



**MGM SCHOOL OF BIOMEDICAL SCIENCES**  
**(A constituent unit of MGM INSTITUTE OF HEALTH SCIENCES)**

(Deemed University u/s 3 of UGC Act 1956)

Grade “A” Accredited by NAAC

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**CHOICE BASED CREDIT SYSTEM (CBCS)**

**(Academic Year 2023 - 24)**

**Curriculum for**

**B.Sc. Allied Health Sciences**

**B.Sc. Medical Dialysis Technology**

**Semester I to VIII**

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OUTLINE OF COURSE CURRICULUM														
B.Sc. Medical Dialysis Technology														
Semester I														
Code No.	Core Course	Credits/Week					Hrs/Semester					Marks		
		Lecture (L)	Tutorial (T)	Practical (P)	Clinical Posing/Rotation (CP)	Total Credits (C)	Lecture (L)	Tutorial (T)	Practical (P)	Clinical Posing/Rotation (CP)	Total (hrs.)	Internal Assement (IA)	Semester End Exam (SEE)	Total
<b>Theory</b>														
BMDT 101 L	Human Anatomy Part I	2	-	-	-	2	30	-	-	-	30	10	40	50
BMDT 102 L	Human Physiology Part I	2	-	-	-	2	30	-	-	-	30	10	40	50
BMDT 103 L	General Biochemistry & Nutrition	3	-	-	-	3	45	-	-	-	45	10	40	50
BMDT 104 L	Introduction to National Health Care System	2	-	-	-	2	30	-	-	-	30	10	40	50
BMDT 101 P	Human Anatomy Part I	-	-	1	-	-	-	-	15	-	15	-	-	-
BMDT 102 P	Human Physiology Part I	-	-	1	-	-	-	-	15	-	15	-	-	-
BMDT 103 P	General Biochemistry Nutrition	-	-	1	-	-	-	-	15	-	15	-	-	-
BMDT 105 P	Community Engagement & Clinical Visit (Including related practicals to the Parent course)	-	-	-	24	8	-	-	-	360	360	-	50	50
<b>Ability Enhancement Course</b>														
AEC 001 L	English & Communication skills	4	-	-	-	4	60	-	-	-	60	10	40	50
<b>Multidisciplinary Course</b>														
MD 001 L	Enviornmental Sciences	4	-	-	-	4	60	-	-	-	60	10	40	50
<b>Total</b>		17	0	3	24	25	255	0	45	360	660	60	290	350

OUTLINE OF COURSE CURRICULUM														
B.Sc. Medical Dialysis Technology														
Semester II														
Code No.	Core Course	Credits/Week					Hrs/Semester					Marks		
		Lecture (L)	Tutorial (T)	Practical (P)	Clinical Posing/Rotation (CP)	Total Credits (C)	Lecture (L)	Tutorial (T)	Practical (P)	Clinical Posing/Rotation (CP)	Total (hrs.)	Internal Assement (IA)	Semester End Exam (SEE)	Total
<b>Theory</b>														
BMDT 106 L	Human Anatomy Part II	2	-	-	-	2	30	-	-	-	30	10	40	50
BMDT 107 L	Human Physiology Part II	2	-	-	-	2	30	-	-	-	30	10	40	50
BMDT 108 L	General Microbiology	3	-	-	-	3	45	-	-	-	45	10	40	50
BMDT 109 L	Basic Pathology & Hematology	4	-	-	-	4	60	-	-	-	60	10	40	50
BMDT 110 L	Introduction to Quality and Patient safety (Multidisciplinary/Interdisciplinary)	3	-	-	-	3	45	-	-	-	45	10	40	50
<b>Practical</b>														
BMDT 106 P	Human Anatomy Part II	-	-	1	-	-	-	-	15	-	15	-	-	-
BMDT 107 P	Human Physiology Part II	-	-	1	-	-	-	-	15	-	15	-	-	-
BMDT 108 P	General Microbiology	-	-	1	-	-	-	-	15	-	15	-	-	-
BMDT109 P	Basic Pathology & Hematology	-	-	1	-	-	-	-	15	-	15	-	-	-
BMDT 111 P	Community Engagement & Clinical Visit (Including related practicals to the Parent course)	-	-	-	24	8	-	-	-	360	360	-	50	50
<b>Skill Enhancement Elective Course</b>														
SEC 001 L	Medical Bioethics & IPR	3	-	-	-	3	45	-	-	-	45	10	40	50
SEC 002 L	Human Rights & Professional Values													
<b>Total</b>		17	0	4	24	25	255	0	60	360	675	60	290	350

OUTLINE OF COURSE CURRICULUM														
B.Sc. Medical Dialysis Technology														
Semester III														
Code No.	Core Course	Credits/Week					Hrs/Semester					Marks		
		Lecture (L)	Tutorial (T)	Practical (P)	Clinical Posing/Rotation (CP)	Total Credits (C)	Lecture (L)	Tutorial (T)	Practical (P)	Clinical Posing/Rotation (CP)	Total (hrs.)	Internal Assement (IA)	Semester End Exam (SEE)	Total
<b>Theory</b>														
BMDT 112 L	Introduction To Dialysis	3	-	-	-	3	45	-	-	-	45	20	80	100
BMDT 113 L	Fundamentals of Dialysis	3	-	-	-	3	45	-	-	-	45	20	80	100
BMDT 114 L	Pharmacology in Dialysis	3	-	-	-	3	45	-	-	-	45	20	80	100
BMDT 115 CP	MDT Directed Clinical Education -I	-	-	-	24	8	-	-	-	360	360	-	50	50
<b>Practical</b>														
BMDT 112 P	Introduction To Dialysis	-	-	4	-	2	-	-	60	-	60	10	40	50
BMDT 113 P	Fundamentals of Dialysis	-	-	4	-	2	-	-	60	-	60	10	40	50
<b>Generic Elective Course</b>														
GEC 001 L	Pursuit of Inner Self Excellence (POIS)	3	-	-	-	3	45	-	-	-	45	10	40	50
GEC 002 L	Organisational Behaviour													
<b>Total</b>		12	0	8	24	24	180	0	120	360	660	90	410	500

OUTLINE OF COURSE CURRICULUM														
B.Sc. Medical Dialysis Technology														
Semester IV														
Code No.	Core Course	Credits/Week					Hrs/Semester					Marks		
		Lecture (L)	Tutorial (T)	Practical (P)	Clinical Posing/Rotation (CP)	Total Credits (C)	Lecture (L)	Tutorial (T)	Practical (P)	Clinical Posing/Rotation (CP)	Total (hrs.)	Internal Assement (IA)	Semester End Exam (SEE)	Total
<b>Theory</b>														
BMDT 116 L	Concept of Renal Disease & Disorders	4	-	-	-	4	60	-	-	-	60	20	80	100
BMDT 117 L	Nutrition in Dialysis	3	-	-	-	3	45	-	-	-	45	20	80	100
BMDT 118 CP	MDT Directed Clinical Education -II	-	-	-	30	10	-	-	-	450	450	-	50	50
<b>Practical</b>														
BMDT 116 P	Concept of Renal Disease & Disorders	-	-	2	-	1	-	-	30	-	30	10	40	50
BMDT 119 P	Seminar	-	-	-	-	1	-	-	-	-	-	-	50	50
<b>Ability Enhancement Elective Course</b>														
AEC 003 L	Computer and Applications	3	-	-	-	3	45	-	-	-	45	10	40	50
AEC 004 L	Biostatistics and Research Methodology													
<b>Total</b>		10	0	2	30	22	150	0	30	450	630	60	340	400

OUTLINE OF COURSE CURRICULUM														
B.Sc. Medical Dialysis Technology														
Semester V														
Code No.	Core Course	Credits/Week					Hrs/Semester					Marks		
		Lecture (L)	Tutorial (T)	Practical (P)	Clinical Posing/Rotation (CP)	Total Credits (C)	Lecture (L)	Tutorial (T)	Practical (P)	Clinical Posing/Rotation (CP)	Total (hrs.)	Internal Assement (IA)	Semester End Exam (SEE)	Total
<b>Theory</b>														
BMDT 120 L	Applied Dialysis Technology: Part – I	4	-	-	-	4	60	-	-	-	60	20	80	100
BMDT 121 L	Advance Dialysis Technology Part – I	4	-	-	-	4	60	-	-	-	60	20	80	100
BMDT 122 CP	MDT Directed Clinical Education-III	-	-	-	24	8	-	-	-	360	360	-	50	50
<b>Practical</b>														
BMDT 120 P	Applied Dialysis Technology: Part – I	-	-	4	-	2	-	-	60	-	60	10	40	50
BMDT 121 P	Advance Dialysis Technology Part – I	-	-	4	-	2	-	-	60	-	60	10	40	50
<b>Core Elective Course</b>														
CEC 005 L	Basics of Clinical Skill Learning	3	-	-	-	3	45	-	-	-	45	10	40	50
CEC 006 L	Hospital Operation Management													
<b>Total</b>		11	0	8	24	23	165	0	120	360	645	70	330	400

OUTLINE OF COURSE CURRICULUM														
B.Sc. Medical Dialysis Technology														
Semester VI														
Code No.	Core Course	Credits/Week					Hrs/Semester					Marks		
		Lecture (L)	Tutorial (T)	Practical (P)	Clinical Posing/Rotation (CP)	Total Credits (C)	Lecture (L)	Tutorial (T)	Practical (P)	Clinical Posing/Rotation (CP)	Total (hrs.)	Internal Assement (IA)	Semester End Exam (SEE)	Total
<b>Theory</b>														
BMDT 123 L	Applied Dialysis Technology - II	4	-	-	-	4	60	-	-	-	60	20	80	100
BMDT 124 L	Advance Dialysis Technology- II	4	-	-	-	4	60	-	-	-	60	20	80	100
BMDT 125 CP	MDT Directed Clinical Education -IV	-	-	-	30	10	-	-	-	450	450	-	50	50
<b>Practical</b>														
BMDT 123 P	Applied Dialysis Technology - II	-	-	4	-	2	-	-	60	-	60	10	40	50
BMDT 124 P	Advance Dialysis Technology - II	-	-	4	-	2	-	-	60	-	60	10	40	50
<b>Total</b>		8	0	8	30	22	120	0	120	450	690	60	290	350

## OUTLINE OF COURSE CURRICULUM

## B.Sc. Medical Dialysis Technology

## Semester VII &amp; VIII

Code No.	Core Course	Credits/Week					Hrs/Semester					Marks		
		Lecture (L)	Tutorial (T)	Practical (P)	Clinical Posing/Rotation (CP)	Total Credits (C)	Lecture (L)	Tutorial (T)	Practical (P)	Clinical Posing/Rotation (CP)	Total (hrs.)	Internal Assessment (IA)	Semester End Exam (SEE)	Total
BMDT 126	B.Sc. MDT Internship (Semester VII)	-	-	1	16	17	-	-	42	1008	1050	20	80	100
BMDT 127	B.Sc. MDT Internship (Semester VIII)	-	-	1	16	17	-	-	42	1008	1050	20	80	100

Internship is for 12 months (July-December; January-June) after deducting for national holidays/Sick Holidays/ sundays + Examination), (6 days/week;8 Hours/day). Minimum of 21 weeks/semester. Students are encouraged to involve in community outreach activities as part of their clinical postings without absenting himself/herself for the other regular classes.

<b>Internal Assessment Exam Pattern (IA) for Semester VII &amp; VIII (Internship Program)</b>		<b>Scheme of University Semester End Examination (SEE) for Semester VII &amp; VIII (Internship Program)</b>					<b>Attendance (10 marks ) of the student. It was decided that weightage be given to attendance as per following scheme</b>				
<b>Internal exam pattern: Total 20 marks with following breakup</b>		<b>Practical exam pattern: Total 80 marks with following breakup</b>					<b>Attendance Percentage</b>		<b>Marks</b>		
<b>Description</b>	<b>Marks</b>	<b>Exercise</b>	<b>Description</b>	<b>Marks</b>		< 75		Zero			
Internal exam (at department)	10 marks	Q No 1	Case Study	2 x15=30 M		75		5			
Viva	5 marks	Q No 2	Station exercise	3 x 5=15 M		76-80		6			
Log Book	5 marks	Q No 3	VIVA	15 M		81-85		7			
<b>Total = 20 Marks</b>		QNo 4	Log Book	10 M		86-90		8			
		QNo 5	Attendance	10 M		91-95		9			
		<b>Total = 80 Marks</b>					96-100		10		

## B.Sc. Allied Courses Scheme of Examination Pattern

**B.Sc. First Year (Semester I & II) w.e.f. (Academic Year 2023-24 onwards)**

### Internal Examination Pattern (Theory)

Question type	No. of questions	Questions to be answered	Question X marks	Total marks
Short answers	5	4	4 x 3 marks each	12 marks
CIA	1. Seminar / poster (4 marks) 2. Assignments/open book test (4 marks)			8 marks
<b>Total</b>				<b>20 marks</b>

**Note –20 marks to be converted to 10 marks weightage for submission to the university.**

### University Examination Pattern (Theory)

Question Type	No. of Questions	Questions to be Answered	Question X marks	Total marks
<b>Section A</b>				
Structured LAQ	3	2	2X8	16 Marks
Short notes	8	6	6X4	24Marks
<b>Total</b>				<b>40 Marks</b>

**Note: The exam pattern for Course “Community Engagement & Clinical Visit (Including Related Practicals To The Parent Course)” is as per Annexure No-1.**

**Annexure No-1**

**EVALUATION FORM FOR**  
**COMMUNITY ENGAGEMENT & CLINICAL VISIT**  
**(INCLUDING RELATED PRACTICALS TO THE PARENT COURSE)**

**Name of the Student:****Program/Course:****Semester:****Name of the Internal Faculty/Observer:****Name of the External Faculty/Observer:**

<b>Sr. No.</b>	<b>Core Competencies</b>	<b>Marks Allotted</b>	<b>Marks Obtained</b>
1.	Community Engagement/Educational Tour/Field work/Hospital visits/NSS (Report)	15	
2.	Demonstrated understanding of responsibilities	10	
3.	Managed time effectively to meet deadlines		
4.	Communicated well with others (Staff members, Teacher, Patients, Community Members, etc)		
5.	Demonstrated knowledge required to meet objectives		
6.	Completed required tasks as assigned by Teacher/Co-ordinator		
7.	Model making / Quiz/ Poster/Conference/ Seminar/ Presentation/Innovative Ideas Competition	15	
8.	Attendance	10	
<b>Total Marks</b>		<b>50</b>	

**Internal Faculty/Observer Signature:****Date:****External Faculty/Observer Signature:**

**Internal Examination Pattern UG Second & Third Year (Semester III to VI)  
(Approved in BOM 55/2018 dated, 27/11/2018)**

**Internal examination pattern UG (Second & Third Year) (Theory) : 20marks**

<b>Question type</b>	<b>No. of questions</b>	<b>Questions to be answered</b>	<b>Question X marks</b>	<b>Total marks</b>
Long essays	2	1	1x10	10 marks
Short answers	3	2	2x5	10 marks
<b>Total</b>				<b>Total= 20 marks</b>

Marks should be submitted by respective departments at least 15 days prior to onset of university examination to the university.

**Internal examination pattern UG (Second & Third Year) (Practical) : 10marks**

Internal exam (At department level)	10 marks
Viva	5 marks
Log book	5 marks
Theory and practical	Total = 20 M

**Note –20 marks to be converted to 10 marks weightage for submission to the university.**



## University Examination Pattern UG Second & Third Year (Semester III to VI)

(Approved in BOM 55/2018 dated, 27/11/2018)

### Theory Question Paper Pattern For Core Subjects in University Examinations (Second & Third year) Under CBCS - 80 Marks

Question type	No. of questions	Questions to be answered	Question X marks	Total marks
<b>Section 1</b>				
MCQ	10	10	10x1	10 marks
<b>Section 2</b>				
Structured LAQ	3	2	2x15	30 marks
Short notes	6	5	5 x 8	40 marks
				<b>Total= 80 Marks</b>

#### General Instructions (Theory):

- A. Time duration of each Theory Paper will be of Three (3) Hrs or 1 1/2 hrs as the case may be.
- B. Total Marks of each Theory Paper will be 80 Marks / 40 Marks.
- C. There will be TWO Sections in Question Paper. Section ONE will be MCQ while Section TWO will be long & short essay questions. There will be internal option.
- D. Both the Sections are compulsory.
- E. Both the sections are to be written in the separate answer sheet

**Practical Question Paper Pattern For University Examinations  
Under CBCS - 40 Marks**

<b>Exercise</b>	<b>Description</b>	<b>Marks</b>
Q No 1	Practical exercise - 1	1 x10=10 M
Q No 2	Station exercise	3x5M=15 M
Q No 3	VIVA	10 M
QNo 4	Journal	5 M
		<b>Total = 40 M</b>

**General Instructions (Practical):**

- A. All the students have to remain present at the examination centre 15 minutes before the scheduled time for examination.
  - B. Students have to carry with them certified journal, I-card or examination receipt, and other necessary requirements for examination.
  - C. Candidate should not leave the practical hall without the permission of examiner.
  - D. Use of calculator is allowed but the use of mobile phones is strictly prohibited.
  - E. The candidate has to leave the laboratory only after the submission of all the answer sheets of the exercises performed.
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**Internal Examination Pattern (Elective Subject)  
UG (Second & Third Year) (Theory) : 20 marks**

<b>Question type</b>	<b>No. of questions</b>	<b>Questions to be answered</b>	<b>Question X marks</b>	<b>Total marks</b>
Long essays	2	1	1x10	10 marks
Short answers	3	2	2x5	10 marks
<b>Total</b>				<b>Total= 20 marks</b>

**Note –20 marks to be converted to 10 marks weightage for submission to the university.**

**Theory Question Paper Pattern For Elective courses under University exam for  
B.Sc. Second and Third year (semester III to V) (AY 2020-21 onwards)  
(Resolution No. 4.7 of Academic Council (AC-40/2021- Point no ii)**

<b>Question type</b>	<b>No. of questions</b>	<b>Questions to be answered</b>	<b>Question X marks</b>	<b>Total marks</b>
Structured LAQ	3	2	2x10	20 marks
Short notes	5	4	4 x5	20 marks
<b>Total</b>				<b>40 Marks</b>

## Annexure 1.5- Model Checklist for Evaluation of the Clinical Directed Posting (UG)

Name of the student: \_\_\_\_\_ Date: \_\_\_\_\_

Program: \_\_\_\_\_

Semester: \_\_\_\_\_ Name of the Internal faculty/Observer: \_\_\_\_\_

Name of the External Faculty/Observer: \_\_\_\_\_

Core Competencies	Marks allotted	Marks obtained
	Students will begin to develop critical thinking abilities utilizing the allied health personnel roles of communicator and caregiver. Students will learn principles of professional allied health personnel practice and provide direct care to individuals within a medical surgical setting while recognizing the diverse uniqueness of individuals with health alterations.	
<b>Clinical Teaching</b>		
a. Demonstrate beginning competency in technical skills.	10	
<b>Independent Work by Student guided by faculty</b>		
a. Develop effective communication skills (verbally and through charting) with patients, team members, and family	2.5	
b. Identify intra and inter-professional team member roles and scopes of practice. Establish appropriate relationships with team members.	2.5	
<b>Hands on practical work by students</b>		
a. Protect confidentiality of electronic/manual health records data, information, and knowledge of technology in an ethical manner	05	
<b>Independent work by student</b>		
a. Demonstrate expected behaviors and complete tasks in a timely manner. Arrive to clinical experiences at assigned times. Maintain professional behavior and appearance.	05	
<b>Log book</b>	10	
<b>Viva</b>	10	
<b>Attendance</b>	05	
<b>Total</b>	<b>50 Marks</b>	

Sign of Internal Examiner: \_\_\_\_\_

Sign of External Examiner: \_\_\_\_\_

### Model Checklist for Evaluation of the Seminar Presentations B.Sc. MDT (Semester IV) (Resolution No. 3.5 of AC-41/2021, Annexure-7 of AC-41-2021)

Name of the student: \_\_\_\_\_ Date: \_\_\_\_\_

Topic: \_\_\_\_\_

Name of the Faculty/ Observer: \_\_\_\_\_

Items for observation during presentation	Marks allotted	Marks Obtained
Extent of understanding of scope & objectives of the topic by the candidate	10 Marks	
Whether cross- references have been consulted	5 Marks	
Quality of slides	10 Marks	
Clarity of presentation	5 Marks	
Public speaking abilities	10 Marks	
Ability to answer questions asked on the topic	10 Marks	
<b>Total</b>	<b>50 Marks</b>	

Note: Assessment of seminar: the seminar shall be assessed on the basis of the content of the topic chosen and its presentation.

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