SEAT No._____ No. of Printed Pages : 2

[55/A-32]

SARDAR PATEL UNIVERSITY

EXTERNAL EXAMINATION

BIOCHEMISTRY. Vsemester

Paper Code No. US05CBCH06 BIOINSTRUMENTATION.

DATE:-16/04/2018 Total marks:70 Time: 2:00pm -5:00pm

Multiple choice Questions: 10 marks

1) Monochromator in colorimeter is ----------
a) barrier layer cell b) prism c) filter d) photo voltaic cell

2) ---------- Multiply each photon of radiation many time .
a)photo cell b) photo voltaic cell c) photomultiplier tube d) photometer

3) Continuous flow rotors are used for ----------
a) remove contamination b) remove ribosomes c) harvesting cell d) to separate cells

4) Rate zonal method is mainly based on separation of cells on the basis of ----------
a) Difference in molecular weight c) difference in density
b) Difference in shape d) difference in size

5) Analytical ultra centrifuge is used for
a) preparation of sample b) to study of mol. Weight of sample
c) purification of sample d) extraction of sample

6) Field strength is inversely proportional to----------, which is proportional to conc.
a) conductivity b) ionic strength c) pH d) temperature

7) IEF technique separates proteins in a mixture according to ----------
a) PI b) size c) molecular Weight. D) molecular mass

8) Exclusion chromatography also known as----------
a) Molecular sieve c) Ion Exchange chromatography
b) Adsorption chromatography d) HPLC

9) Very high resolution and faster separation is achieved by
a) GLC b) HLC c) HPLC d) HIC

10) ---------- are Ion exchanger of intial generation .
a) Sephadexes b) Synthetic resins c) Sepharose d) Cellulose

C.P.T.O.)

Q.2 .Answer in short. (Two mark each-Attempt any ten) 20

1) Write on- element of visual colorimeter.
2) List infrared region.
3) Explain application of U.V Spectrometry.
4) Derive equations for relative centrifugal force.
5) Write methods for preparative centrifuge
6) What is gradient media? List gradients and its specificity in separation of any three bio molecules.
7) What is significance of SDS and β-mercaptoethanol in sample preparation for SDS-Page.
8) Discuss - agarose gel preparation
9) List application for different types of Gel electrophoresis
10) What are first generations Exchangers?
11) Why pumping system is known as Heart of HPLC.

LONG QUESTIONS **40MARKS**

Q.3 A]Explain working of colorimeter. 5

B] List application of U.V spectrometer 5

OR

Q.3 A]Explain types of filters 4

B] Discuss importance for various IR spectrometer. 6

Q.4 A] Derive equations for sedimentation rate 6

B] Write an account on application of centrifuge. 4

OR

Q.4 A] write note on ultra centrifuge. 6

B]Explain -continuous rotor 4

Q.5 A] Write principle and technique for gel exclusion chromatography. 5

B] Write on Ion Exchangers 5

OR

Q.5 A] Explain principle and diagrammatic representation for affinity chromatography. 4

B] Explain applications of various chromatographic techniques 6

Q.6 Describe- principle and method for agarose gel electrophoresis. 10

OR

Q.6 Explain principle and basic method for PAGE 10