

SEAT No. _____

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SARDAR PATEL UNIVERSITY
M.Sc. (Forensic Science) Semester-I, Examination
Tuesday, 10th April, 2018

PS01CFSC23: Instrumental Methods-Biology

Time: 10:00am-01:00 pm

Total Marks: 70

Note- Answer of all the questions (including multiple choice questions) should be written in the provided answer book only.

Instructions:

1. All the questions are compulsory.
2. Figures to the right indicate maximum marks of the questions.

Q-1 Multiple Choice Questions:

(08)

1. Which one of the following is an example of strong base

- (A) NaOH (B) H₂SO₄
(C) CH₃COOH (D) HCL

2. The process by which an atom acquires positive or negative charge is called __.

- (A) Dissociation (B) Ionization
(C) Strong Base (D) Weak Base

3. The structure of immunoglobulin M is _____ shape.

- (A) Monomer (B) Dimer
(C) Trimer (D) Pentamer

4. Which one of the following is not type of ELISA method?

- (A) Indirect ELISA.
(B) Sandwich ELISA
(C) Competitive ELISA
(D) Direct ELISA.

5. The electron microscope consists of which type of lens.

- (A) Magnetic Lens (B) Concave Lens
(C) Convex Lens (D) Non of the above

6. c-DNA synthesized from mRNA by _____.

- (A) Transcription (B) Reverse Transcription
(C) Translation (D) Replication

7. _____ refers to process used to create copies of DNA fragments.

- (A) Molecular Cloning (B) RFLP
(C) ELISA (D) None of above

8. Mass is a plot of relative abundance against the ratio of _____.

- (A) Mass/Proton (B) Mass/Charge
(C) Mass/Density (D) Density/Mass.

C.P.T.O.)

Q-2 Answer in Brief: (Attempt any Seven)

(14)

- 1) Define strong acid and strong base with example.
- 2) Define P^H .
- 3) Explain enzyme.
- 4) Write a short note on c-DNA.
- 5) Define antibody and antigen.
- 6) Give the full form of ELISA and RIA..
- 7) Explain high speed centrifuge.
- 8) Explain fast atom bombardment method.
- 9) Give the application of mass spectrometry.

Q-3(A) Derive Handerson's equation for P^H .

(06)

(B) Describe various types of rotors in detail

(06)

OR

(B) Explain comparison microscope with diagram

(06)

Q-4 (A) Explain ELISA method in detail.

(06)

(B) Write a short note on oligo-nucleotide probe.

(06)

OR

(B) Describe cloning procedure in detail.

(06)

Q-5 (A) Write a short note on Thin Layer Chromatography.

(06)

(B) Explain high voltage electrophoresis.

(06)

OR

(B) Explain paper chromatography along with its type.

(06)

Q-6(A) Write a note on mass spectrometry with diagram.

(06)

(B) Describe fourier transform mass spectrometry.

(06)

OR

(B) Explain in detail high performance liquid chromatography.

(06)
