TEERTHANKER MAHAVEER UNIVERSITY

(Established under Govt. of U. P. Act No. 30, 2008)
Delhi Road, Moradabad (U.P.)

SAMPLE QUESTION PAPER FOR RESEARCH APTITUDE TEST IN PHARMACEUTICAL SCIENCES

Max. Marks: 100 **Time: 2.00 Hrs.**

Note:

1. The question paper is divided into two parts viz. Part A and Part B, carrying 50 marks each.
2. **Part A** consists of 50 multiple choice questions carrying one mark each. All questions are compulsory. There shall be no negative marking. The answers are to be marked on the OMR sheet with black pencil.
3. **Part-B** consists of 8 descriptive type questions, out of which 5 questions are to be answered *selecting any THREE questions from question nos. 1 to 5 and TWO questions out of question nos. 6,7,and 8 from the opted Elective paper*. Each question carries 10 marks. A candidate is expected to limit his answer in about 200 words for each question.

PART - A
Total Marks: 50 X 1 = 50

Q1.Who said that members of the same species are not alike?
(a) Darwin
(b) Herbert Spencer
(c) Best
(d) Good

Q2. A statistical measure based upon the entire population is called parameter while measure based upon a sample is known as
(a) Sample parameter
(b) Inference
(c) Statistic
(d) None of these

Q3. Generalized conclusion on the basis of a sample is technically known as
(a) Statistical inference of external validity of the research
(b) Data analysis and interpretation
(c) Parameter inference
(d) All of the above

Q4. A researcher selects a probability sample of 100 out of the total population. It is
(a) A cluster sample
(b) A random sample
(c) A stratified sample
(d) A systematic sample

Q5. A researcher divides the population into Postgraduates, graduates and 10+2 students and using the random digit table he selects some of them from each. This is technically called
(a) stratified sampling
(b) stratified random sampling
(c) representative sampling
(d) none of these

PART - B
Total Marks: 5 X 10 = 50

Q1. Write the merits and demerits of anabolic steroids. Mention their toxic and clinical parameters.
Q2. What do you mean by molecular modeling? Differentiate between 2-D and 3-D QSAR studies.
Q3. Write down a note on sustained release dosage forms.
Q4. What are depot formulations? Describe with suitable examples on steroid depot formulation.
Q5. What are the salient features of TLC & GCMS?

Choose any one Elective paper from the following:

ELECTIVE I (PHARMACEUTICS)

Q6. What is the significance of plasma drug concentration measurements? Differentiate between non-compartment and compartment models.
Q7. What is microencapsulation? What are different techniques involved in this process?
Q8. Define C-max and AUC. What are the regulatory requirements for conducting bioequivalent studies?

ELECTIVE II (PHARMACEUTICAL CHEMISTRY)

Q6. Define bio-isosterism. How do optical, geometric and bio-isosterism influence the pharmacology of drugs?
Q7. Write a note on computer-aided drug design.
Q8. Define and classify cephalosporins. Write the pharmacology of ciprofloxacin.

ELECTIVE III (PHARMACOGNOSY)

Q6. Enlist various bioactive compounds obtained from microorganisms. Discuss the structure elucidation of natural products by degradative and spectral methods.
Q7. Write a note on evaluation of herbal drugs for hepatoprotective activity.
Q8. Enlist Hi-tech products obtained from plant sources. Describe isolation of genistein.

ELECTIVE IV (PHARMACOLOGY)

Q6. Explain GPCR.
Q7. What is the role of endothelin receptor in the management of hypertension?
Q8. Write the pathophysiological role of histamine, prostaglandins and angiotensin.

Caution: Please note that the questions appearing above in this sample paper are only for the guidance of the candidates.