

***Department of Paramedical
(Under Faculty of Medical Science)
P.K.University
Shivpuri (MP)***



***Scheme & Syllabus for
Paramedical Diploma in Dialysis Technician
(DDT)
2 Years Course
(Taken from MPMSU)***

-: REGULATION:-

REGULATION FOR VARIOUS DIPLOMA COURSES (2 YEARS) IN PARAMEDICAL SUBJECTS

The objective of the courses

1. The training of the candidate registering for various diploma (2 years) courses are aimed to carry out all routine diagnostic / therapeutic test on modern hospital laboratory
2. The Diploma course is of two years
3. Eligibility for admission in all Para medical Diploma courses except Perfusionist
 - a) The candidate must have passed 10+2 with at least 40% marks in aggregate of Physics Chemistry and Biology (P C B) and for DMLT 10 + 2 (P C B) or 10 + 2 vocational (M L T)course with at least 40% marks will also be eligible
 - b) For Diploma in Perfusion Technology (perfusionist 2 years course) The candidate shall have passed B. Sc. (BIOLOGY group) with minimum 45% marks, The University will award P G Diploma in perfusion technology
4. In case of SC/ST/OBC candidates, 5% marks relaxation will be given for the admission in above said courses
5. Weight age will be given as per university rules
6. Number of seats will be 50 in each course
7. The minimum age for admission shall be 17 years on 31 December of the Academic year of admission
8. The selection of candidate will be on the basis of the entrance examination or in the absence of entrance exam, purely on merit list prepared on the basic of marks obtained in qualifying examination
9. The admissions of students into various programs should be completed by 30th November. There shall be minimum 240 teaching days in one academic year.
10. **Attendance of students:** The student should have 75% attendance in theory and 75% attendance in practical to be eligible to appear in university examination. However, only Dean/ Principal of the college are empowered to condone 10% of attendance on valid grounds. Monthly attendance of students has to be sent to the university every month from the respective affiliated colleges.(*MPMSU)
11. **Total Course Duration:** A student has to complete the course that he/she has joined with in the double the duration of the actual time taken for the completion of the course i.e.- Four Years for all Diploma Courses.

12. **Medium of instruction and examination:** In case of diploma courses the medium of instruction will be bilingual (English or Hindi) and the medium of examination will be either English or Hindi as per the convenience of the student.

13. There will be two University Examinations in one academic session.

14. For all the Diploma courses (which is of two years duration) at the end of first year, an Internal examination will be conducted at the college level itself and the result has to be sent to the University as per the scheduled notification. (These marks will be included in the Final Transcripts), and the students are eligible to appear their final year examination at MPMSU, subject to passing in first year internal examination conducted at college level. University examination will be held at the end of Two years only.

15. Passing Marks of Examination:

- The passing marks of examination would be 50% for each subject and also in total marks obtained for all Diploma courses. The candidate has to pass in theory and practical examination separately. For theory paper the internal assessment marks, viva-voce and theory examination marks will be counted.
- The candidate should pass separately in two heads i.e In Theory (Theory plus Viva voce plus Internal Assessment) and also in Practical (with 50% marks).
- The candidate has to pass separately in each subject in internal assessment examination (with 50% marks) in order to be eligible to appear in university examinations.
- Regarding Grace Marks it was decided that total weightage of grace marks would be 5 (five), and that grace marks can be split between the subjects. There will not be any grace marks for the Practical examination.
- Grace marks will not be added to total marks of the candidate. In Supplementary examination also similar pattern of grace marks will be followed.

16. Re-totaling & Re-valuation (Review) both should be allowed as per the university rules

17. Other rules regarding conduct of examination will be as per the university REGULATION/NOTIFICATIONS

18. Permission will be given to start the courses after the permission from M P Paramedical council (Department of Medical education, Government of M. P.)

19. Syllabus and scheme of examination shall be decided by the board of studies and Academic council of the university from time to time as per guidelines from M.P. Paramedical council

20. In order to be an examiner a faculty member should have minimum three years of teaching experience and not below the rank of the Assistant Professor and /or Demonstrator / Tutor.

21. The examination papers (Theory) will be evaluated centrally at the university
22. The examiner who evaluates the theory copy preferably be appointed as the external for practical examinations for the said course.
23. Diploma students will be eligible for supplementary examination.
24. Various Diploma courses:
 1. Anesthesia Technician
 2. X-ray Technician
 3. Gamma camera technician / Radiotherapy technician
 4. Optometrist refractonist
 5. Blood Transfusion Technician
 6. Human nutrition
 7. Dialysis technician
 8. Hospital record science
 9. Compounder (Allopathy)
 10. Diploma in clinical Biochemistry.
 11. Microbiology
 12. Optometric refraction
 13. Paramedical Ophthalmic Assistant
 14. Cath. Lab. Technician
 15. Medical Lab technology
 16. Perfusion Technology (Per fusionist)

Note: FOR OTHER PROVISION WHICH ARE NOT COVERED IN THIS CURRICULUM & SYLLABUS WILL BE APPLICABLE AS PER THE UNIVERSITY REGULATION.

**SCHEME OF EXAMINATION:
PARAMEDICAL DIPLOMA IN DIALYSIS TECHNICIAN
FIRST YEAR DIPLOMA IN DIALYSIS TECHNICIAN EXAMINATION**

S.No.	Sub.code	Subject	Max. Marks	Min. Passing Marks
1	DDT-101	Human Anatomy & Physiology	100	50
2	DDT-102	Dialysis-1	100	50
3	DDT-103	Dialysis-2	100	50
4	DDT-104	Dialysis-3	100	50

(There shall be Institutional /College level theory examination as per university notification, marks to be send to University for internal assessment purposes of university examination)

**SCHEME OF EXAMINATION FOR 2ND YEAR (UNIVERSITY EXAMINATION):
PARAMEDICAL DIPLOMA IN DIALYSIS TECHNICIAN**

There shall be university examination at the end of 2nd year curriculum of Paramedical Diploma in Dialysis Technician

S. No.	Sub.code	Subject	Theory	Internal Assessment	Practical	Total
1	DDT-201	Human Anatomy & Physiology	100	100	100	300
2	DDT-202	Dialysis-1	100	100	100	300
3	DDT-203	Dialysis-2	100	100	100	300
4	DDT-204	Dialysis-3	100	100	100	300
Total			400	400	400	1200

N.B.- 1. First year institutional /college level theory examination's awarded marks would be consider as Internal assessment marks and candidate have to get min. 50% marks in university theory examination in addition to Internal assessment marks i.e. 100 marks collectively for passing the examination.

2. University Practical examination of 100 max. marks is inclusive of viva and candidate should get separate 50% marks i.e. 50 marks to get pass.

SYLLABUS & SCHEME OF EXAMINATION
PARAMEDICAL DIPLOMA IN DIALYSIS TECHNICIAN
PAPER-I: HUMAN ANATOMY & PHYSIOLOGY
SCHEME OF EXAMINATION

Paper	Subject	Theory	Internal Assessment	Practical	Total
Paper – I	Human Anatomy & Physiology	100	100	100	300

INSTRUCTION FOR THE PAPER SETTER

The University theory examination shall be of 100 marks and question paper setter will be Astt. Professor, Anatomy/ Physiology, who shall be on the panel of examiners, 50% shall be the minimum passing marks. Internal assessment will be of 100 marks, which would be counted in theory marks for passing university examination. For practical examination; there will be two examiners (Astt. Professor, Anatomy/ Physiology) - one internal Examiner ; from the institute /college and one from other college /institute of the university from the panel of University examiners.

The pattern of University theory examination will be as under for **100 Max. Marks in question paper** and distribution of marks for questions will be as under

No. and Type of Questions	Marks for each Question	Total Marks
10 very short answer Questions Answer to be given in 50-60 words	02	20
5 short answer Questions Answer to be given in 250-300 words	10	50
2 essay type Questions Answer to be given in 450-500 words	15	30
Total Marks		100

INSTRUCTIONS FOR THE CANDIDATES: Answer all questions only in required word.

There will be only 1 single answer book containing 40 pages to answer question paper and no additional answer book would be provided to the student.

PARAMEDICAL DIPLOMA IN BLOOD TRANSFUSION

PAPER-I: HUMAN ANATOMY & PHYSIOLOGY

Syllabus Contents

Normal anatomical structure, & Functions (Physiology) of the following systems.1-

Structure and function RENAL SYSTEM (Anatomy & Physiology)

2. The structure of a cell.- Normal anatomical structure
3. The circulatory system (Heart & Blood Vessels)
4. The Respiratory system
5. The Digestive system Liver & Pancreas Lymphatic system
6. Reproductive system – Male & Female
7. Endocrine system
8. Central nervous system (Brain & Spinal cord)
9. Blood

SYLLABUS & SCHEME OF EXAMINATION
PARAMEDICAL DIPLOMA IN DIALYSIS TECHNICIAN

Paper – II : Dialysis-1

SCHEME OF EXAMINATION

Paper	Subject	Theory	Internal Assessment	Practical	Total
PAPER- II	Dialysis-1	100	100	100	300

INSTRUCTION FOR THE PAPER SETTER

The University theory examination shall be of 100 marks and question paper setter will be Astd. Professor, Medicine/Nephrology , who shall be on the panel of examiners, 50% shall be the minimum passing marks. Internal assessment will be of 100 marks, which would be counted in theory marks for passing university examination. For practical examination; there will be two examiners (Astd. Professor, Medicine/Nephrology) - one internal Examiner ; from the institute /college and one from other college /institute of the university from the panel of University examiners.

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PARAMEDICAL DIPLOMA IN BLOOD TRANSFUSION

Paper – II : Dialysis-1 SYLLABUS CONTENTS

RENAL DISEASE

BRIEF DESCRIPTION OF RENAL DISEASES & THEIR MANEGMENT

1. Brief description of acute renal Failure.
2. Chronic renal Failure
3. Urinary Tract Infection.
4. Acute Nephritis,
5. Nephrotic Syndrome.
6. DIABETIC
7. HIGH BLOOD PRESSURE
8. Glomerulonephritis
9. NSAID's LONG TERM EFFECTS ON KIDNEY
10. SOME TEST LIKE BUN, creatinine, and glomerular filtration rate (GFR).

SYLLABUS & SCHEME OF EXAMINATION
PARAMEDICAL DIPLOMA IN DIALYSIS TECHNICIAN

PAPER III: Dialysis-2

SCHEME OF EXAMINATION

Paper	Subject	Theory	Internal Assessment	Practical	Total
PAPER- III	Dialysis-2	100	100	100	300

INSTRUCTION FOR THE PAPER SETTER

The University theory examination shall be of 100 marks and question paper setter will qualified examiner of Medicine/Nephrology - M.D. Medicine, who shall be on the panel of examiners, 50% shall be the minimum passing marks. Internal assessment will be of 100 marks, which would be counted in theory marks for passing university examination. For practical examination; there will be two examiners of Medicine/Nephrology - M.D. Medicine - one internal Examiner; from the institute /college and one from other college /institute of the university from the panel of University examiners.

The pattern of University theory examination will be as under for **100 Max. Marks in question paper** and distribution of marks for questions will be as under

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2 essay type Questions Answer to be given in 450-500 words	15	30
Total Marks		100

INSTRUCTIONS FOR THE CANDIDATES: Answer all questions only in required word.

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PARAMEDICAL DIPLOMA IN DIALYSIS TECHNICIAN

PAPER III: DIALYSIS-2

SYLLABUS CONTENTS

- 1- History of dialysis
- 2- Principles and types of dialysis.
3. Precaution before and after dialysis.
- 4- Vascular access for dialysis.
- 5- Complication and management of complication during dialysis.
- 6- Anticoagulation: Principles and problems.
7. Roll of hormone like vitamin-D , erythropoietin, renin enzyme.

SYLLABUS & SCHEME OF EXAMINATION
PARAMEDICAL DIPLOMA IN DIALYSIS TECHNICIAN

PAPER- IV: DIALYSIS-3

SCHEME OF EXAMINATION

Paper	Subject	Theory	Internal Assessment	Practical	Total
PAPER- IV	DIALYSIS-3	100	100	100	300

INSTRUCTION FOR THE PAPER SETTER

The University theory examination shall be of 100 marks and question paper setter will qualified examiner of Medicine/Nephrology - M.D. Medicine, who shall be on the panel of examiners, 50% shall be the minimum passing marks. Internal assessment will be of 100 marks, which would be counted in theory marks for passing university examination. For practical examination; there will be two examiners of Medicine/Nephrology - M.D. Medicine - one internal Examiner; from the institute /college and one from other college /institute of the university from the panel of University examiners.

The pattern of University theory examination will be as under for **100 Max. Marks in question paper** and distribution of marks for questions will be as under

No. and Type of Questions	Marks for each Question	Total Marks
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Total Marks		100

INSTRUCTIONS FOR THE CANDIDATES: Answer all questions only in required word.

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PARAMEDICAL DIPLOMA IN DIALYSIS TECHNICIAN

Paper - IV: DIALYSIS-3

SYLLABUS CONTENTS

1. Haemodialysis Machine: Working Principles and maintenance.
2. Initiation of dialysis Hemodialysis.
3. Physiological principle and urea kinetic Modeling.
4. Haemodialysis Apparatus.
5. Vascular access for Haemodialysis.
6. Acute Haemodialysis prescription.
7. Chronic Haemodialysis prescription.
8. Complication during Haemodialysis.
9. Use of dialysis and Hem perfusion in treatment of poisoning.
10. Water Treatment Plant: Working Principles and maintenance.
11. Assessment of adequacy of dialysis.
12. Reuse of dialysis.
13. Sterile techniques in dialysis.
14. Emergencies in dialysis.

PERITONEAL DIALYSIS

1. Physiology of peritoneal dialysis.
2. Apparatus of peritoneal dialysis.
3. Peritoneal access devices
4. Acute peritoneal dialysis prescription.
5. Adequacy of peritoneal dialysis chronic peritoneal Dialysis.
6. Prescription assessing peritoneal Ultrafiltration.
7. Solute transport and volume status.
8. Peritonitis and exit site infection.

Suggested Reading:

1. Replacement of renal functions by dialysis Drukker & Person.
2. Dialysis Therapy: Nissenson and Fine: Mosbey Publications.
3. Textbook on Dialysis by John T. Dugirdas.
4. Haemodialysis for Nurse by Robert Uldall.

PRACTICAL DEMONSTRATION:

1. Nutrition
2. Practical Demonstration of peritoneal Dialysis.
3. Practical Demonstration of Hemodialysis.
4. Practical Demonstration of (continuous ambulatory peritoneal Dialysis) C.A.P.D.