PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION MAY 2019
(First Semester)

Branch - **BIOCHEMISTRY**

ANALYTICAL BIOCHEMISTRY

Time: Three Hours Maximum: 75 Marks

SECTION-A (10 Marks)
Answer **ALL** questions
ALL questions carry **EQUAL** marks (1 0 x 1 = 10)

1 At certain P^{11} environment, isoelectric point affects which of the following?'
(i) solubility of the molecule (ii) solubility of solvent
(iii) temperature (iv) density of molecule

2 In electrophoresis. Protein will move until
(i) its P^{11} is greater than P^{1} (ii) its P^{11} is smaller than P^{1}
(iii) its P^{H} is equal to P^{1} (iv) its P^{1} is greater than P^{11}

3 Which of the following separation method is suited for protein sample with large difference in molecular mass?
(i) dialysis (ii) salting out process
(iii) density gradient centrifugation (iv) rate zonal centrifugation

4 What is bioluminescence?
(i) light produced by light bulb (ii) light produced by living creature
(iii) light produced by glow stick (iv) glow in dark point

5 For which of the following HPLC cannot be used?
(i) identify various pigments from a leaf extract
(ii) separate organic pesticide
(iii) determine caffeine content
(iv) detect mercury content in a fish sample

6 Which of the following is the disadvantage of Gas chromatography?
(i) it is not a good method
(ii) it cannot be used for qualitative analysis
(iii) it cannot be used for separation of volatile components
(iv) it does not provide direct identification

7 Which enzyme is used in PCR technique?
(i) Polymerase (ii) DNA Polymerase
(iii) Taq DNA Polymerase (iv) Tag DNA Polymerase

8 What is also called as RNA blotting?
(i) Southern blotting (ii) Eastern blotting
(iii) Northern blotting (iv) Western blotting

9 Who developed DNA finger printing technique?
(i) Francis crick (ii) Khorana
(iii) Alec Jeffrey (iv) James Watson

10 What is the purpose of Ames Test?
(i) mitogenic effect (ii) mutagenic effect
(iii) apoptic effect (iv) radiation effect

Cont...

SECTION - B (35 Marks)

Answer **ALL** Questions
ALL Questions Carry **EQUAL** Marks (5 x 7 = 35)

11 a Assess the applications of auto analyzer.

OR

b Discuss on isoelectric focussing.

12 a Analyse the basic concepts of radiochemical methods.

OR

b Illustrate the autoradiography technique.

13 a Explain the components and limitations of HPLC.

OR

b Sketch on circular dichorism.

14 a State the construction of Oligonucleotide micro array.

OR

b Show the application of restriction enzymes in gene cloning.

15 a Discuss the procedure of Ames test.

OR

b State the methodology and applications of HLA typing.

SECTION - C (30 Marks)

Answer any **THREE** Questions
ALL Questions Carry **EQUAL** Marks (3 x 1 0 = 30)

16 Analyse the methods for extracting various secondary metabolites.

17 Elucidate the instrumentation of spectrophotometer.

18 Interpret the principle and applications of mass spectrometry.

19 Analyse the technique and applications of RAPD.

20 Interpret the methodology of foot printing technique.

Z-Z-Z END