PRELIMINARY DEFINITIONS AND NOMENCLATURE

College	:	College of Physiotherapy, Sri Manakula Vinayagar Engineering College
University	:	Pondicherry University
Programme	:	Bachelor of Physiotherapy (B.P.T)
Course	:	Theory / Practical subject that is normally studied in a semester. Eg: Anatomy, Soft tissue Manipulation, etc.,
Head of the Institution	:	The Director cum Principal
Controller of Examinations (CoE)	:	The authority who is responsible for all Examination related activities of the institution
Curriculum	:	The various components / courses studied in each programme that provides an appropriate outcome in the chosen branch of study.
Odd semester	:	The Semester that is typically from June to November
Even semester	:	The Semester that is typically from December to May
Period	:	50 minutes duration of a theory / practical class
Day	:	8 periods in a calendar day
Enrolment	:	Enlistment of a student on roll in an academic year
Arrear	:	A course in which a student has not fulfilled the examination passing criteria in the end semester examination.
COPT	:	College of Physiotherapy
SE	:	Sessional Examination
ESE	:	End Semester Examination
ESM	:	End Semester Examination Marks
Regular Examination	:	End semester examination conducted for the courses prescribed in the curriculum of that semester.
Arrear Examination	:	End Semester examination conducted for the students who

		have not fulfilled the examination passing criteria in the previous attempt(s).
Supplementary Examination	:	An additional examination exclusively conducted in the Sixth and eighth semester for the students with a maximum of two arrears.
Academic Council (AC)	:	An Apex academic body having the power to scrutinize and approve the proposals with or without modification of the Board of Studies with regard to courses of study, academic regulations, curricula, syllabi and modifications thereof, instructional and evaluation arrangements, methods, procedures relevant thereto, etc.
Board of Studies (BoS)	:	An Apex academic body having the power to approve the various courses; suggest teaching methodologies, coordinate research and other academic activities keeping in view the objectives of the college.
Academic Standing Committee (ASC)	:	ASC shall perform the functions under emergent situations which are subject to ratification by the Academic Council (AC).
Department Consultative Committee (DCC)	:	Reviews, revises and prepares curriculum structure based on the institutional policy and suggests improvements in syllabus of a course(s) prepared by course teacher(s) and forwards the curriculum to BoS for further recommendations. It monitors the academic progress and conduct of classes throughout the semester and takes appropriate corrective measures to improve the quality of curriculum delivery.
Programme Academic Coordinator (PAC)	:	Coordinates all the academic activities of the department viz. Curriculum revision, framing of syllabus, time table, re-registration of course(s), display and submission of attendance status and BoS meeting as a member secretary.
MHFW	:	Ministry of Health and Family Welfare
UGC	:	University Grants Commission

3. ABOUT THE PROGRAMME

The Bachelor of Physiotherapy (B.P.T) is an undergraduate academic programme in the medical science field of physiotherapy. The duration of the B.P.T course is 4½ years, including a 6 month internship. Physical Therapy Programs such as physiotherapy provide core skills like manual therapy, therapeutic exercise and the application of electro physical modalities to prospective students. The course focuses on the use of physical movements and exercise to improve and cure injuries, deformities and diseases. Physiotherapy does not rely extensively on the use of drugs and medicine. Instead, it relies on the use of physical treatment to restore, maintain and maximize overall well-being.

3.2 Objective

- To impart an in-depth knowledge and skills required to become competent in various techniques and attitudes required to practice physiotherapy treatment prescribed by the Physician.
- To produce the graduates with excellent communication skills who are to function as independent clinicians and as fully interactive members of the multi-disciplinary health care team.

3.3 Salient Features

- To train students to work as independent physiotherapists or in conjunction with a multidisciplinary team to diagnose and treat movement disorders.
- Skills in the graduate's physical/ functional diagnosis, treatment planning, management, administration of physiotherapy treatment, and patient support.
- Graduates can find employment opportunities in hospitals, nursing homes, sports teams, fitness centers, community rehabilitation, planning boards, and health promotion services in both the private and public sectors, as well as in independent physiotherapy clinics.
- Graduates will function as active members of professional and community organizations.
- The graduate will be a service-oriented advocate dedicated to the promotion and improvement of community health.
- The graduate will demonstrate lifelong commitment to learning and professional development.

4. ELIGIBILITY FOR ADMISSION

- Candidates should have a pass in the Higher Secondary Examination (academic) conducted by the Board of Higher Secondary Examination of Tamil Nadu, or any other equivalent examination accepted by the University, thereto with a minimum of 50% marks (40% for SC, ST, MBC, OBC candidates) in aggregate of the Science subjects (Physics, Chemistry, Biology/ Botany & Zoology) and should have English as one of the subjects.
- Candidate shall be medically fit to undergo the Physiotherapy Programme and Medical Fitness Certificate from a Government Hospital should be produced at the time of admission.

Selection of the candidates should be based on the norms of the competent authority.

4.2 Age Limit

Candidates should have completed a minimum of 17 years of age as on 31st December of the year of admission. The upper age limit is 25 years. (Relaxable up to 5 years for SC/ST candidate and upto 3 years for MBC/OBC candidates)

5. DURATION OF THE PROGRAMME

- The duration of the programme shall be **four years** of full time study and **six months** of compulsory rotatory internship.
- The duration of the program shall be four academic years comprising of 8 semesters, and 6 months of compulsory rotatory internship. However a student may complete the program at a slower pace of taking more time but in any case not more than 8 years including internship from the date of admission.

6. MEDIUM OF INSTRUCTION

English shall be the medium of instruction for all the subjects of study and for the examinations of the programme.

7. EDUCATIONAL METHODOLOGY

Learning occurs by attending didactic lectures, as part of regular work, from co-workers and senior faculty, through training offered in the workplace, through reading or other forms of self-study, using materials available through work, using materials obtained through a professional association or union, using materials obtained on student's own initiative, during working hours at no cost to the student.

8. ACADEMIC CALENDAR

Each semester shall consist of not less than 90 working days.

- 1st semester will commence from 1st week of July and 3rd, 5th, 7th (Odd) semesters from June in every academic year.
- The 2nd, 4th, 6th and 8th (Even) semesters shall commence from December in every academic year.

9. CURRICULUM STRUCTURE

Each Course (subject) shall be designed under lectures / laboratory or field work / seminar / practical training / outreach activities / Assignments / Term paper or Report writing or a combination of some of these to meet effective teaching and learning needs.

The curriculum structure is shown in Table I. The detailed syllabus in respect of the programme is appended to this regulation.

10. INTERNAL ASSESSMENT

The Internal assessment will be conducted and marks awarded to the candidate for the subjects which are detailed in the Scheme of Examination (Table-III).

- | | |
|--|--------------------------|
| ▪ 2 sessional examinations+1 Model exam +1 practical (3+3+6+3) | = 15 marks |
| ▪ Clinical work | = 5 marks |
| ▪ Assignments/ Seminars/ curricular activities | = 3 marks |
| ▪ Attendance during the period | = <u>2 marks*</u> |
| Total | = <u>25 marks</u> |

The distribution of 2 marks for attendance is as follows:
* [96-100% =2, 91-95%= 1.5; 86-90%= 1; 80-85% = 0.5]

11. BREAK OF STUDY FROM THE PROGRAMME

A student shall be permitted to withdraw temporarily from the college for the reason beyond his/her control. The applicable rules are:

- After withdrawal, the student shall rejoin next year in the same semester during which the student has withdrawn.
- The student shall apply to Dean Academics through Dean (COPT) stating the reasons for withdrawal along with supporting documents, consent letter from his/her parent/guardian and clearance/no due from all the concerned departments.
- Dean Academics shall examine the case and recommend for the approval/ratification from Academic Council (AC) /Academic Standing Committee (ASC).
- A student availing temporary withdrawal from the college under the above provision shall be required to pay such fees and/or charges as may be fixed by the AC/ASC for his/her name to be enrolled. However, it may be noted that the fees/charges once paid shall not be refundable.
- The total period of completion of the programme reckoned from the commencement of the first semester to which the candidate was admitted shall not exceed 8 years including the period of discontinuance.

11.1 Re-admission after Break of Study

- Candidates having a break of study of five years and above from the date of admission / more than two spells of break will not be considered for readmission
- The five years period of break of study shall be calculated from the date of first admission of the candidate to the course for the subsequent spells of break of study
- Candidates having break of study shall be considered for re admission provided that they are not subjected to any disciplinary action and no charges are pending or contemplated against them.
- All re admissions of candidates are subjected to the approval of the Head of the Institution.

11.2 REQUIREMENTS FOR EXAMINATIONS AND ATTENDANCE

- Examination will be conducted in both theory and practical, as prescribed in Scheme of Examination. Candidates will be permitted to appear for the End Semester Examination in the subject only if they secure not less than 80% attendance (irrespective of the kind of absence) in each semester.

12 EXAMINATIONS

The End Semester Examinations will be conducted in the semester pattern for all the four years, each year consisting of two semesters. The particulars of subjects for various examinations and distribution of marks are shown separately in the Scheme of Examination (Table III).

12.1 Attendance required to appear End Semester Examinations

- Candidate is required to have a minimum of 80% of attendance in each semester to appear in end semester examinations.

12.2 Passing Minimum

A candidate should secure 50% of the marks in theory and 50% in practical (wherever prescribed) separately and 50% in aggregate in each paper, those

subjects which have viva voce alone the candidate should get a minimum of 50% of the marks to be declared as pass in each paper. If a candidate fails in either theory or practical, he/she has to re-appear for both theory and practical.

12.3 SUPPLEMENTARY EXAMINATIONS

Supplementary Examination is an additional examination, which will be conducted after declaration of the end semester examination results/revaluation results. This examination will be conducted in sixth and eighth semesters for the students who are having a maximum of two arrears only. For supplementary examination, the continuous assessment marks of the last attempt will be considered.

13 INTERNSHIP

The candidate shall be eligible for internship program only after successful completion of all the courses till eight semesters as per the curriculum.

There shall be a compulsory full-time rotatory internship after the candidate having passed all the subjects prescribed in the scheme of examination. The compulsory full-time rotatory internship should be done for a period of six months, and not less than 180 days, in an Institution/ Hospital approved by the Institution. No candidate shall be eligible for the award of the degree without successfully completing the six months of internship.

The internship should be completed within one year from the date of commencement of internship, and however should be started within one year of after passing the final examinations. No candidate shall be eligible for the award of the degree without successfully completing the six months of internship.

The internship training areas related to Physiotherapy are mentioned in Table II

The internship training areas related to Physiotherapy are mentioned in Table II.

14 ELIGIBILITY FOR AWARD OF THE DEGREE

The candidates shall be eligible for the Degree of Bachelor of Physiotherapy when they have undergone the prescribed programme of study for a period of not less than four years in an institution and have passed the prescribed examinations in all subjects and have completed a compulsory internship over a period of six months in an approved institution, after having passed the final examination.


However, the candidates who are under break of study are eligible for the award of the degree after completion of all the courses and internships within the maximum stipulated period of eight years.

15 DECLARATION OF CLASS

- **Distinction**

A successful candidate obtaining 75% and more marks in the grand total aggregate in the first attempt shall be declared to have passed these subjects with *distinction*.

- **First Class**



A successful candidate obtaining 60% and more but less than 75% of the marks in the grand total aggregate in the first attempt shall be declared to have passed with *first class*.

- **Second Class**

A successful candidate obtaining 50% and more but less than 60% of the marks in the grand total aggregate in the first attempt, and, a candidate who passes in more than one attempt irrespective of the percentage of marks secured shall be declared to have passed these subjects with *second class*.

- **Award of Ranking**

Ranks shall be declared based on the aggregate marks obtained by a candidate in the End Semester Examination subjects of the programme. Only those candidates who have passed all the subjects in all examinations in the first attempt shall be eligible for the award of rank by the institution.

Table-I
CURRICULUM STRUCTURE

I (a). FIRST YEAR (1150 hrs)

Semester – I

Sl. No.	Course Code	Course Name	Theory (in hours)	Practical (in hours)	Total (in hours)
1.	U21BPTT11	Psychology (General and Health)	130	-	130
2.	U21BPTT12	Sociology	130	-	130
3.	U21BPTT13	Functional English	80	20	100
4.	U21BPTT14	Computer and its applications	40	60	100
Non – Examination Courses					
5.	U21BPTT15	Physiotherapy Orientation	50	-	50
6.	U21BPTP16	Physical Education	-	40	40
Total Hours					550

Semester – II

Sl. No.	Course Code	Course Name	Theory (in hours)	Practical (in hours)	Total (in hours)
1.	U21BPTT21	Anatomy (Systemic and Regional)	150	50	200
2.	U21BPTT22	Physiology	150	30	180
3.	U21BPTT23	Nutrition	100	-	100
4.	U21BPTT24	Environmental Studies	100	-	100
Non – Examination Course					
5.	U21BPTP25	Physical Education	-	20	20
Total Hours					600

I (b).SECOND YEAR (1200 hrs)**Semester – III**

Sl. No.	Course Code	Course Name	Theory (in hours)	Practical (in hours)	Total (in hours)
1.	U21BPTT31	General Medicine, Pediatrics and Surgery	180	-	180
2.	U21BPTT32	Microbiology and Pathology	100	-	100
3.	U21BPTT33	Biochemistry and Pharmacology	100	-	100
4.	U21BPTB34	Soft tissue manipulation	40	60	100
Non – Examination Courses					
5.	U21BPTT35	Therapeutic Yoga	10	30	40
6.	U21BPTT36	Physiotherapy ethics	20	-	20
7.	U21BPTP37	Physical Education	-	10	10
8.	U21BPTP38	Clinical Training	-	50	50
Total Hours					600

Semester – IV

Sl. No.	Course Code	Course Name	Theory (in hours)	Practical (in hours)	Total (in hours)
1.	U21BPTB41	Exercise Therapy – I	100	95	195
2.	U21BPTB42	Electrotherapy – I	100	95	195
3.	U21BPTT43	Biomechanics and Kinesiology	100	-	100
Non – Examination Courses					
4.	U21BPTT44	Basic physics for Physiotherapy	40	-	40
5.	U21BPTP45	Physical Education	-	20	20
6.	U21BPTP46	Clinical Training	-	50	50
Total Hours					600

I (c).THIRD YEAR (1200 hours)**Semester – V**

Sl. No.	Course Code	Course Name	Theory (in hours)	Practical (in hours)	Total (in hours)
1.	U21BPTB51	Exercise Therapy – II	80	100	180
2.	U21BPTB52	Electrotherapy - II	80	100	180
3.	U21BPTT53	Community Health and Rehabilitation	60	-	60
Non – Examination Courses					
4.	U21BPTP54	Physical Education	-	20	20
5.	U21BPTP55	Clinical training	-	60	60
6.	U21BPTP56	Community Health Training/ Field work	-	100	100
Total Hours					600

Semester – VI

Sl. No.	Course Code	Course Name	Theory (in hours)	Practical (in hours)	Total (in hours)
1.	U21BPTT61	Clinical Orthopedics	100	-	100
2.	U21BPTT62	Clinical Neurology	100	-	100
3.	U21BPTT63	Clinical Cardio- Thoracic Medicine	100	-	100
Non – Examination Courses					
4.	U21BPTT64	Clinical Obstetrics and Gynecology	30	-	30
5.	U21BPTT65	Radiodiagnosis for Physiotherapist	10	20	30
6.	U21BPTP66	Physical Education	-	20	20
7.	U21BPTP67	Co-curricular activities	-	20	20
8.	U21BPTP68	Clinical Training	-	200	200
Total Hours					600

I (d) FOURTH YEAR (1200 hrs)

Semester – VII

Sl. No.	Course Code	Course Name	Theory (in hours)	Practical (in hours)	Total (in hours)
1.	U21BPTB71	Physiotherapy in Orthopedic conditions	60	60	120
2.	U21BPTB72	Physiotherapy in Neurology conditions	60	60	120
3.	U21BPTB73	Physiotherapy in Cardio-respiratory conditions	60	60	120
Non – Examination Courses					
4.	U21BPTT74	Research Methodology and Bio-statistics	30	-	30
5.	U21BPTP75	Co-curricular activities	-	10	10
6.	U21BPTP76	Clinical Training	-	200	200
Total Hours					600

Semester – VIII

Sl. No.	Course Code	Course Name	Theory (in hours)	Practical (in hours)	Total (in hours)
1.	U21BPTT81	Rehabilitation Medicine (Community and Geriatric)	90	30	120
2.	U21BPTT82	Sports Physiotherapy	60	20	80
3.	U21BPTP83	Project work	-	200	200
Non – Examination Courses					
4.	U21BPTT84	Physiotherapy in Obstetrics and Gynecology	20	20	40
5.	U21BPTT85	Clinical reasoning and evidence based practice	20	10	30
6.	U21BPTT86	Principles of Management	20	-	20
7.	U21BPTT87	Education Technology	20	10	30
8.	U21BPTP88	Clinical Training	-	80	80
Total Hours					600

TABLE - II
COMPULSORY ROTATORY INTERNSHIP

The candidates should undergo compulsory rotatory internship training in the following departments/specialties* of Physiotherapy for the duration prescribed against each.

1. Orthopaedics	- 20 days
2. Neurology & Neurosurgery	- 20 days
3. Cardiology	- 20 days
4. Physiotherapy & Rehabilitation	- 15 days
5. Critical care units	- 15 days
6. General Medicine	- 15 days
7. General & Plastic Surgery	- 15 days
8. Obstetrics & Gynaecology	- 15 days
9. Paediatrics & Paediatric surgery	- 15 days
10. Community Physiotherapy	- 15 days
11. Elective (any one of the above, or Sports Physiotherapy)	- 15 days
Total	180 days

*The above listed departments are not limited and it can be extended to any other advanced facilities available, which has to be decided by Dean, COPT.

Table- III
BACHELOR OF PHYSIOTHERAPY
SCHEME OF END SEMESTER EXAMINATION
(The End Semester Examination will be conducted for the duration of 3 hours)
Semester - I

Course Code	Course Name	Theory						Practical		Grand Total	
		ESE		Internal Max.	Viva Max.	Total		ESE		Theory + Practical	
		Max.	Min.			Max.	Min.	Max.	Min.	Max.	Min.
U21BPTT11	Psychology (General and Health) (Theory + Internal)	75	38	25	-	100	50	-	-	100	50
U21BPTT12	Sociology (Theory + Internal)	75	38	25	-	100	50	-	-	100	50
U21BPTT13	Functional English (Theory + Internal)	75	38	25	-	100	50	-	-	100	50
U21BPTT14	Computer and its Applications (Theory + Internal)	75	38	25	-	100	50	-	-	100	50
U21BPTT15	Physiotherapy Orientation *	-	-	-	-	-	-	-	-	-	-
U21BPTP16	Physical Education *	-	-	-	-	-	-	-	-	-	-

* Internal Assessment and Evaluation by the department

Semester - II

Course Code	Course Name	Theory						Practical		Grand Total	
		ESE		Internal Max.	Viva Max.	Total		ESE		Theory + Practical	
		Max.	Min.			Max.	Min.	Max.	Min.	Max.	Min.
U21BPTT21	Anatomy (Systemic and Regional) (Theory + Internal + Viva - Voce)	75	38	25	50	150	75	-	-	150	75
U21BPTT22	Physiology (Theory + Internal + Viva - Voce)	75	38	25	50	150	75	-	-	150	75
U21BPTT23	Nutrition (Theory + Internal)	75	38	25	-	100	50	-	-	100	50
U21BPTT24	Environmental Studies (Theory + Internal)	75	38	25	-	100	50	-	-	100	50
U21BPTP25	Physical Education *	-	-	-	-	-	-	-	-	-	-

* Internal Assessment and Evaluation by the department

Semester - III

Course Code	Course Name	Theory						Practical		Grand Total	
		ESE		Internal Max.	Viva Max.	Total		ESE		Theory + Practical	
		Max.	Min.			Max.	Min.	Max.	Min.	Max.	Min.
U21BPTT31	General Medicine, Paediatrics and Surgery (Theory + Internal)	75	38	25	-	100	50	-	-	100	50
U21BPTT32	Microbiology and Pathology (Theory +Internal)	75	38	25	-	100	50	-	-	100	50
U21BPTT33	Biochemistry and Pharmacology	75	38	25	-	100	50	-	-	100	50
U21BPTB34	Soft tissue Manipulation (Theory + Internal +Practical)**	75	38	25	-	100	50	100	50	200	100
U21BPTT35	Therapeutic Yoga*	-	-	-	-	-	-	-	-	-	-
U21BPTT36	Physiotherapy ethics*	-	-	-	-	-	-	-	-	-	-
U21BPTP37	Physical Education*	-	-	-	-	-	-	-	-	-	-
U21BPTP38	Clinical Training*	-	-	-	-	-	-	-	-	-	-

* Internal Assessment and Evaluation by the department
 ** If a candidate fails in either theory or practical, he/she has to re-appear for both theory and practical

Semester-IV

Course Code	Course Name	Theory						Practical		Grand Total	
		ESE		Internal Max.	Viva Max.	Total		ESE		Theory + Practical	
		Max.	Min.			Max.	Min.	Max.	Min.	Max.	Min.
U21BPTB41	Exercise Therapy-I (Theory + Internal +Practical) **	75	38	25	-	100	50	100	50	200	100
U21BPTB42	Electro Therapy I (Theory +Internal +Practical)**	75	38	25	-	100	50	100	50	200	100
U21BPTT43	Biomechanics and Kinesiology	75	38	25	-	100	50	-	-	100	50
U21BPTT44	Basic Physics for Physiotherapy	-	-	-	-	-	-	-	-	-	-
U21BPTP45	Physical Education*	-	-	-	-	-	-	-	-	-	-
U21BPTP46	Clinical Training*	-	-	-	-	-	-	-	-	-	-

* Internal Assessment and Evaluation by the department
 ** If a candidate fails in either theory or practical, he/she has to re-appear for both theory and practical

Semester-V

Course Code	Course Name	Theory						Practical		Grand Total	
		ESE		Internal Max.	Viva Max.	Total		ESE		Theory + Practical	
		Max.	Min.			Max.	Min.	Max.	Min.	Max.	Min.
U21BPTB51	Exercise Therapy II (Theory + Internal + Practical) **	75	38	25	-	100	50	100	50	200	100
U21BPTB52	Electro Therapy II (Theory + Internal + Practical)**	75	38	25	-	100	50	100	50	200	100
U21BPTT53	Community Health and Rehabilitation	75	38	25	-	100	50	-	-	100	50
U21BPTP54	Physical Education*	-	-	-	-	-	-	-	-	-	-
U21BPTP55	Clinical Training*	-	-	-	-	-	-	-	-	-	-
U21BPTP56	Community Health Training/Field work	-	-	-	-	-	-	-	-	-	-

* Internal Assessment and Evaluation by the department
 ** If a candidate fails in either theory or practical, he/she has to re-appear for both theory and practical

Semester-VI

Course Code	Course Name	Theory						Practical		Grand Total	
		ESE		Internal Max.	Viva Max.	Total		ESE		Theory + Practical	
		Max.	Min.			Max.	Min.	Max.	Min.	Max.	Min.
U21BPTT61	Clinical Orthopaedics (Theory + Internal + Viva - Voce)	75	38	25	50	150	75	-	-	150	75
U21BPTT62	Clinical Neurology (Theory + Internal + Viva - Voce)	75	38	25	50	150	75	-	-	150	75
U21BPTT63	Clinical Cardio-Thoracic Medicine (Theory + Internal + Viva - Voce)	75	38	25	50	150	75	-	-	150	75
U21BPTT64	Clinical Obstetrics and Gynaecology*	-	-	-	-	-	-	-	-	-	-
U21BPTT65	Radiodiagnosis for Physiotherapist*	-	-	-	-	-	-	-	-	-	-
U21BPTP66	Physical Education*	-	-	-	-	-	-	-	-	-	-
U21BPTP67	Co-curricular activities*	-	-	-	-	-	-	-	-	-	-
U21BPTP68	Clinical Training*	-	-	-	-	-	-	-	-	-	-

* Internal Assessment and Evaluation by the department
 ** If a candidate fails in either theory or practical, he/she has to re-appear for both theory and practical

Semester - VII

Course Code	Course Name	Theory						Practical		Grand Total	
		ESE		Internal Max.	Viva Max.	Total		ESE		Theory + Practical	
		Max.	Min			Max.	Min.	Max.	Min	Max.	Min.
U21BPTB71	Physiotherapy in Orthopaedic Conditions (Theory + Internal +Practical) **	75	38	25	-	100	50	100	50	200	100
U21BPTB72	Physiotherapy in Neurology Conditions (Theory + Internal +Practical)**	75	38	25	-	100	50	100	50	200	100
U21BPTB73	Physiotherapy in Cardio-respiratory Conditions (Theory + Internal +Practical)**	75	38	25	-	100	50	100	50	200	100
U21BPTT74	Research Methodology and Bio-statistics*	-	-	-	-	-	-	-	-	-	-
U21BPTP75	Co-curricular activities*	-	-	-	-	-	-	-	-	-	-
U21BPTP76	Clinical Training*	-	-	-	-	-	-	-	-	-	-

* Internal Assessment and Evaluation by the department

** If a candidate fails in either theory or practical, he/she has to re-appear for both theory and practical

Semester - VIII

Course Code	Course Name	Theory						Practical		Grand Total	
		ESE		Internal Max.	Viva Max.	Total		ESE		Theory + Practical	
		Max.	Min.			Max.	Min.	Max.	Min.	Max.	Min.
U21BPTT81	Rehabilitation Medicine (Community and Geriatric) (Internal + Viva – Voce)	75	38	25	50	150	75	-	-	150	75
U21BPTT82	Sports Physiotherapy	75	38	25	-	100	50	-	-	100	50
U21BPTP83	Project work	-	-	-	-	-	-	50	25	50	25
U21BPTT84	Physiotherapy in Obstetrics and Gynecology*	-	-	-	-	-	-	-	-	-	-
U21BPTT85	Clinical reasoning and evidence based practice *	-	-	-	-	-	-	-	-	-	-
U21BPTT86	Principles of Management*	-	-	-	-	-	-	-	-	-	-
U21BPTT87	Education Technology *	-	-	-	-	-	-	-	-	-	-
U21BPTP88	Clinical Training	-	-	-	-	-	-	-	-	-	-

* Internal Assessment and Evaluation by the department

QUESTION PAPER PATTERN

Maximum 3 hours

Maximum 75 marks

**Answer Section-A and Section-B separately.
Draw labeled diagrams wherever applicable.**

SECTION – A

(40 Marks)

I. Essay question:

(1 x 10 = 10)

(1)

or

(2)

II. Write short notes on any **six** of the following:

(6 x 5 = 30)

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.

SECTION – B

(35 Marks)

III. Essay question:

(1 x 10 = 10)

(1)

or

(2)

IV. Write short notes on any **five** of the following:

(5 x 5 = 25)

- (1)
- (2)
- (3)
- (4)
- (5)
- (6)

Note:

SN o:	PAPER	SECTION-A	SECTION-B
1	Psychology	General	Health
2	Anatomy	Regional	Systemic
3	General Medicine, Paediatrics, and Surgery	General Medicine and Paediatrics	Surgery
4	General Medicine&Paediatrics, Surgery Microbiology and Pathology	Microbiology	Pathology

Except the above papers, in all other papers the subjects will be covered in both sections.

Annexure – III

Bachelor of Physiotherapy (BPT)

CURRICULUM AND SYLLABI



SRI MANAKULA VINAYAGAR
ENGINEERING COLLEGE
(An Autonomous Institution)

Puducherry

COLLEGE OF PHYSIOTHERAPY

BACHELOR OF PHYSIOTHERAPY

CURRICULUM AND SYLLABI
(R-2021)



CURRICULUM STRUCTURE

I (a). FIRST YEAR (1150 hrs)

Semester – I

Sl. No.	Course Code	Course Name	Theory (in hours)	Practical (in hours)	Total (in hours)
1.	U21BPTT11	Psychology (General and Health)	130	-	130
2.	U21BPTT12	Sociology	130	-	130
3.	U21BPTT13	Functional English	80	20	100
4.	U21BPTT14	Computer and its applications	40	60	100
Non – Examination Courses					
5.	U21BPTT15	Physiotherapy Orientation	50	-	50
6.	U21BPTP16	Physical Education	-	40	40
Total Hours					550

Semester – II

Sl. No.	Course Code	Course Name	Theory (in hours)	Practical (in hours)	Total (in hours)
1.	U21BPTT21	Anatomy (Systemic and Regional)	150	50	200
2.	U21BPTT22	Physiology	150	30	180
3.	U21BPTT23	Nutrition	100	-	100
4.	U21BPTT24	Environmental Studies	100	-	100
Non – Examination Course					
5.	U21BPTP25	Physical Education	-	20	20
Total Hours					600

I (b).SECOND YEAR (1200 hrs)

Semester – III

Sl. No.	Course Code	Course Name	Theory (in hours)	Practical (in hours)	Total (in hours)
1.	U21BPTT31	General Medicine, Pediatrics and Surgery	180	-	180
2.	U21BPTT32	Microbiology and Pathology	100	-	100
3.	U21BPTT33	Biochemistry and Pharmacology	100	-	100
4.	U21BPTB34	Soft tissue manipulation	40	60	100
Non – Examination Courses					
5.	U21BPTT35	Therapeutic Yoga	10	30	40
6.	U21BPTT36	Physiotherapy ethics	20	-	20
7.	U21BPTP37	Physical Education	-	10	10
8.	U21BPTP38	Clinical Training	-	50	50
Total Hours					600

Semester – IV

Sl. No.	Course Code	Course Name	Theory (in hours)	Practical (in hours)	Total (in hours)
1.	U21BPTB41	Exercise Therapy – I	100	95	195
2.	U21BPTB42	Electrotherapy – I	100	95	195
3.	U21BPTT43	Biomechanics and Kinesiology	100	-	100
Non – Examination Courses					
4.	U21BPTT44	Basic physics for Physiotherapy	40	-	40
5.	U21BPTP45	Physical Education	-	20	20
6.	U21BPTP46	Clinical Training	-	50	50
Total Hours					600

I (c).THIRD YEAR (1200 hours)

Semester – V

Sl. No.	Course Code	Course Name	Theory (in hours)	Practical (in hours)	Total (in hours)
1.	U21BPTB51	Exercise Therapy – II	80	100	180
2.	U21BPTB52	Electrotherapy - II	80	100	180
3.	U21BPTT53	Community Health and Rehabilitation	60	-	60
Non – Examination Courses					
4.	U21BPTP54	Physical Education	-	20	20
5.	U21BPTP55	Clinical training	-	60	60
6.	U21BPTP56	Community Health Training/ Field work	-	100	100
Total Hours					600

Semester – VI

Sl. No.	Course Code	Course Name	Theory (in hours)	Practical (in hours)	Total (in hours)
1.	U21BPTT61	Clinical Orthopedics	100	-	100
2.	U21BPTT62	Clinical Neurology	100	-	100
3.	U21BPTT63	Clinical Cardio- Thoracic Medicine	100	-	100
Non – Examination Courses					
4.	U21BPTT64	Clinical Obstetrics and Gynecology	30	-	30
5.	U21BPTT65	Radiodiagnosis for Physiotherapist	10	20	30
6.	U21BPTP66	Physical Education	-	20	20
7.	U21BPTP67	Co-curricular activities	-	20	20
8.	U21BPTP68	Clinical Training	-	200	200
Total Hours					600

I (d) FOURTH YEAR (1200 hrs)**Semester – VII**

Sl. No.	Course Code	Course Name	Theory (in hours)	Practical (in hours)	Total (in hours)
1.	U21BPTB71	Physiotherapy in Orthopedic conditions	60	60	120
2.	U21BPTB72	Physiotherapy in Neurology conditions	60	60	120
3.	U21BPTB73	Physiotherapy in Cardio-respiratory conditions	60	60	120
Non – Examination Courses					
4.	U21BPTT74	Research Methodology and Bio-statistics	30	-	30
5.	U21BPTP75	Co-curricular activities	-	10	10
6.	U21BPTP76	Clinical Training	-	200	200
Total Hours					600

Semester – VIII

Sl. No.	Course Code	Course Name	Theory (in hours)	Practical (in hours)	Total (in hours)
1.	U21BPTT81	Rehabilitation Medicine (Community and Geriatric)	90	30	120
2.	U21BPTT82	Sports Physiotherapy	60	20	80
3.	U21BPTP83	Project work	-	200	200
Non – Examination Courses					
4.	U21BPTT84	Physiotherapy in Obstetrics and Gynecology	20	20	40
5.	U21BPTT85	Clinical reasoning and evidence based practice	20	10	30
6.	U21BPTT86	Principles of Management	20	-	20
7.	U21BPTT87	Education Technology	20	10	30
8.	U21BPTP88	Clinical Training	-	80	80
Total Hours					600

COMPULSORY ROTATORY INTERNSHIP

The candidates should undergo compulsory rotatory internship training in the following departments/specialties* of Physiotherapy for the duration prescribed against each.

1.	Orthopaedics	- 20 days
2.	Neurology & Neurosurgery	- 20 days
3.	Cardiology	- 20 days
4.	Physiotherapy & Rehabilitation	- 15 days
5.	Critical care units	- 15 days
6.	General Medicine	- 15 days
7.	General & Plastic Surgery	- 15 days
8.	Obstetrics & Gynaecology	- 15 days
9.	Paediatrics & Paediatric surgery	- 15 days
10.	Community Physiotherapy	- 15 days
11.	Elective (any one of the above, or Sports Physiotherapy)	- 15 days
	Total	180 days

*The above listed departments are not limited and it can be extended to any other advanced facilities available, which has to be decided by Dean, COPT.

Syllabi
(Semesters - I and II)

PSYCHOLOGY (GENERAL AND HEALTH)

Course Code: U21BPTT11

Instruction hours: Theory – 130 hours

Course description: The course is designed to assist the students to acquire knowledge of fundamentals of psychology and develop an insight into behaviour of self and others. Further it is aimed at helping them to practice the principles of understanding the mental status and behaviour of patients in clinical settings.

General Psychology – 80 hours

Health Psychology – 50 hours

GENERAL PSYCHOLOGY [80 hours]

Unit	Hrs (T)	Content	Teaching method
I	4	INTRODUCTION Definition Schools of Psychology Methods of Psychology Branches of Psychology	Lecture Discussion
II	6	HEREDITY AND ENVIRONMENT Twins Importance of heredity and environment Role in relation to physical characteristics Intelligence and personality Nature-nature controversy	Lecture Discussion
III	8	DEVELOPMENT AND GROWTH BEHAVIOUR Infancy, Childhood, Adolescence, Adulthood, Middle age, Old age.	Lecture Discussion
IV	6	INTELLIGENCE Definitions of Intelligence Quotient, Mental Age, List of various intelligence tests – WAIS, WISC, Bhatia's performance test, Raven's Progressive Matrices test.	Lecture Discussion
V	6	MOTIVATION Definitions of motive, drive, incentive and reinforcement, Basic information about primary needs: Hunger, Thirst, Sleep, Elimination activity, Air, Avoidance of pain, Attitude to sex. Psychological needs	Lecture Discussion
VI	6	EMOTIONS Definition, differentiate from feelings, physiological changes of emotion, role of RAS, hypothalamus, cerebral cortex, sympathetic nervous system, adrenal gland, heredity and emotion, Nature and control of anger, fear and anxiety.	Lecture Discussion

Unit	Hrs (T)	Content	Teaching method
VII	10	<p>PERSONALITY Definition List of components: Physical characteristics, character, abilities, temperament interest, attitudes.</p> <p>Role of heredity, nervous system, physical characteristics, abilities, family and culture on personality development.</p> <p>Basic concepts of Freud: Unconscious, conscious, Id, Ego and Superego.</p> <p>List and the define 8 stages as proposed by Erickson Concepts of learning as proposed by Dollard and Miller; drive, cue, response and reinforcement. Personality assessment Projective tests</p>	Lecture Discussion
VIII	6	<p>LEARNING Definition Types of learning Effective ways to learn Role of language in learning</p>	Lecture Discussion
IX	4	<p>THINKING Definition & creativity Creativity: Steps, traits Delusions</p>	Lecture Discussion
X	4	<p>FRUSTRATION Definition, sources and solution. Conflicts</p>	Lecture Discussion
XI	8	<p>SENSATION, ATTENTION & PERCEPTION Senses: various senses and their functions Attention: Definition, factors determining attention Perception: Definition, principles. Illusion & hallucination: types</p>	Lecture Discussion
XII	4	<p>LEADERSHIP Qualities and types of leadership Attitude and its changes</p>	Lecture Discussion
XIII	4	<p>DEFENCE MACHANISMS Defence Mechanisms of the ego List of various defence mechanisms</p>	Lecture Discussion
XIV	4	<p>COMMUNITY PSYCHOLOGY Social psychology Community Psychology</p>	Lecture Discussion

HEALTH PSYCHOLOGY [50 hours]

Unit	Hrs (T)	Content	Teaching method
I	4	PSYCHOLOGICAL REACTIONS OF A PATIENT Various Psychological reactions of a patient during admission in hospital and treatment.	Lecture Discussion
II	4	REACTIONS TO LOSS Reactions to loss, death and bereavement Stages of acceptance	Lecture Discussion
III	6	STRESS Physiological and psychological changes during stress Relations to health and sickness Relaxation methods	Lecture Discussion
IV	8	COMMUNICATIONS Types of communication Elements in communications, Barriers to good communications Developing effective communication, specific communication techniques	Lecture Discussion
V	6	COUNSELLING Definition and aims Guidance and counselling Principles in counseling Personality of counsellors	Lecture Discussion
VI	4	COMPLIANCE Nature of compliance Factors contributing to non-compliance Means to improve compliance	Lecture Discussion
VII	8	EMOTIONAL NEEDS Emotional needs and psychological factors in relation to unconscious patients, handicapped persons, bed-ridden patients, patients with chronic patients, cerebral palsy children, burns, leprosy, Parkinson's disease, incontinence and mental illness.	Lecture Discussion
VIII	10	MISCELLANEOUS Geriatric psychology Paediatric psychology Behaviour modification in patients Personality styles of patients Substance abuse	Lecture Discussion

Recommended text books:

1. Ramalingam & Bid (2009). Psychology for Physiotherapists. Jaypee Brothers, New Delhi.
2. General Psychology by S.K. Mangal
3. Atkinson (1996). Dictionary of Psychology.

SOCIOLOGY

Course Code: U21BPTT12

Instruction hours: Theory – 130 hours

Course description: The course is designed to introduce the basics of sociological concepts, principles and social process, social institutions in relation to individual, family and community in India and its relationship with health, illness and handicap.

Unit	Hrs (T)	Content	Teaching method
I	6	INTRODUCTION Definition Sociology – a science of society Application of sociology in physiotherapy	Lecture Discussion
II	14	SOCIOLOGY AND HEALTH Social factors affecting health status Social consciousness and meaning of illness Perception of illness Decision making in taking treatment Institutions of health and their role in the improvement of health of the people	Lecture Discussion
III	10	SOCIALISATION Meaning of socialisation Influence of social factors on personality Socialisation in hospitals Socialisation in rehabilitation of patients	Lecture Discussion
IV	10	SOCIAL GROUPS Concept of social group Influence of formal and informal groups on health on health and sickness Role of primary and secondary groups in the hospital and rehabilitation settings.	Lecture Discussion
V	16	FAMILY & COMMUNITY Influence of family on human personality Changes in the functions of a family Influence of the family on the individual's health, family and nutrition Effects of sickness on family, family and psychosomatic disease Concept of community Role of rural and urban communities in public health Role of community in determining beliefs, practices and home remedies in treatment	Lecture Discussion

Unit	Hrs (T)	Content	Teaching method
VI	10	<p>CULTURE & CASTE SYSTEM Components of culture</p> <p>Impact of culture on human behaviour Cultural meaning & response of sickness, Choice of treatment</p> <p>Culture induced symptoms and disease Sub-culture of medical workers</p> <p>Caste system: Features of modern caste system & its trends</p>	Lecture Discussion
VII	14	<p>SOCIAL CHANGE Meaning of social change</p> <p>Factors of social change on human adaption, stress, deviance and health programmes</p> <p>Role of social planning in the improvement of health and rehabilitation.</p>	Lecture Discussion
VIII	12	<p>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.</p>	Lecture discussion
IX	12	<p>SOCIAL PROBLEMS OF THE DISABLED Consequences of the following social problems in relation to sickness and disability.</p> <p>Remedies to prevent the following problems: Population explosion, poverty and employment, beggary, juvenile delinquency, prostitution, alcoholism, problems of women in employment.</p>	Lecture Discussion
X	16	<p>SOCIAL SECURITY Social security and social legislation in relation to the disabled.</p>	Lecture Discussion
XI	10	<p>SOCIAL WORKER Role of a medical social worker</p>	Lecture Discussion

Recommended Books:

1. Bid D. (2006). Sociology for Physiotherapists. Jaypee Brothers, New Delhi.
2. Sachdeva and Vidyabushan: Introduction to the study of Sociology.
3. K. Parks Textbook of Preventive & Social Medicine.
4. Textbook of Preventive & Social Medicine – P.K. Mahajan & M.C.Gupta

FUNCTIONAL ENGLISH

Course Code: U21BPTT13

Instruction hours: Theory – 80 hours
Practical – 20 hours

Course description: The course is designed to enable to enhance ability to comprehend spoken and written English (and use English) required for effective communication in their professional work. Students will practice their skills in verbal and written English during clinical and classroom experiences.

Unit	Hrs (T+P)	Content	Teaching method
I	10+3	INTRODUCTION Study techniques Logical processes of analysis and synthesis Use of dictionary Effective diction	Lecture, Demonstration & Exercises to students
II	15+3	APPLIED GRAMMAR Review of grammar & correct usage Building vocabulary Structure of sentences & paragraphs Phonetics Public speaking	Lecture, Demonstration, Conversation & Public speaking
III	15+5	FORMS OF COMPOSITION Letter writing Note taking Précis writing Essay writing Anecdotal records Diary writing Reports Resume / Curriculum vitae etc.	Demonstration & Exercises to students
IV	15+3	COMMUNICATION Oral report Discussion Lecture / seminar Debate Summary Telephonic conversation	Demonstration & Exercises to students
V	10+3	READING COMPREHENSION Selected materials, articles, magazines, journals etc.	Demonstration & Exercises to students
VI	15+3	LISTENING COMPREHENSION Media, Audio, Video, Speeches etc.	Demonstration & Exercises to students

Recommended Books:

1. Communicative English for Engineers and Professionals. Author, Nitin Bhatnagar
2. English for physiotherapy , Joanna Ciecierska

COMPUTER AND ITS APPLICATIONS

Instruction hours: Theory – 40 hours
Practical – 60 hours

Course Code: U21BPTT14

Course description: This course is designed for students to develop basic knowledge of fundamentals of computer and its application in Physiotherapy.

Unit	Hrs (T+P)	Content	Teaching method
I	4+0	INTRODUCTION TO COMPUTERS Concepts & features of computer Application areas of computers in health services Hardware and software	Lecture
II	8+15	HARDWARE Architecture of computers Types of storage devices Characteristics of disks, terminals, printers, network etc. Disk operating system: DOS, Windows Applications of networking concepts	Lecture Discussion Demonstration & Practicals
III	8+15	SOFTWARE Classification of software Application of software Operating system, computer system Computer virus: Precautions & dealing	Lecture Demonstration & Practical
IV	10+20	PROGRAMMES MS – Word MS – Excel with pictorial presentations MS – Access MS – PowerPoint	Lecture Demonstration & Practicals
V	10+10	COMPUTER APPLICATIONS Multimedia: Types & uses Computer aided teaching & testing Use of internet: web pages & e-mail Principles in scientific research: Work processing, Health care systems, libraries, education, information system Application in Physiotherapy: E.M.G., Biofeedback, Exercise testing equipments, Spirometry, etc.	Visit, Demonstration & Practicals

Recommended Books:

1. Basic Computer Knowledge Fundamental of Computer system- Reema Thareja
2. Basic Computer Knowledge - Maluth John Monyjok
3. A New Approach to Basic Computer Education - D. P. Nagpal

PHYSIOTHERAPY ORIENTATION

Course Code: U21BPTT15

Instruction hours: Theory – 50 hours

Course description: The course is designed to help the students to develop an understanding of the philosophy, objectives and process of physiotherapy in various clinical settings. It is aimed at helping the students to acquire knowledge, understanding and skills in physiotherapy techniques in clinical settings.

Unit	Hrs (T)	Content	Teaching method
I	5	INTRODUCTION TO HEALTH Health and Health care delivery system	Lecture
II	10	INTRODUCTION TO HEALTH SCIENCE Overview of Health Science, Health Professions & their specialties	Lecture
III	10	PHYSIOTHERAPY PROFESSION History of Medical Therapeutics History of Physiotherapy Overview of impairment, disability, handicap Health – levels of prevention & Rehabilitation Physiotherapy in medical rehabilitation	Lecture, Demonstration
IV	10	PHYSIOTHERAPY IN MEETING HEALTH CARE NEEDS OF INDIA Needs versus demands Need for physiotherapy Scope of the profession Role of Physiotherapist in health care delivery system and prevention of disability	Lecture, Demonstration, Group discussions
V	15	PHYSIOTHERAPEUTIC METHODS Physical agents in therapy Exercise therapy Electrotherapy Specialties in physiotherapy Areas of physiotherapy services & training	Lecture Demonstration & Visit

PHYSICAL EDUCATION

Course Code: U21BPTT16

Instruction hours: – 40 hours Practical

Course description: The purpose of the course is to acquire knowledge and understand various components in physical fitness and training methods.

Unit	Hrs (P)	Content	Teaching method
I	5	INTRODUCTION Physical fitness	Lecture Discussion
II	15	TRAINING METHODS Definition Motor component Warming up Conditioning Cool down	Lecture Discussion & Demonstration.
III	20	PHYSICAL FITNESS & TRAINING Physical Fitness and Training of Motor components: Strength Speed Endurance Mobility Co-ordination	Lecture Discussion & Demonstration.

ANATOMY (SYSTEMIC AND REGIONAL)

Course code: U21BPTT21

Instruction hours: Theory –150hours
Practical –50 hours

Course description: The course is designed to enable the students to acquire knowledge of normal structure of various human body systems particularly on musculoskeletal, nervous and cardio-pulmonary systems and understand their application in the practice of physiotherapy.

I - SYSTEMIC ANATOMY [70 HOURS]

Unit	Hrs (T+P)	Content	Teaching method
I	6+0	INTRODUCTION TO ANATOMICAL TERMS Definitions, subdivisions, systems of the body Cell: Structure, composition, function, cell division Tissues: Definition, types, characteristics, classification, location, functions. Genes and chromosomes.	Lecture Demonstration
II	8+0	CARDIO VASCULAR SYSTEM Structure of heart, blood vessels Blood and nervous supply of the heart Major blood vessels	Lecture Demonstration
III	2+0	LYMPHATIC SYSTEM Structure of Lymphatic organs and vessels Functional roles	Lecture Demonstration
IV	8+0	RESPIRATORY SYSTEM Structure of the organs of the respiratory system Muscles of respiration, tracheobronchial tree, bronchopulmonary segments	Lecture Demonstration
V	5+0	DIGESTIVE SYSTEM Structure of the alimentary tract and organs of digestive system Anatomy of the liver and pancreas	Lecture Demonstration
VI	3+0	GENITO-URINARY SYSTEM Structure of the organs of the genito-urinary system	Lecture Demonstration
VII	3+0	ENDOCRINE SYSTEM Structure of endocrine glands	Lecture Demonstration
VIII	20+0	NERVOUS SYSTEM Division of the nervous system and their organs Structure and functions of nerve cell Structure of brain, spinal cord and peripheral nerves (in detail) Structure & location of autonomic nervous system	Lecture Demonstration

Unit	Hrs (T+P)	Content	Teaching method
IX	5+0	OSTEOLOGY Definition and types of skeletal system Classification of bones Ossification: definition, types and process	Lecture Discussion, Demonstration
X	5+0	ARTHROLOGY Definition and classification of joint Functions of joints: mobility & stability	Lecture Discussion, Demonstration
XI	5+0	MYOLOGY Structure and types of muscles Skeletal muscles: classification, forms & groups Position, origin, insertion, nerve supply and action of skeletal muscles	Lecture Discussion, Demonstration

II - REGIONAL ANATOMY [Theory-80 Hours, Practical-50 Hours]

Unit	Hrs (T+P)	Content	Teaching method
XII	25+15	UPPER EXTREMITY Osteology, arthrology, myology of the following: Pectoral region Scapular region Axilla Shoulder girdle and arm Elbow and forearm Wrist and hand Nerves of upper limb Blood vessels of upper limb	Lecture Demonstration & Practicals
XIII	25+15	LOWER EXTREMITY Osteology, arthrology, myology of the following: Pelvic & gluteal region Hip & thigh region Knee & leg Ankle & foot Nerves & Blood vessels of lower limb	Lecture Demonstration & Practicals
XIV	15+10	TRUNK Osteology, Arthrology, myology and their relations of: Vertebral Column Thoracic cage Abdomen Pelvis	Lecture Demonstration & Practicals
XV	15+10	HEAD & NECK Musculoskeletal and neurovascular features of neck and cranium Cranial nerves	Lecture Demonstration & Practicals

PRACTICALS AND DEMONSTRATION:

1. Upper extremity including surface Anatomy. Demonstration of the muscles of the upper extremity, movements in joints, identification of body prominences on inspection and by palpation, points of palpation of nerves and arteries. Identification of the bones of the upper extremity, side determination, parts, attachment of the muscles, nerves and vessels relation to bone.
2. Lower extremity including surface Anatomy. Demonstration of the muscles of the lower extremity, movements in joints, identification of body prominences on inspection and by palpation, points of palpation of nerves and arteries. Identification of the bones of the lower extremity, side determination, parts, attachment of the muscles and relation of nerves and vessels to bone.
3. Demonstration of the Head & Neck and Spinal cord & Brain including surface Anatomy.
4. Demonstration of the muscles of the back, pelvic girdle, pre and para vertebral muscles, movements in joints, identification of body prominences on inspection and by palpation.
5. Identification of the bones of the vertebral column (cervical, thoracic, lumbar, sacral and coccygeal) parts, attachment of the muscles and relation of nerves and vessels to bone.
6. Surface Markings of Various Organs and Bony Prominences
7. Radiographic Identification of Bone and Joints

Recommended Text books:

1. SNELL [Richard S], Clinical Anatomy for Medical students: Ed. 5. Little Brown and Company Boston.
2. B.D Chaurasia's Human Anatomy – Regional and Applied; Volume I, Volume II and Volume III.
3. SINGH [Inderbir], Human Osteology. JP Brothers, New Delhi 1990.
4. SINGH [Inderbir], Text book of Anatomy with colour atlas: Vol I, II, III.
5. SINGH [Inderbir], Essentials of Anatomy JP Brothers, New Delhi
6. Anatomy and Physiology - Dr. Minakshi Pathak
7. The carnial Nerves Anatomy, Pathology, Pathophysiology Diagnosis Treatment- M. Samii, P.J Jannetla
8. Anatomy by Vishram Singh

Recommended Text books for Practical:

1. ROMANES [G J], Cunningham manual of practical anatomy: Vol I, II, III

Reference Books:

1. PODAR - Handbook of Osteology: Ed. 11 Scientific book co.
2. Gray's Anatomy
3. McMinn – McMinn's color atlas of Human Anatomy.

PHYSIOLOGY

Course Code: U21BPTT22

Instruction hours: Theory – 150 hours
Practical –30 hours

Course description: The course is designed to assist the students to acquire knowledge of normal physiology of various human body systems and understand the alterations in physiology in diseases for physiotherapy practice.

Unit	Hrs (T+P)	Content	Teaching method
I	10+0	CELL PHYSIOLOGY Cell: Structure & functions of components Functions of membranes & glands	Lecture
II	15+6	CIRCULATORY SYSTEM Blood: Component and their functions, blood groups, coagulation, blood volume and its regulation Functions and regulations of the heart, cardiac cycle, cardiac output, E.C.G., heart sounds. Blood pressure: Maintenance and regulation. Effects of exercises on postural changes.	Lecture Discussion, Demonstration & Practicals
III	20+6	RESPIRATORY SYSTEM Functions of the respiratory organs Physiology of respiration Pulmonary ventilation, volume Mechanics of respiration Gaseous exchange in lungs Regulation of respiration Effects of exercises on respiration	Lecture Discussion, Demonstration & Practicals
IV	10+0	DIGESTIVE SYSTEM Functions of organs of digestive tract Movements of the alimentary tract Digestion in mouth, stomach, intestines Absorption of food Metabolism of carbohydrates, proteins and fat	Lecture Discussion, Demonstration
V	10+0	EXCRETORY SYSTEM Functions of organs of excretory tract Composition of urine Mechanism of urine formation & Micturition Functions of skin	Lecture Discussion, Demonstration
VI	10+0	ENDOCRINE SYSTEM Functions of the various endocrine glands Endocrine Hormones: Functions and their abnormalities.	Lecture Discussion, Demonstration

Unit	Hrs (T+P)	Content	Teaching method
VII	10+0	REPRODUCTIVE SYSTEM Functions of male reproductive system Functions of female reproductive system Outline of pregnancy, parturition, lactation Contraceptive measures Physiology of foetal growth	Lecture Discussion, Demonstration
VIII	20+6	NERVOUS SYSTEM Properties and functions of Neuron Mechanism of Stimulus and nerve impulse Functions of brain, spinal cord, cranial and spinal nerves. Synaptic transmission, reflexes, control of postures and voluntary motor activity. Autonomic Nervous System	Lecture Discussion, Demonstration & Practicals
IX	5+2	SENSORY ORGANS Functions of the skin, eye, ear, nose and tongue	Lecture Discussion, Demonstration & Practicals
X	20+6	MUSCULAR SYSTEM Microscopic structure of muscle tissue, myoneural junction Physiology of Muscle contraction Exercise metabolism Muscular activity based on metabolism and fatigue Physiological changes on aging Exercise physiology	Lecture Discussion, Demonstration & Practicals
XI	20+4	APPLIED PHYSIOLOGY Heart and circulation: Normal ECG, blood pressure, cardiovascular compensation for postural and gravitational changes, determinants of cardiac performance. Neuromuscular system: Degeneration and re-generation of nerves, control of posture and voluntary movement, neuromuscular transmission, electrical phenomenon. Respiratory system: Normal breath sound, volume and compliance, effects of exercise on respiration, artificial respiration.	Lecture Discussion, Demonstration & Practicals

PRACTICALS AND DEMONSTRATION:

1. Hematology:

- a. Study of Microscope and its uses
- b. Determination of RBC count
- c. Determination of WBC count
- d. Differential leukocyte count
- e. Estimation of hemoglobin
- f. Calculation of blood indices

2. Blood pressure– palpatory and auscultatory method: Variation of blood pressure in posture.

3. Auscultation of Normal breath sound & heart sound
4. Spirometry: Recording of Lung volumes & capacities.
5. Breathe holding time
6. Mercury column test (40 mm Hg test)
7. Clinical Examination: Chest expansion, Pulse rate and Respiratory rate.

3. Central Nervous System:

1. Testing of peripheral sensations and cranial nerves.
2. Superficial and deep reflexes.
3. Tests for Cerebral and Cerebella functions- Equilibrium and Nonequilibrium Tests

4. Graphs:

1. Skeletal muscle-properties.
2. Cardiac muscle-properties

5. Clinical examination-

Higher functions, memory, time, orientation, reflexes, motor & sensory system

Recommended text books:

1. Anatomy and Physiology - Dr. Minakshi Pathak
2. Text book of medical physiology – Guyton Arthur\
3. Essentials of medical physiology sembulingam
4. Concise medical physiology – Chaudhuri SujitK.
5. Human Physiology – ChatterjeeC.C.
6. Text book of practical Physiology –Ranade.
7. Text book of Physiology – A. K.Jain.

Reference:

1. Review of Medical Physiology – Ganong WilliamF.
2. Physiological basis of Medical practice – Best &Taylor

NUTRITION

Course Code: U21BPTT23

Instruction hours: Theory – 100 hours

Course description: The course is designed to assist the students to acquire knowledge of nutrition for maintenance of optimum health and its application for different ages, activities in metabolic disorders.

Unit	Hrs (T)	Content	Teaching method
I	10	FOOD & NUTRITION Introduction Nutrition: Concepts & various aspects Role of nutrition in healthy body National nutritional policy Food: Role in nutritional & medicinal values Elements of nutrition: Macro & micro nutrients Calorie & Basal Metabolic Rate	Lecture Discussion
II	20	CARBOHYDRATES, PROTEINS, FATS Classification & caloric value Recommended daily allowance Dietary sources Functions Digestion, Absorption & Storage Malnutrition: Deficiencies & Over consumption	Lecture Discussion
III	15	WATER & ELECTROLYTES Water: Daily requirement, sources, regulation of water Metabolism Electrolytes: Types, sources, composition of body fluids	Lecture Discussion
IV	20	VITAMINS & MINERALS Classification Recommended daily allowance Dietary sources Functions Absorption and storage Deficiencies & Hypervitaminosis	Lecture Discussion
V	15	ENERGY Requirements of different categories of people Measurement of energy Body Mass Index and basic metabolism Basal Metabolic Rate – determination and factors affecting it	Lecture Discussion

Unit	Hrs (T)	Content	Teaching method
VI	20	BALANCED DIET Concept Recommended Daily Allowance Nutritive value of foods Planning balanced diets for different categories of people Budgeting of food	Lecture Discussion

Recommended text books:

1. Comprehensive Textbook of Nutrition for BSc Nurses- Rishi Avasthi

ENVIRONMENTAL STUDIES

Course Code: U21BPTT24

Instruction hours: Theory – 100 hours

Course description:

The course is designed as per the UGC regulation for all under graduate courses of branches of higher education. The subject is designed to refresh the student regarding the multidisciplinary nature of the environment and conservation of the ecosystem.

Course Objectives: at the end of the course, the candidate should

1. Know about the environment
2. Understand the surrounding
3. Know about the biotic interaction

Unit	Hrs (T)	Content	Teaching method
I	6	<p>THE MULTIDISCIPLINARY NATURE OF ENVIRONMENT STUDIES:</p> <ul style="list-style-type: none"> • Definition, scope and importance • Need for public awareness. 	Lecture Discussion
II	18	<p>RENEWABLE AND NON-RENEWABLE RESOURCES</p> <ul style="list-style-type: none"> • Forest resources: Use and over-exploitation, deforestation, case studies, timber extraction, mining, dams, and their effects on forests and tribal people. • Water Resources: Use and over-utilization of surface and ground water, floods drought, conflicts over water, dam benefits and problems. • Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources, case studies • Food resources: World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer – pesticide problems, water logging, salinity, case studies. 	Lecture Discussion

Unit	Hrs (T)	Content	Teaching method
		<ul style="list-style-type: none"> • Energy resources: Growing energy needs, renewable and non-renewable energy resources, use of alternate energy sources, case studies. • Land resources: Land as a resource, land degradation, man induces landslides, soil erosion and desertification <p>Role of an individual in conservation of natural resources.</p> <p>Equitable use of resources for sustainable lifestyles.</p>	Lecture Discussion
III	16	<p>ECOSYSTEMS</p> <ul style="list-style-type: none"> • Concept of an ecosystem • Structure and function of an Ecosystem • Producer, consumers, and decomposers • Energy flow in the ecosystem • Ecological succession <p>Food chains, food webs and ecological pyramids Introduction, types, characteristic features, structure and function of the ecosystem</p> <p>Forest ecosystem, Grassland ecosystem, Desert ecosystem, Aquatic ecosystem (ponds, streams, lakes, estuaries)</p>	Lecture Discussion
IV	14	<p>BIODIVERSITY AND ITS CONSERVATION</p> <p>Introduction – Definition of genetics, species, and ecosystem diversity</p> <p>Biogeographical classification of India Value of Biodiversity: consumptive use, productive use, social, ethical aesthetic, and option views.</p>	Lecture Discussion

Unit	Hrs (T)	Content	Teaching method
V	14	<p>ENVIRONMENTAL POLLUTION:</p> <ul style="list-style-type: none"> • Air pollution • Water Pollution • Soil Pollution • Marine Pollution • Noise Pollution • Thermal Pollution • Nuclear hazards <p>Soil waste management: Causes, effects and control measures of urban and industrial wastes.</p> <p>Role of an individual in prevention of pollution.</p> <p>Pollution case studies.</p> <p>Disaster management: floods, earthquake, cyclone and landslides.</p>	Lecture Discussion
VI	16	<p>SOCIAL ISSUES AND THE ENVIRONMENT</p> <ul style="list-style-type: none"> • From Unsustainable to Sustainable development • Urban problems related to energy • Water conservation, rain water harvesting, watershed management • Resettlement and rehabilitation of people; its problems and concerns. Case Studies • Environmental ethics: Issues and possible solutions. • Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Case Studies. • Wasteland reclamation. • Consumerism and waste products. • Environment Protection Act. • Air (Prevention and Control of Pollution) Act • Water (Prevention and control of Pollution) Act • Wildlife Protection Act • Forest Conservation Act • Issues involved in enforcement of environmental legislation. • Public awareness 	Lecture Discussion

Unit	Hrs (T)	Content	Teaching method
VII	16	HUMAN POPULATION AND THE ENVIRONMENT <ul style="list-style-type: none"> • Population growth, variation among nations. • Population explosion – Family Welfare Programme. • Environment and human health. • Human Rights. • Value Education. • HIV/AIDS • Women and Child Welfare. • Role of Information Technology in Environment and human health • Case Studies. 	Lecture Discussion

Recommended text books:

1. Textbook of Environmental Studies for Undergraduate Courses-Erach Barucha

Reference:

1. Agarwal, K.C.2001 Environmental Biology, Nidhi Publications Ltd. Bikaner
2. Odum, EP.1971 Fundamentals of Ecology. W B Saunders Co

PHYSICAL EDUCATION

Course Code: U21BPTT25

Instruction hours: – 20 hours Practical

Course description: The purpose of the course is to acquire knowledge and understand various components in physical fitness and training methods.

Unit	Hrs (P)	Content	Teaching method
I	2	INTRODUCTION Sports and Wellness	Lecture Discussion
II	10	TRAINING METHODS Imitating Method Visual Method PERIODIZATION 1. Preparatory phase 2. Competitive phase 3. Relaxation or Recovery phase	Lecture Discussion Demonstration & Practicals.
III	8	ACTIVITIES Weight Lifting Weight Training	Lecture Discussion Demonstration & Practicals.