Seat No. : _____

# XZ-133

**B.Sc. Sem. – IV**
**April-2013**

## Biochemistry (204)

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

**Instructions :** (1) **All** questions are compulsory.

(2) Each question is of **14** marks.

1. (a) Explain working of electron microscope **OR** dark field microscope. **7**

(b) Difference between compound and electron microscope. **7**

**OR**

Write a note on lens system of microscope and its types.

2. (a) Explain the principle of sedimentation, factors affecting sedimentation. **7**

**OR**

Explain the principle, working and types of rotors used in centrifugation techniques.

(b) Write a note on density gradient **OR** differential centrifugation technique. **7**

3. (a) Explain – Measurement of radioactivity based on ionization. **7**

**OR**

Explain in detail biological applications of radioisotopes.

(b) Write short note on : **7**

(i) Design and working of GM counters

(ii) Autoradiography

**OR**

Write a detail note on hazards of radiation.

4. (a) Explain any **three** terms (with example if needed) : coefficient of variation standard error, histogram, median, SD. **6**

(b) (1) Write a note on : ANOVA **OR** Null hypothesis. **4**

(2) Find mean and mode of the data : 2, 8, 6, 0, 7, 4, 4, 9, 10, 4 **4**

5. Explain the terms (any **seven**) – Microbes, condenser, NA, zonal rotors, Radioactive decay, sub cellular fractionation, standard error, pie chart, Resolution. **14**

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