

2022

Your Roll Number.....

Jamia Hamdard (Deemed to be University)**Examination: M.Sc. Course in Clinical Research, Semester: I (2023)****Paper Code and Title: MCR-CFC-101; FOUNDATION COURSE IN CLINICAL RESEARCH**

Time: 3 hours

Maximum Marks: 60

Write the roll number at the top immediately on receipt of this question paper. All parts of a question must be attempted in continuation.

Answer ALL Questions in Sections A and C (COMPULSORY) & any 2 (TWO) in Sections B.

Section A (10 marks)**1. Fill in the blanks of ALL of the following:****[0.5 x6=3]**

- Hip joint is a _____.
- The plane that divides the body into anterior and posterior parts is _____.
- Unicellular glands composed of columnar cells that secrete mucous is known as _____.
- Skin gets its colour from _____.
- _____ muscular tissue is involuntary and striated.
- The random movement of molecules from an area of high concentration to an area of lower concentration is called _____.

2. Differentiate between ALL of the following pairs:**[1x7=7]**

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|--|---------------------------------------|
| a. Isometric and isotonic contraction. | e. Afferent and efferent nerves. |
| b. Hormones of adrenal medulla and adrenal cortex. | f. FEV1 and FVC. |
| c. Tachycardia and bradycardia. | g. Absorption of proteins and lipids. |
| d. Cream and gel. | |

Section B (15x2=30 marks)

- What are the functions of the parasympathetic nervous system highlighting the sub-type of receptor and their molecular mechanisms involved? Give two examples where stimulation and two examples where inhibition of parasympathetic system is beneficial to health.
- Describe Kidney function tests. Calculate the creatinine clearance of a 60 year male patient weighing 70 kg at a serum creatinine of 1.4 mg/dL. How would you classify the severity of kidney disease of this patient?
- Draw a diagram to explain the cell cycle. Why cytotoxic anticancer treatments are administered in pulses? Discuss similarities and differences between CT scan and MRI scan.
- What are immunoglobulins? One patient of dengue is tested positive for IgM and another patient is positive for IgG. What is the significance of these findings?
 - Describe mechanisms of hypersensitivity reactions.

Section C (5x4=20 marks)

- Explain pathophysiology of acne and the strategies for its treatment.
- Describe different types of RECTAL formulations.
- Discuss the difference in drug absorption after oral and rectal administration.
- HbA1c and long term complications of diabetes mellitus.