

**PHYSIOLOGY STUDY GUIDE**

**FIRST YEAR BDS**

**2021-2022**

**SCOPE OF PHYSIOLOGY DEPARTMENT**

Physiology is the study of normal function of human body. It forms the essential baseline knowledge for accurate perception of Pathology, Pharmacology and Medicine in the upcoming years of medical education.

The Department of Physiology, Lahore Medical and Dental College is state of art in providing Physiology education in accordance with the guidelines of PM&DC; also incorporating latest teaching learning methodologies introduced by Department of Medical Education. The faculty to student ratio and laboratory equipment is according to the PM&DC latest criteria.

**INTRODUCTION**

Medical education is a life-long process and BDS curriculum is a part of the continuum of education from pre-medical education, BDS, proceeding to house job, and post-graduation. PM&DC outlines the guiding principles for undergraduate medical curriculum and has defined the generic competencies and desired outcomes for a medical graduate to provide optimal health care, leading to better health outcomes for patients and societies. These generic competencies set the standards of care for all physicians and form a part of the identity of a doctor. Each competency describes a core ability of a competent dental physician & surgeon. This study guide will give an insight to the students about all these competencies and how to plan their educational activities in the subject of Physiology.

**TARGET AUDIENCE**

1st year BDS students

**DURATION OF COURSE**

One year (1st year BDS students)

**LEARNING OBJECTIVES *(knowledge, skills, attitude)***

1. To equip the students with specific knowledge, essential skills and appropriate attitude towards the human body
2. To be able to understand the functions of each organ system of the body and integrate the functioning with the knowledge of anatomy and biochemistry.
3. To comprehend how basic physiological systems interact to overcome the stressful and challenging conditions and why they fail
4. To think critically, apply the physiological relevance with the clinical situations and explain the pathophysiology of common diseased conditions
5. to become problem solvers, dealing effectively with familiar and unfamiliar problems
6. to become lifelong learners
7. to direct their own learning and evaluate this activity
8. to be able to reason critically and make justifiable decisions regarding patient management
9. to practice evidence-based medicine
10. to always ensure patient safety
11. to adopt a multidisciplinary approach for health promoting interventions
12. to be able to demonstrate professional values of self and professional accountability, honesty, probity, and ethics

**TEACHING METHODOLOGIES FOR PHYSIOLOGY**

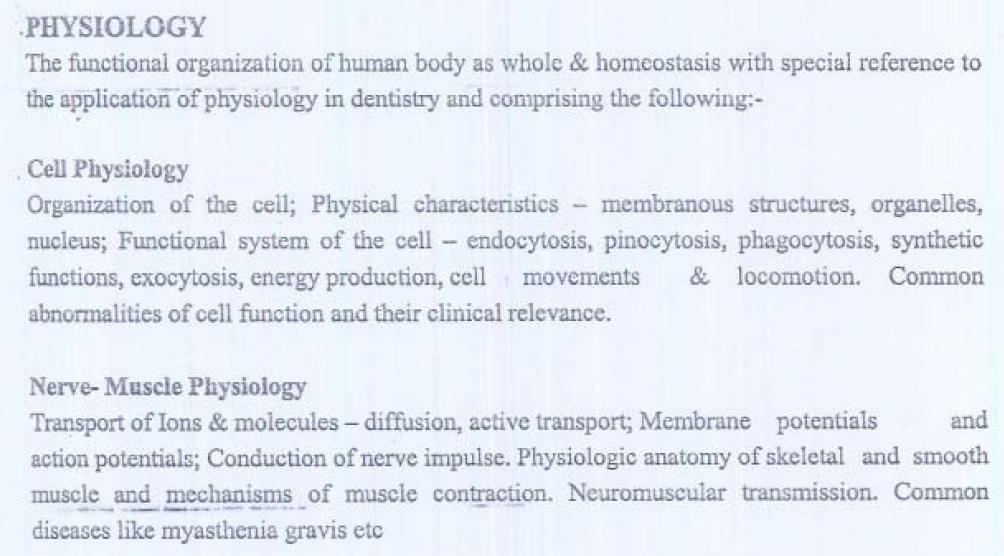
1. **Interactive Lectures**: for active involvement of students some engagement trigger like Brainstorming, Think, pair, and share, Buzz session, Incident process, Q&A sessions are introduced.
2. **Tutorials**: set of instructions to complete a task , to an interactive problem solving session
3. **Small group discussions**: active involvement by everyone especially shy and less articulate are encourage to contribute Students learn from each other and everyone gets more practice at expressing their ideas
4. **Essential skills to be learned in skill lab**: provide a safe and protected environment in which the learner can practice clinical skills before using them in real clinical settings, such as performance of CPR.
5. **Power point presentations** by students: delivering positive learning experiences. And excellent communication (written, oral, and listening) skills.
6. **Practical performance** to enhance theoretical concepts
7. **Self-directed learning** is the most vital part to solve problematic cases, go through different learning resources and discuss with peers and the faculty to clarify difficult concepts

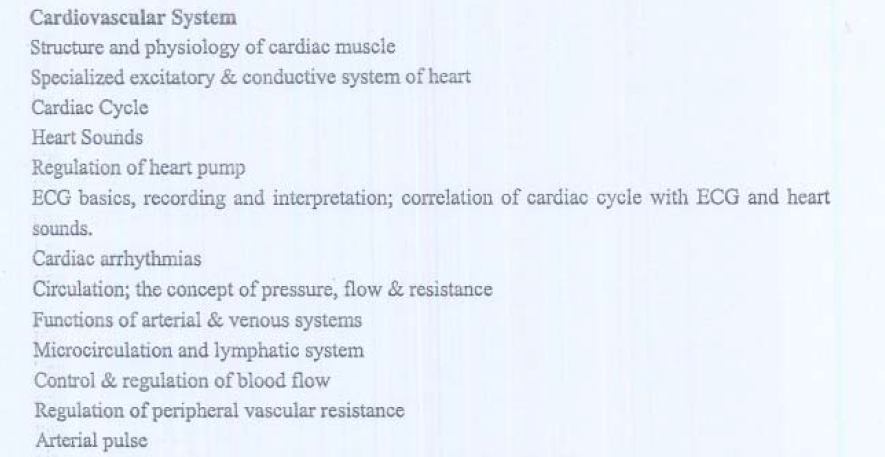
**ATTENDANCE REQUIREMENT FOR PHYSIOLOGY**

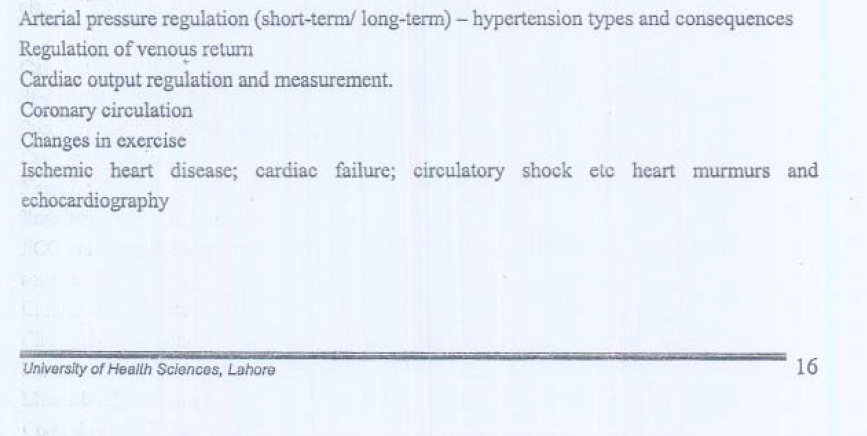
1. Students are expected to attend all scheduled teaching sessions and examinations
2. Attendance in lectures, tutorials, and wards is mandatory. Absence from these sessions will make the students ineligible to sit the final summative assessment.
3. A minimum of 75 % attendance in the lectures, wards is mandatory to appear in the summative UHS examination
4. Attendance will be recorded through a log-in/log-out biometrics system
5. Absence due to illness must be certified appropriately by the General Physician

**PHYSIOLOGY SYLLABUS**

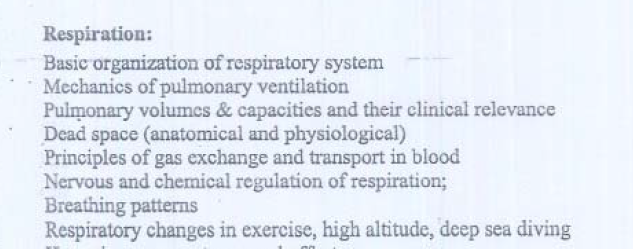


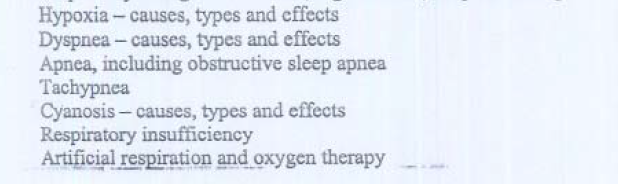


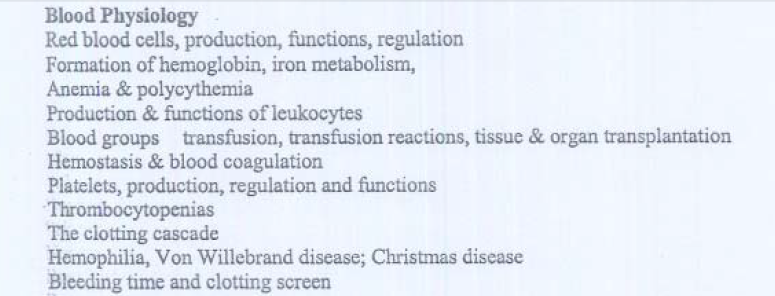


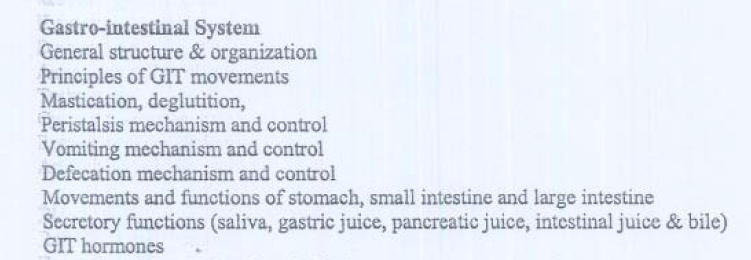




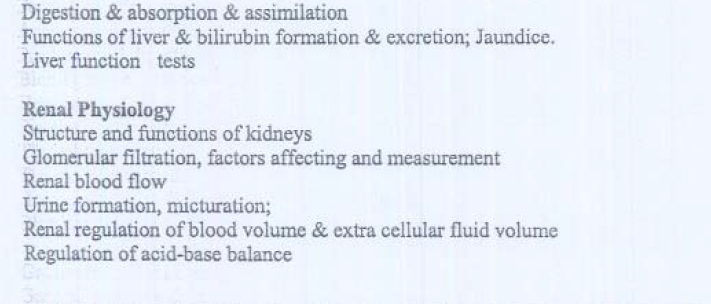


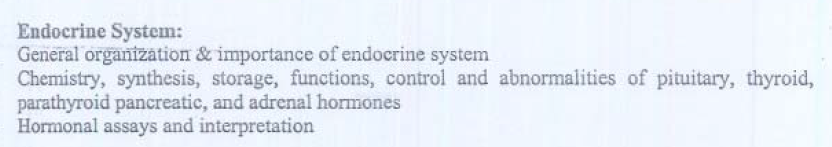


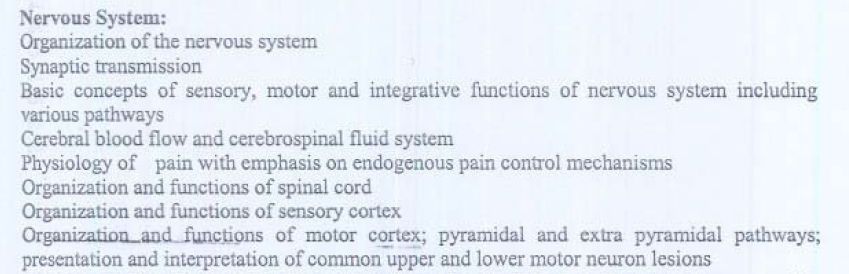


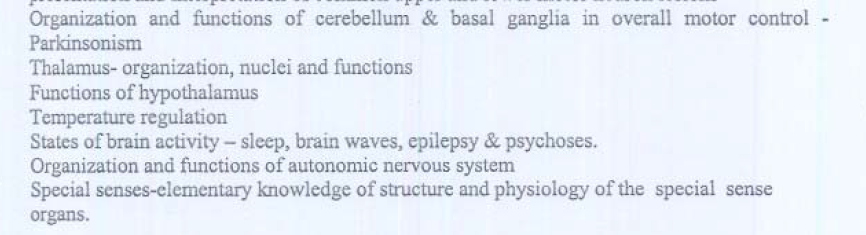




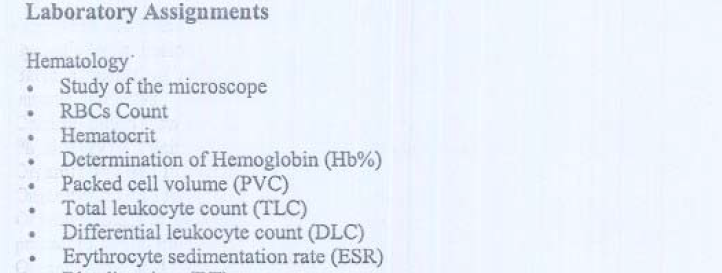


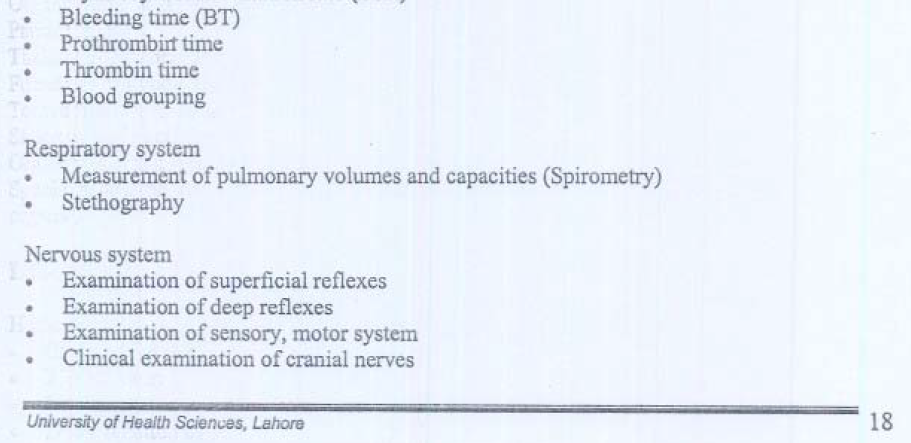


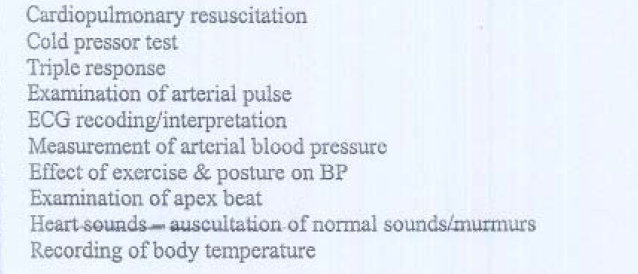














**ALIGNMENT OF EDUCATION WITH STUDY HOURS**

**(1st year BDS)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Sr #** | **Topic** | **Tutor** | **Lectures** | **Study hours** |
| 1 | Respiration | Prof. Anser Asrar | 15 | 14 hours |
| 2. | Endocrinology | Prof. Anser Asrar | 24 | 24 hours |
| 3. | Blood | Prof. Ayesha Siddique | 9 | 9 hours |
| 4. | Heart | Prof. Uzma Zargham | 16 | 16 hours |
| 5. | Renal Physiology | Prof. Uzma Zargham | 20 | 16 hours |
| 6. | Motor system | Prof. Uzma Zargham | 16 | 12 hours |
| 7. | Cell | Prof. Zaima Ali | 8 | 8 hours |
| 8. | Circulation | Prof. Zaima Ali | 22 | 16 hours |
| 9. | Motor system | Prof. Zaima Ali | 14 | 16 hours |
| 10. | Sensory system | Dr. Attiqa Khalid | 14 | 13 hours |
| 11. | Special senses | Dr. Attiqa Khalid | 10 | 12 hours |
| 12. | Environmental physiology | Dr. Attiqa Khalid | 8 | 8 hours |
| 13. | Nerve & Muscle | Dr. Sadia Nazir | 25 | 25 hours |
| 14. | GIT | Dr. Sadia Nazir | 8 | 8 hours |
| 15. | Special senses | Dr. Sadia Nazir | 1 | 1 hours |
|  | Theory/experimental hours  1hour(2/week)  1.25 hour/week  0.75 hour (3/week)=5.5 | | 210 | 198 hours |
|  | Practical hours (1.5 hour/week) | | 36 | 54 hours |

**1st YEAR BDS ACADEMIC PLANNER (2021-2022)**

**SUBJECT OF PHYSIOLOGY**

|  |  |
| --- | --- |
| **Subject** | **Physiology** |
| **Session** | **2021-2022** |
| **Total Hours (minimum)** | **250 hours** |
| **Total no. of sessions in 36 weeks** | **7 per week X 36= 252 hours** |
| **Duration of each session per week** | **45 minutes = 3**  **60 minutes = 2**  **75 minute = 1**  **90 minute = 1** |
| **Course of Action** | **February 2022 to November 2022** |

**Faculty (Department of Physiology)**

1. Prof. Ansar Asrar (Professor and Head of Dept.)
2. Prof. Ayesha Siddique
3. Prof. Uzma Zargham
4. Prof. Zaima Ali
5. Dr. Attiqa Khalid (Associate Professor)
6. Dr. Sadia Nazir (Associate Professor)

**WEEK TOPIC**

**WEEK 01** **UNIT I - Introduction to**

**Physiology: The Cell and General**

**Physiology.**

**UNIT VI - Blood Cells, Immunity,**

**and Blood Coagulation**

**WEEK 02 UNIT I - Introduction to**

**Physiology: The Cell and General**

**Physiology.**

**UNIT VI - Blood Cells, Immunity**

**and Blood Coagulation**

**WEEK 03 UNIT I - Introduction to Physiology: The Cell and General**

**Physiology.**

**UNIT VI - Blood Cells, Immunity,**

**and Blood Coagulation**

**WEEK 04 UNIT I - Introduction to**

**Physiology: The Cell and General**

**Physiology.**

**UNIT VI - Blood Cells, Immunity,**

**and Blood Coagulation**

**WEEK 05 UNIT V - The Body Fluids and Kidneys**

**UNIT II - Membrane Physiology,**

**Nerve, and Muscle**

**WEEK 06 UNIT V - The Body Fluids and Kidneys**

**UNIT II - Membrane Physiology,**

**Nerve, and Muscle**

**WEEK 07 UNIT V - The Body Fluids and Kidneys**

**UNIT II - Membrane Physiology,**

**Nerve, and Muscle**

**WEEK 08 UNIT V - The Body Fluids and Kidneys**

**UNIT XI - The Nervous System: C. Motor and Integrative Neurophysiology**

**WEEK 09 UNIT V - The Body Fluids and Kidneys**

**UNIT XI - The Nervous System: C. Motor and Integrative Neurophysiology**

**WEEK 10 UNIT IX - The Nervous System: A. General Principles and Sensory Physiology**

**UNIT XII - Gastrointestinal Physiology**

**WEEK 11 UNIT IX - The Nervous System: A. General Principles and Sensory Physiology**

**UNIT XII - Gastrointestinal Physiology**

**WEEK 12 UNIT IX - The Nervous System: A. General Principles and Sensory Physiology**

**UNIT XII - Gastrointestinal Physiology**

**WEEK 13 UNIT VII – Respiration**

**UNIT III - The Heart**

**WEEK 14 UNIT VII – Respiration**

**UNIT III - The Heart**

**WEEK 15 UNIT VII – Respiration**

**UNIT III - The Heart**

**WEEK 16 UNIT VII – Respiration**

**UNIT III - The Heart**

**WEEK 17 UNIT VII – Respiration**

**UNIT III - The Heart**

**WEEK 18 UNIT XIV – Endocrinology**

**UNIT X - The Nervous System: B. The Special Senses**

**WEEK 19 UNIT XIV – Endocrinology**

**UNIT X - The Nervous System: B. The Special Senses**

**WEEK 20 UNIT XIV – Endocrinology**

**UNIT X - The Nervous System: B. The Special Senses**

**WEEK 21 UNIT XIV – Endocrinology and Reproduction**

**UNIT X - The Nervous System: B. The Special Senses**

**WEEK 22 UNIT XIV – Endocrinology and Reproduction**

**UNIT X - The Nervous System: B. The Special Senses**

**WEEK 23 UNIT XIV – Endocrinology and Reproduction**

**UNIT X - The Nervous System: B. The Special Senses**

**WEEK 24 UNIT VII – summer vacation**

**WEEK 25 UNIT IV - summer vacation**

**WEEK 26 UNIT IV - summer vacation**

**WEEK 27 UNIT IV - summer vacation**

**WEEK 28 UNIT IV - The Circulation**

**UNIT VIII - Aviation, Space, and**

**Deep-Sea Diving Physiology**

**WEEK 29 UNIT IV - The Circulation**

**UNIT VIII - Aviation, Space, and**

**Deep-Sea Diving Physiology**

**WEEK 30 UNIT IV - The Circulation**

**-Introduction to skin**

**WEEK 31 UNIT IV - The Circulation**

**-Function of skin**

**WEEK 32 UNIT IV - The Circulation**

**UNIT XIII - Metabolism and Temperature**

**Regulation**

**WEEK 33 UNIT IV - The Circulation**

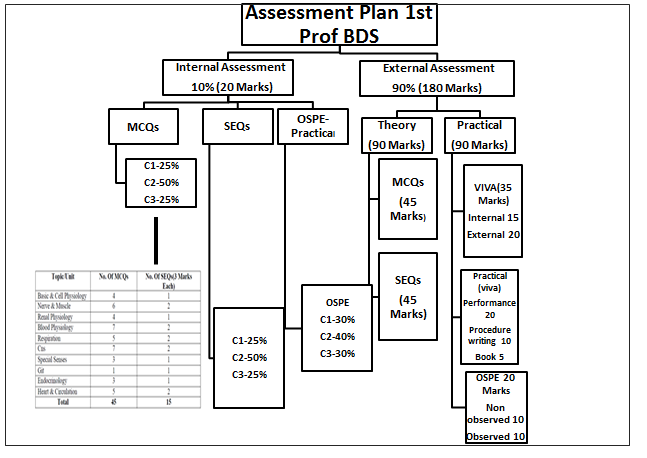
**UNIT XIII - Metabolism and Temperature**

**Regulation**

**WEEK 34 UNIT IV - The Circulation**

**WEEK 35-36 UNIT IV - The Circulation**

**-SEND UP AND PREP LEAVE.**

**ASSESSMENT METHODOLOGY**

**Formative**

Class tests

Send up

Viva—semi structured

Practical--OSPE

**Summative**

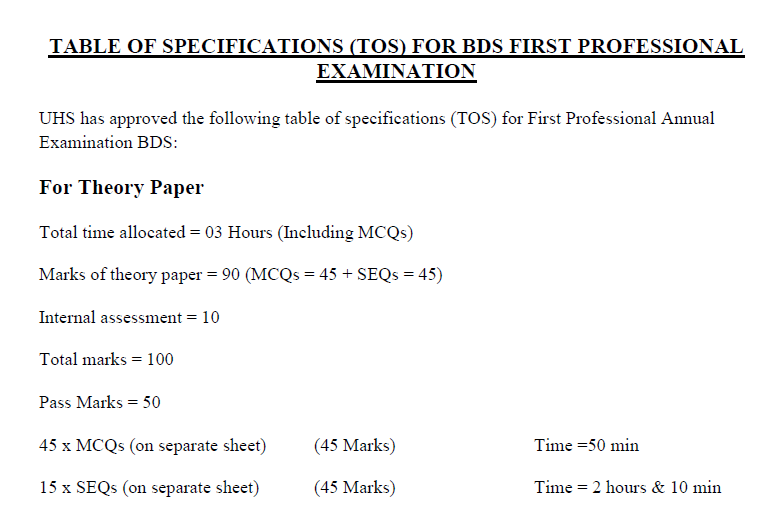
UHS professional examination

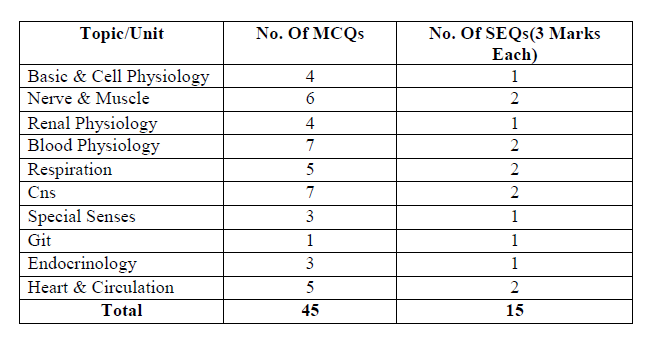
Test Format

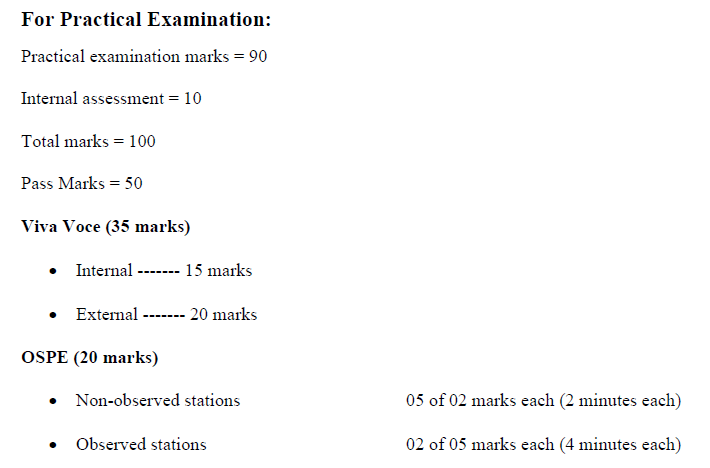
1. Theory: 1) Single best multiple choice questions. 2) Short essay question
2. Structured Viva:
3. Practical performance
4. OSPE (observed & non-observed stations)

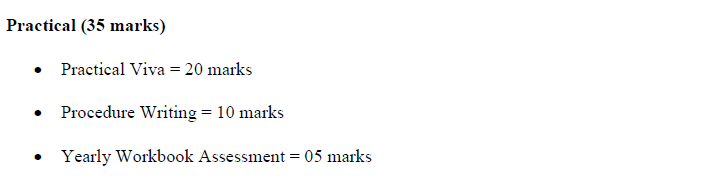
**Internal assessment policies**

10% based upon the Departmental test and 90% UHS Professional Examination









**TEST SCHEDULE 1st YEAR BDS (2021-2022)**

|  |  |
| --- | --- |
| Test 1 | 10-03-2022 |
| Test 2 | 11-04-2022 |
| **Test 3(Term test 1)** | 9-05-2022 |
| Test 4 | 10-06-2022 |
| Test 5 | 22-07-2022 |
| **Test 6 (Term test 2)** | 15-08-2022 |
| Test 7 | 09-09-2022 |
| Test 8 | 23-09-2022 |
| **Test 9(term Test 3)** | 7-10-2022 |
| Test 10 | 31-10-2022 |
| **Send up** | 30-11-2022 |

**LEARNING RESOURCES**

**1. Departmental library**

**2. IT library**

**3. Recommended books**

**4. Reference books**

**RECOMMENDED BOOKS**

**1. Textbook of Physiology by Guyton and Hall, Latest Ed.**

**2. Review of Medical Physiology by William F. Ganong, Latest Ed.**

**3. Physiology by Berne and Levy, Latest Ed.**

**4. Human Physiology: The Basis of Medicine by Gillian Pocock, Christopher D. Richards, Latest Ed.**

**5. Physiological Basis of Medical Practice by John B. West and Taylor, 12th**

**REFERENCE BOOKS**

**Board Review Series by Linda S Costanzo**

**Human Physiology from Cells to System by Lauralee Sherwood**

**Essentials of Medical Physiology by Mushtaq Ahmed**