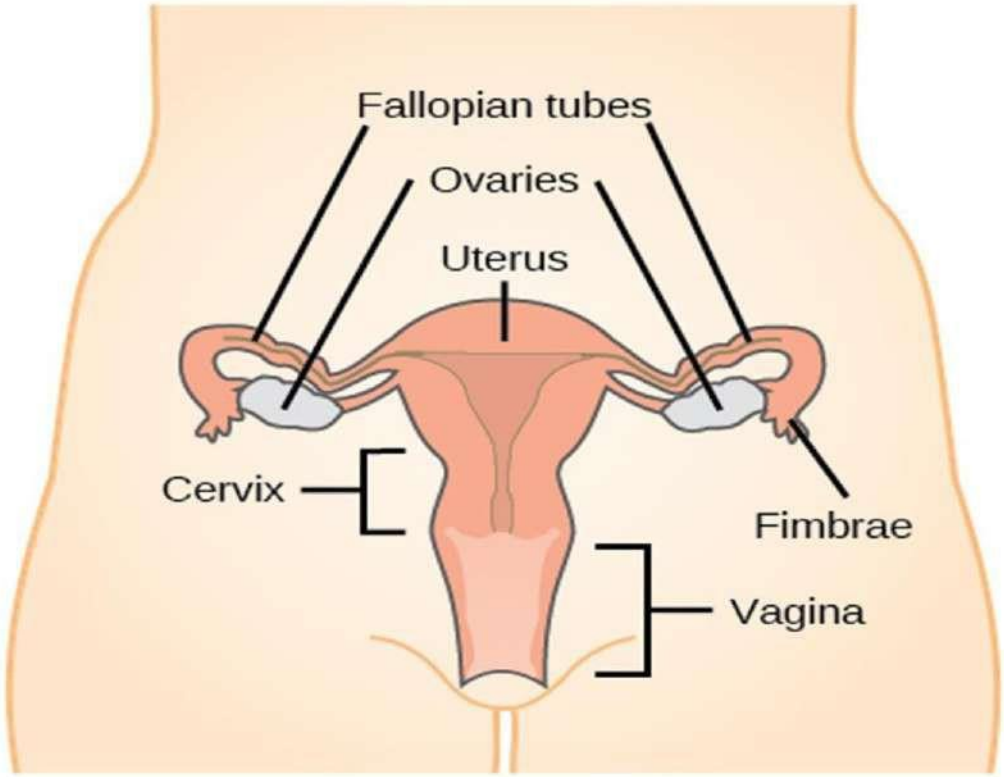

REPRODUCTION 2ND YEAR STUDY GUIDE

This Study guide of the module/course outlines the key components and areas for the facilitation of the students.

Department of Medical Education

Contents

Vision and Mission of KGMC

Khyber Medical University: Vision

Khyber Medical University will be the global leader in health sciences academics and research for efficient and compassionate health care.

Khyber Girls Medical College: Vision

"Excellence in health care, research ,teaching and training in the service of Humanity"

Khyber Girls Medical College: Mission

The mission of KGMC is to promote compassionate and professional health care leaders Who are knowledgeable, skillful, and community oriented lifelong learners serving humanity through evidence based practices

Curriculum Committee KGMC

Chair:

Professor Dr.Zahid Aman , Dean KGMC.

Co-Chair:

Dr. Sabina Aziz, Associate Dean KGMC.

Clinical Sciences:

Dr. Mohammad Noor Wazir ,Department of Medicine KGMC/HMC

Dr. Bushra Rauf Department of Gynae KGMC/HMC.

Dr. Sofia Iqbal, Department of Ophthalmology KGMC/HMC.

Dr. Said Amin Department of Medicine KGMC/HMC.

Dr. Ghareeb Nawaz Department of ENT KGMC/HMC.

Dr. Jamshed Alam Department of Surgery KGMC/HMC.

Dr. Ambreen Ahmad, Department of Pediatrics KGMC/HMC.

Dr. Ain-ul-Hadi Department of Surgery KGMC/HMC.

Dr. Fawad Rahim Department of Medicine KGMC/HMC.

Behavioral Sciences:

Dr. Ameer Abbas Department of Psychiatry KGMC/HMC.

Medical Education

Dr. Naheed Mahsood, Department of Medical Education, KGMC.

Dr. Naveed Afzal Khan, Department of Medical Education, KGMC.

Dr. Khurram Naushad , Department of Medical Education, KGMC

Basic Sciences:

Dr. Amin-ul-Haq Department of Biochemistry, KGMC.

Dr. Khalid Javed Department of Pathology, KGMC.

Dr. Raheela Amin Department of Community Medicine, KGMC.

Dr. Zubia Shah Department of Physiology, KGMC.

Dr. Naheed Siddique Department of Forensic Medicine, KGMC.

Dr. Shams Suleman Department of Pharmacology, KGMC.

Dr. Shahab-ud-Din, Department of Anatomy, KGMC.

Module Committee for Reproduction

1. Dr. Najma Attaullah Lecturer Department of **Anatomy……. Module Coordinator**
2. Dr. Naheed Mehsood Assistant Professor **DME** .....**Module Secretory**:
3. Dr. Khurram Naushad Co ordinator **DME……Module Secretary**
4. Dr. Naveed Afzal Khan Coordinator **DME** .....**Module Secretory**
5. Dr. Samia Tabbasum Professor **Gynae**……**Member**
6. Dr. Shabnam Gul Senior Lecturer **Admin**……**Member**:
7. Dr. Bushra Rauf Professor Department of **Gynae**……Member
8. Dr. Said Amin Associate Professor Department of **Medicine**……**Member**
9. Dr. Alia Qazi Associate Professor Department of **Community Medicine**……..**Member**
10. Dr. Nabila Sher Associate Professor Department of **Biochemistry**… **Member**
11. Dr. Ayesha Jamil Associate Professor Department of **Pharmacology**…..**Member**
12. Dr. Siddique Ahmad Associate Professor **Surgery**……**Member**
13. Dr. Muhammad Iftikhar Assistant Professor **Surgery**……**Member**
14. Dr. Munir Hussain Assistant Professor Department of **Pathology**…… **Member**
15. Dr. Naheed Siddique Assistant Professor Department of **Forensic Medicine….Member**
16. Dr. Ameer Abbas Assistant Professor Department of **Behavioral Sciences**…**Member**
17. Dr. Muhammad Alam Assistant Professor Department of **Surgical B** ….**Member**
18. Dr. Noreen Shah Senior Lecturer Department of **Community Medicine**……..**Member**
19. Dr. Salma Nawab Senior lecturer Department of **Biochemistry**……**Member**
20. Dr. Fahad Falah Lecturer Department of **Pharmacology**……**Member**
21. Dr. Sarah Shahid Lecturer Department of **Physiology**…….. **Member**
22. Dr. Shella Siraj Lecturer Department of **Physiology**…….. **Member**

Integrated curriculum:

An integrated curriculum is all about making connections, whether to real life or across the disciplines, about skills or about knowledge. An integrated curriculum fuses subject areas, experiences, and real-life knowledge together to make a more fulfilling and tangible learning environment for students. Integrated teaching means that subjects are presented as a meaningful whole. Students will be able to have better understanding of basic sciences when they repeatedly learn in relation to clinical examples. Case based discussions, computer-based assignments, early exposure to clinics, wards, and skills acquisition in skills lab are characteristics of integrated teaching program.

Outcomes of the curriculum:

The Curricular Outcomes of the MBBS Program for a Graduating Doctor according to the PMDC are as follows:

1. **Knowledgeable**

   Knowledgeable about the diseases and health conditions prevalent in the population of Pakistan and use Evidence-based medicine to provide best possible cost-effective care.

2. **Skillful**

   Skillful in History taking and Physical examination to compassionately deal with a patient.

3. **Community health promoter**

   Take appropriate decisions and actions for protecting and promoting the health of their community.

4. **Critical Thinker**

   Evaluate critically the patient data to effectively deal with complexity of medical decisions for the best possible outcomes using evidence-based practices in service of humanity.

5. Professional

Display professional values (honesty, accountability, cultural and religious sensitivity), attitudes and behaviors (empathy, ethics, good communication skills and lifelong learner) that embody good medical practice.

6. Researcher

Exhibit a spirit of inquisitiveness, inventiveness, and ethical conduct while carrying out research in accordance with the prescribed guidelines.

7. Leader and role Model

Demonstrate exemplary conduct and leadership in Advancing healthcare, enhancing medical education, and Enhancing the trust of the public in the medical profession by being exceptional role models.

KNOWLEDGE

By the end of five year MBBS program the KGMC student should be able to;

1. Acquire a high level of clinical proficiency in history taking, physical examination, differential diagnosis, and the effective use of medicine's evolving diagnostic and procedural capabilities including therapeutic and palliative modalities
2. Manage the common prevalent diseases in community
3. Identify the common medical emergencies
4. Develop plan for prevention of common community diseases
5. Formulate a referral plan
6. Compose a prescription plan

PSYCHOMOTOR

By the end of five year MBBS program the KGMC student should be able to;

1. Demonstrate the ability to perform the disease specific relevant examination
2. Respond to common medical emergencies
3. Master the skill of first aid
4. Perform BLS
5. Apply the best evidenced practices for local health problems

AFFECTIVE

By the end of five year MBBS program the KGMC student should be able to

1. Relate to patient and careers vulnerability
2. Demonstrate ethical self-management
3. Counsel and educate patients and their families to empower them to participate in their care and enable shared decision-making.
4. Display compassion with patient and colleagues
5. Demonstrate in clinical care an understanding of the impact of psychological, social, and economic factors on human health and disease.

Introduction to Reproduction system:

The female reproductive system is designed to carry out several functions. It produces the female egg cells necessary for reproduction, called the ova or oocytes. The system is designed to transport the ova to the site of fertilization. Conception, the fertilization of an egg by a sperm, normally occurs in the fallopian tubes. The next step for the fertilized egg is to implant into the walls of the uterus, beginning the initial stages of pregnancy. If fertilization and/or implantation does not take place, the system is designed to menstruate (the monthly shedding of the uterine lining). In addition, the female reproductive system produces female sex hormones that maintan the reproductive cycle.

The purpose of the organs of the male reproductive system is to perform the following functions:

To produce, maintain, and transport sperm (the male reproductive cells) and protective fluid (semen)

To discharge sperm within the female reproductive tract during sex

To produce and secrete male sex hormones responsible for maintaining the male reproductive system

General Learning Outcomes of Course

Knowledge

Perform pregnancy test

Describe the microscopic structure of ovaries under microscope

Describe the microscopic structure of fallopian tubes under microscope

Describe the microscopic structure of uterus under microscope

Describe the microscopic structure of mammary glands under microscope

Describe the microscopic structure of Testes and Epididymis under microscope

Skills

Perform pregnancy test

Describe the microscopic structure of ovaries under microscope

Describe the microscopic structure of fallopian tubes under microscope

Describe the microscopic structure of uterus under microscope

Describe the microscopic structure of mammary glands under microscope

Describe the microscopic structure of Testes and Epididymis under microscope

Attitude

1. Demonstrate compassion and care for patients while performing any examination
2. Demonstrate the team work while working in the hospital environment.
3. Show good communication skills while performing tasks.

List of Theme 3-Weeks

S. No	Themes	Weeks
1	Pregnancy and child birth	02
2	Infertility	01

Subject	Topic	Learning objective **At the end of this module, the students of year-**	Teaching strategy	Assessment
Anatomy	Bony pelvis Uterus	Describe the general features of bony pelvis	Dissection/Demo	Mcq/Seq
		Differentiate between male and female pel-	Dissection/Demo	Mcq/Seq
		Classify the differences between true and false pelvis	Dissection/Demo	Mcq/Seq
		Describe the gross structure, location and relations of uterus	Dissection/Demo	Mcq/Seq
		Describe the blood supply of uterus	Dissection/Demo	Mcq/Seq
		describe the boundaries of pouch of Douglas/recto-uterine pouch and its clinical significance	Dissection/Demo	Mcq/Seq
		Describe the gross structure, location and relations of Fallopian tubes	Dissection/Demo	Mcq/Seq
		Describe the blood supply of Fallopian tubes	Dissection/Demo	Mcq/Seq
		Enlist various support mechanisms of uterus	Dissection/Demo	Mcq/Seq
		Describe the formation and components of broad ligament	Dissection/Demo	Mcq/Seq
		Discuss the clinical correlates of uterus and fallopian tubes	Dissection/Demo	Mcq/Seq
	Ovary	Describe the gross structure, location and relations of ovaries.	Dissection/Demo	Mcq/Seq
		Describe the blood supply of ovaries	Dissection/Demo	Mcq/Seq
		Name ligaments supporting the ovaries	Dissection/Demo	Mcq/Seq
	Pelvic floor	Describe the general features of sacrum	Dissection/Demo	Mcq/Seq
		Describe the special features of sacrum	Dissection/Demo	Mcq/Seq
		Name the muscles making the pelvic floor	Dissection/Demo	Mcq/Seq

		Describe their origin, insertion, nerve supply and actions of muscles of pelvic floor	Dissection/Demo	Mcq/Seq
		Describe the boundaries and contents of superficial perineal pouch	Dissection/Demo	Mcq/Seq
		Describe deep perineal pouch	Dissection/Demo	Mcq/Seq
		List the boundaries and contents of ischio-rectal (anal) fossa	Dissection/Demo	Mcq/Seq
		Give the clinical significance of ischi-orectal fossa	Dissection/Demo	Mcq/Seq
Embryology	Uterus	Describe the development of uterus	LGF	Mcq/Seq
		Enlist the various developmental Anomalies of uterus	LGF	Mcq/Seq
		Describe the remnants of mesonephric and Parmesonephric ducts in female	LGF	Mcq/Seq
	Ovaries	Describe the development of ovaries	LGF	Mcq/Seq
	Mammary gland	Describe the development of mammary gland	LGF	Mcq/Seq
		Enlist various developmental anomalies of mammary gland along with embryological reasons	LGF	Mcq/Seq
Histology	Uterus	Describe the microscopic structure of uterus	LGF	Mcq/Seq
		Discuss the microscopic features of endome-trium in different phases of menstrual cycle	LGF	Mcq/Seq
	Ovary	Describe the microscopic structure of ovary	LGF	Mcq/Seq
		Elaborate the different stages of ovarian		
	Mamma-ry gland	Describe the microscopic features of inactive mammary gland	LGF	Mcq/Seq
		Describe the microscopic features of mammary	LGF	Mcq/Seq
Physiology	Overview of Reproduc-tive System	Describe the spermatogenesis	LGF	Mcq/Seq
		Explain the function of prostate gland	LGF	Mcq/Seq

		Describe the composition of semen	LGF	Mcq/Seq
	Functions of Testosterone	Relate the functions of testosterone with its secretion and metabolism	LGF	Mcq/Seq
		Describe the intracellular mechanism of action of testosterone	LGF	Mcq/Seq
		Relate the control of secretion of testosterone with its congenital and acquired abnormalities	LGF	Mcq/Seq
	Hormonal cyclical changes of Female re-productive system	Describe the monthly ovarian cycle	LGF	Mcq/Seq
		Describe the effects of gonadotropic hormones on the ovaries.	LGF	Mcq/Seq
		Describe the functions of estrogens	LGF	Mcq/Seq
		Describe the functions of progesterone	LGF	Mcq/Seq
		Explain monthly endometrial cycle	LGF	Mcq/Seq
		Describe the role of hypothalamic and Pituitary ovarian system in controlling the female hor-mones	LGF	Mcq/Seq
		Define puberty, menarche and menopause.	LGF	Mcq/Seq
		Enumerate the changes produced in puberty	LGF	Mcq/Seq

	Physiological changes in Pregnancy	Describe the transport of fertilization ovum in the fallopian in the uterus.	LGF	Mcq/Seq
		Explain the effects of HCG in causing persistence in pregnancy	LGF	Mcq/Seq
		Describe the secretion of estrogen and progesterone by placenta	LGF	Mcq/Seq
		Describe the functions of HCS	LGF	Mcq/Seq
		Describe the maternal changes in pregnancy	LGF	Mcq/Seq
		Describe the changes in maternal circulatory system during pregnancy.	LGF	Mcq/Seq
		Describe the development of breast during pregnancy	LGF	Mcq/Seq
	Parturition	Explain the process of parturition and involution of the uterus after parturition	LGF	Mcq/Seq
	Milk pro-duction	Explain the functions of prolactin	LGF	Mcq/Seq
		Describe the ejection or “let down” of milk.	LGF	Mcq/Seq
		Explain the composition of milk	LGF	Mcq/Seq
	Problems of prematurity	Describe Growth and Functional Development of the Fetus	LGF	Mcq/Seq
		Describe adjustments of the newborn to Extra Uterine Life	LGF	Mcq/Seq
		Discuss Special Functional Problems in the Neonates	LGF	Mcq/Seq
		Discuss Special Problems of Prematurity	LGF	Mcq/Seq

Forensic medicine	Abortion	Define abortion	LGF	Mcq/Seq
		Describe the type of abortion	LGF	Mcq/Seq
		Discuss criminal abortion and its complications	LGF	Mcq/Seq
		Explain the findings of abortion in victims	LGF	Mcq/Seq
		Describe the indications of therapeutic abortion	LGF	Mcq/Seq
	Diagnosis and medicolegal aspects of pregnancy	Describe the steps of diagnosis of pregnancy	LGF	Mcq/Seq
		Explain the medicolegal aspects of pregnancy	LGF	Mcq/Seq
Community medicine	Safe moth-erhood and its compo-nents	Describe the steps of antenatal and postnatal care, family planning and emergency obstetric care	LGF	Mcq/Seq
	Maternal mortality	Describe the causes, impact and prevention of maternal mortality in Pakistan	LGF	Mcq/Seq
	Breast feeding	Explain the importance of breast feeding	LGF	Mcq/Seq
General Surgery	Carcinoma of breast	Describe the etiology, pathological types and clinical presentation of carcinoma of breast	LGF	Mcq/Seq

Theme-2: Infertility

Anatomy	Scrotum, Testes and male genitalia	Describe the anatomy of scrotum	Dissection/demo	Mcq/Seq
		Discuss the gross anatomy of testes	Dissection/demo	Mcq/Seq
		Describe the coverings and contents of spermatic cord	Dissection/demo	Mcq/Seq
		Describe epididymis, ductus deferens and seminal vesicles	Dissection/demo	Mcq/Seq
		Describe the clinical correlates of male genital system	Dissection/demo	Mcq/Seq
	Female external genitalia and vaginal canal	Give the gross Anatomy of female external genitalia and vagina	Dissection/demo	Mcq/Seq
Embryology	Genitalia	Describe the development of external genitalia in males	LGF	Mcq/Seq
		Describe the development of external genitalia in females	LGF	Mcq/Seq
		Discuss the developmental anomalies of male and female genitalia	LGF	Mcq/Seq
	Gonads and genital	Describe the development of testis	LGF	Mcq/Seq
		Name the factors responsible for decent of testis	LGF	Mcq/Seq
		Discuss the decent of testis	LGF	Mcq/Seq
		Describe the developmental anomalies of testes	LGF	Mcq/Seq
		Discuss the development of epididymis, vas deferens and seminal vesical	LGF	Mcq/Seq
		Describe the development of vagina	LGF	Mcq/Seq
		describe the remnants of mesonephric and parmesonephric ducts in males	LGF	Mcq/Seq
Histology	Testes	Discuss general microscopic structure of testes	LGF	Mcq/Seq
		Discuss seminiferous tubules	LGF	Mcq/Seq

		Discuss different cells of seminiferous epithelium	LGF	Mcq/Seq
		Define blood testes barrier	LGF	Mcq/Seq
	Male genital ducts	Describe the microscopic structure of epididymis, ductus deferens and seminal vesicle	LGF	Mcq/Seq
	Fallopian tube	Describe the microscopic structure of fallopian tube	LGF	Mcq/Seq
Physiology	Male sex hormones	Describe the structure, secretion, mechanism of action, physiological actions and regulation of Testosterone	LGF	Mcq/Seq
		Describe the hormonal changes occurring in puberty in males and females	LGF	Mcq/Seq
	Female sex hormones	Describe the structure, secretion, mechanism of action, physiological actions and regulation of Estrogen and Progesterone	LGF	Mcq/Seq
		Describe the mechanism of Ovulation	LGF	Mcq/Seq
Biochemistry	Sex Hormones• Estrogen Progesterone testosterone	Discuss the chemistry of these hormones	LGF	Mcq/Seq
		Describe the synthesis of these hormones	LGF	Mcq/Seq
		Discuss the enzyme deficiencies and their manifestations	LGF	Mcq/Seq
		Describe the diagnostic role of 17-ketosteroids'	LGF	Mcq/Seq
		Describe the mechanism of action of these hormones and their receptors	LGF	Mcq/Seq

		Describe the classical and non-classical target organs of these hormones	LGF	Mcq/Seq
		Describe the metabolic functions of these hormones	LGF	Mcq/Seq
		Describe the regulation of these hormones especially by FSH & LH	LGF	Mcq/Seq
		Discuss the manifestations of deficiency and excess of these hormones	LGF	Mcq/Seq
		Discuss the andropause and menopause	LGF	Mcq/Seq
		Discuss the role of LHRH Agonists and antagonists as well as anti-androgens	LGF	Mcq/Seq
		Discuss the role of 5a-Reductase Inhibitors	LGF	Mcq/Seq
Pharmacology	Oral contra-ceptives	Describe the types, mechanism of action and physiological effects of Estrogens and Pro-gesterone containing oral contraceptives	LGF	Mcq/Seq
Community medicine	Sexually transmit- ted dis	Describe the types of STDs	LGF	Mcq/Seq
		Describe the guidelines for the prevention and management of STDs	LGF	Mcq/Seq
Gynecology	Female Infertility	Describe the causes, and investigations of female infertility	LGF	Mcq/Seq
General Medicine	Male infertility	Describe the etiology and investigations of male infertility	LGF	Mcq/Seq
		Describe normal semen analysis	LGF	Mcq/Seq
		Define oligo/azoospermia	LGF	Mcq/Seq

Practical work

Physiology	Pregnancy test	120	Perform pregnancy test	Practical	Mcq/Seq
Histology	Ovaries	121	Describe the microscopic structure of ovaries under microscope	Practical	Mcq/Seq
	Fallopian tubes	122	Describe the microscopic structure of fallopian tubes under microscope	Practical	Mcq/Seq
	Uterus	123	Describe the microscopic structure of uterus under microscope	Practical	Mcq/Seq
	Mammary glands	124	Describe the microscopic structure of mammary glands under microscope	Practical	Mcq/Seq
	Testes and Epididymis	125	Describe the microscopic structure of Testes and Epididymis under microscope	Practical	Mcq/Seq

Teaching and learning strategies:

The following teaching / learning methods are used to promote better understanding:

- Interactive Lectures
- Hospital / Clinic visits
- Small Group Discussion
- Skills session
- Self-Directed Study

Interactive lectures:

An interactive lecture is an easy way for instructors to intellectually engage and involve students as active participants in a lecture-based class of any size. Interactive lectures are classes in which the instructor breaks the lecture at least once per class to have students participate in an activity that lets them work directly with the material.

The instructor might begin the interactive segment with an engagement trigger that captures and maintains student attention.

Then the instructor incorporates an activity that allows students to apply what they have learned or give them a context for up-coming lecture material.

As the instructor feels more comfortable using interactive techniques he or she might begin to call upon a blend of various interactive techniques all in one class period.

Hospital / Clinic visits:

In small groups, students observe patients with signs and symptoms in hospital or clinical settings. This helps students to relate knowledge of basic and clinical sciences of the relevant module.

Small group discussion (SGD):

The shy and less articulate are more able to contribute. Students learn from each other. Everyone gets more practice at expressing their ideas. A two way discussion is almost always more creative than individual thoughts. Social skills are practiced in a 'safe' environment e.g. tolerance, cooperation. This format helps students to clarify concepts acquire skills or attitudes. Students exchange opinions and apply knowledge gained from lectures, tutorials and self-study. The facilitator role is to ask probing questions, summarize, or rephrase to help clarify concepts.

Skills/Practical session:

Skills relevant to respective module are observed and practiced where applicable in skills laboratory or Laboratories of various departments.

Self-Directed learning (SDL):

Self-directed learning, which involves studying without direct supervision in a classroom/Library, is a valuable way to learn and is quickly growing in popularity among parents and students. Students' assume responsibilities of their own learning through individual study, sharing and discussing with peers, seeking information from Learning Resource Centre, teachers and resource persons within and outside the college. Students can utilize the time within the college scheduled hours of self-study.

Time Table:

The timetables for the module will be shared via Edmodo and the notice boards in advance.

Assessment tools:

Theoretical knowledge is tested by a written examination system constituted by multiple choice questions (MCQs). The assessment of practical knowledge involves oral, spot, or objective structured practical examinations (OSPE).

Multiple Choice Questions (MCQs):

Multiple choice questions (MCQs) are a form of assessment for which students are asked to select the best choice from a list of answers.

MCQ consists of a stem and a set of options. The stem is usually the first part of the assessment that presents the question as a problem to be solved; the question can be an incomplete statement which requires to be completed and can include a graph, a picture or any other relevant information. The options are the possible answers that the student can choose from, with the correct answer called the key and the incorrect answers called distractors.

Correct answer carries one mark, and incorrect 'zero mark'. There is NO negative marking.

Students mark their responses on specified computer-based sheet designed for the college.

The block exam will comprise of 120 MCQs and will be compiled according to the shared blueprint.

Short Essay Questions (SEQ)

Short answer questions generally ask for brief, text-based responses and may also be referred to as *fill-in-the-blank*; or *completion* questions.

Variations of the short answer question may request a list of terms or rules in which the order is not important, or may require a numerical or formula response.

Here is some general information about short answer questions:

Does not measure interpretation.
Can be used to check for preciseness such as correct spelling (good when using computer grading), proper or specific names of things, especially factual knowledge, and proper creation of formulas.
Requires specific, definite, exact information.
Can be used to discriminate whether errors can be detected in a diagram, for example.

Advantages of Short Answer Questions

Easy to write.
Reduces possibility of guessing.
Can have a lengthy stem such as a paragraph. (Caution: You generally should not expect an exact answer character-by-character.)
May be easy to score if the required answer is short.

Disadvantages of Short Answer Questions

It can take time to create items with complex formulas.

Can be turned into a measure of memorization ability.

Grading can be subjective.

Correct responses may appear incorrect due to minor errors such as misspellings, order of words, etc.

Difficult to machine score. Much work is being conducted in this area, but it is still in early stages of development.

Objective Structured Practical Examination (OSPE)

The content may assess application of knowledge, or practical skills.

Student will complete task in define time at one given station.

All the students are assessed on the same content by the same examiner in the same allocated time.

A structured examination will have observed, unobserved, interactive and rest stations.

Observed and interactive stations will be assessed by internal or external examiners.

Unobserved will be static stations in which students will have to answer the questions related to the given pictures, models or specimens the provided response sheet.

Rest station is a station where there is no task given, and in this time student can organize his/her thoughts.

The Block OSPE will be comprise of 18 examined station and 7 rest stations. The stations will be assigned according to the shred blueprint.

Internal Evaluation:

Internal evaluation is a process of quality review undertaken within an institution for its own ends. 10% marks of internal evaluation will be added to final marks. This 10% will be based on

Distribution of 12 Marks for block F paper	
Marks obtained	**Average of Percentage in Block exam and Pre-Professional exam.**

Distribution of 12 Marks for Block F OSCE/OSPE	
Marks obtained	**Average of percentage in Block OSPE Exam and Block Pre-Prof OSPE**
	Practical copies

Attendance Requirement:

More than 75% attendance is mandatory to sit for the examinations.

Learning resources for students

Anatomy

- Snell Neuroanatomy
- B.D Churasia
- Nelter Atlas
- Langman embryology
- Keithalmore embryology
- Laiq Hassain Basic Histology
- Difore Atlas Histology

Physiology

Guyton nd Hall physiology
Ganong physiology
Human Physiology from cells to system by lauralee sherwood
BRS Physiology
Neuroscience by Dale Purves

Biochemistry

Chatterjee text book of Biochemistry
Harpers Biochemistry
Lippincotts Biochemistry
Satya Narayan biochemistry

Apart from these resources learning, students can consult books available in library or recommended by the specialty experts.