

## Model Paper (Biotechnology)

Class HSE-I

Max Marks =70

Q1. Define fermentation and draw neat and clean diagram of fermentor?

OR

Explain in detail various phases of typical bacterial growth curve? Give an example of batch fermentation. **5 Marks**

Q2 . What are various levels of organisation of protein structure? Explain them in detail?

OR

Define carbohydrates? How are they classified . Support your answer with examples. **5 Marks**

Q3. What are different methods of sexual reproduction (genetic recombination) in bacteria?

OR

What is cell division? Give a detailed account of meiotic cell division?

**5 Marks**

Q4 Explain Mendelian laws of cell division?

OR

Write short notes on

- a) Linkage
- b) Mutation

**5 Marks**

**SECTION B (Short answer type each carry 3 marks )**

- Q5. Describe GMP and GLP.
- Q6 . Define buffer? Give two examples of biological buffers?
- Q7 What do you mean by Intellectual property Rights.
- Q8. How is aerobic glycolysis different from anaerobic glycolysis?
- Q9 List at least three functions of Endoplasmic Reticulum.
- Q10. What is RNA ? Where is it synthesized?
- Q11. Define Pleiotropy.
- Q12 What is semi conservative mode of DNA replication.

**SECTION C ( Very short Answer type each carry 2 marks)**

- Q13 What is unit operation?
- Q14 Give /draw general structure of Triglyceride.
- Q15 What are Ureotelic organisms? Give an example
- Q16 Define Electrophoresis.
- Q17 Which protein complex controls cell division cycle?
- Q18 What is SEM use for?
- Q19 Define codon and anti – cordon ?
- Q20. What is cytogenetics (definition only)? \

**OBJECTIVES ( each carry 1 Marks)**

Q21

i) Give full form of HACCP.

ii) The number of pyruvate molecules generated from glycolysis is \_\_\_\_\_

iii)  $O_2$  evolved during photosynthesis comes from  $H_2O$ . (T/F)

iv)  $A = ECL$  is given by

- I. Beer Law
- II. Lambert Law
- III. Beer-Lambert Law
- IV. Avagadro's Law

v) Sedimentation in centrifugation occurs due to \_\_\_\_\_ force.

vi) Define Prions.

vii) Haemocytometer is also as Petroff-Hausser cell counter T/F  
1 mark

Viii) Colour blindness is

- a) X-Linked recessive disorder
- b) X- linked dominant disorder
- c) Y- linked recessive disorder
- d) Y- linked dominant disorder

ix) Word gene was introduced by \_\_\_\_\_

x) Give full form of mutagen EMS \_\_\_\_\_