

KALYANI MAHAVIDYALAYA  
1<sup>st</sup> Year 3<sup>rd</sup> Class Test 2012  
Dept. of Microbiology  
Paper II

F.M: 20

Time:1hr

- I. Answer the following (any four): (4x1)
- a. What is median?
  - b. What is random sampling?
  - c. What is standard deviation?
  - d. What is numerical aperture?
  - e. What type of exchanger will be used for separating Na<sup>+</sup> ions in ion exchange chromatography?

- II. Answer the following (any four): (4x2)
- a. What is sedimentation coefficient? How does it effect separation of a biomolecule from a mixture?
  - b. What is carbon dating? What is half life of a radioactive atom?
  - c. Write a brief description of SDS Page electrophoresis.
  - d. Determine mean of the following data.  
10, 15, 7, 8, 20, 22, 13, 18, 6, 3, 24, 34
  - e. What is agarose and polyacrylamide?

- III. Answer the following: (8X1)
- Given is a data of marks of 50 students obtained in an examination. Draw a frequency distribution table and find out mean, median, mode and standard deviation of the data.

12, 34, 45, 64, 56, 78, 03, 79, 23, 71, 56, 41, 32, 74, 69, 06, 61, 48, 33, 26, 56, 46, 28, 50, 41, 07, 14, 36, 72, 42, 17, 40, 23, 38, 40, 63, 59, 71, 04, 16, 37, 46, 68, 74, 13, 37, 48, 23, 15, 01,
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2<sup>nd</sup> Year 3<sup>rd</sup> Class Test 2012  
Dept. of Microbiology  
Paper IV

F.M: 20

Time: 1hr

I. Identify the enzymes involved in following reaction (any four): (4X1)

- a) 6-phosphoglucono- $\delta$ -lactone  $\rightarrow$  6-phosphogluconate
- b) 1, 3- biphosphoglycerate  $\rightarrow$  3- phosphoglycerate
- c) Ribulose- 5-P  $\rightarrow$  Xylulose -5-P
- d) Acetaldehyde  $\rightarrow$  ethanol
- e) L- malate  $\rightarrow$  Oxaloacetate

II. Answer the following (any four): (4X3)

- a) Distinguish between electron donors and acceptors with examples.
- b) Point out the basic differences between the photosynthetic processes of cyanobacteria and other photosynthetic bacteria.
- c) What is the biological significance of acetogenesis?
- d) What are exergonic and endergonic reactions? Explain with example.
- e) How and which bacteria are responsible for acetogenesis?

III. Answer the following (any one): (1X4)

- a) What is insertion sequence? Write the mechanism of non-replicative transposition.
- b) Differentiate between transformation and transposition.