Seat No. : _____

AM-118

April-2015

B.Sc., Sem.-IV

Bic-204 : Biochemistry

(Advance Techniques)

Time : 3 Hours] **[Max. Marks : 70**

Instruction : All questions carry equal marks.

1. (a) Discuss the principle, construction, working and use of TEM. **12**

   (b) Write two applications of fluorescent microscope. **2**

   OR

   (a) Write a note on: **12**

   (1) Magnification and numerical aperture.

   (2) Objective lens

   (3) Differences between TEM and SEM

   (b) Draw and label path light through a compound microscope. **2**

2. (a) Discuss any **one** : **7**

   (1) Rate zonal centrifugation.

   (2) Isopycnic centrifugation

   (b) Describe ultra-centrifuge with a diagram. **7**

   OR

   (a) Discuss different types of rotors used in centrifugation. **12**

   (b) How RCF and rpm are related to each other ? **2**

3. (a) Explain: Working of GM counter. **9**

   (b) Write a note on radioactive decay. **5**

   OR

   (a) Discuss the use of radioisotopes in biology. **9**

   (b) Explain : Autoradiography **5**

4. (a) What is a pie chart ? Explain with example. **5**

(b) What is a statistical table ? Explain. **5**

(c) Write a brief note on merits and demerits of arithmetic mean. **4**

OR

(a) Length of 40 earth warms and their frequency is given in following table : **6**

Length (cm)	3.0	3.5	3.7	3.9	4.0	4.1	4.3	4.7	4.9	5.0
Frequency	4	2	2	4	6	2	6	4	4	6

Calculate mean deviation.

(b) What is normal distribution ? Explain normal distribution curve. **8**

5. Answer the followings :

(1) Give the name of condenser used in Dark field microscope. **1**

(2) Name the two lenses found within hugenian eyepiece & give its function. **2**

(3) Define : sedimentation time. **1**

(4) What is sedimentation coefficient and what is its unit ? **2**

(5) State two hazards of radioisotopes. **2**

(6) Name and define unit of radioactivity. **2**

(7) Write two merits of mode **2**

(8) Define standard deviation. **1**

(9) What is binomial distribution ? **1**