B.Sc. (Honours) Semester I Examination, 2020
Subject: Biotechnology
Paper: GE-1 (Human Welfare)

Time: 2 hrs **Full Marks= 40**

Answer *any eight* questions from the following. 5x8=40

1. Name two industrially important alcohols and their producer organisms. Mention few applications of alcohol in industry.
2. Name two nitrogen fixing bacteria used as Biofertilizer. Briefly describe the process of mass production of a nitrogen fixing Biofertilizer.
3. Name one bacteria used as biopesticide. How can you insert the gene of pest killing proteins from bacteria into plant?
4. Name one halorespiring bacteria? How halorespiration helps in removal of toxic halogenic compounds from soil?
5. What is biofuel? Briefly describe different steps of biofuel production from agrowaste.
6. Distinguish between probiotics and prebiotics. Discuss the role of probiotics in stress management.
7. What are bioplastics? Name one bioplastic producing bacteria. What are the advantages of bioplastics over chemical plastics?
8. Briefly describe one molecular technique used in solving crime with suitable diagram.
9. What are GM foods? What are the advantages and disadvantages of GM food?
10. What do you mean by multidrug resistance? How new antibiotics are developed by applying modern biotechnological techniques?

B.Sc. (Honours) Semester – I Examination, 2020

Subject: Biotechnology

Paper: GE – 1 (OR)

(Developmental Biology)

Time: 2 Hours **Full marks: 40**

All questions are of equal value, carrying 5 marks each. Candidates are required to give their answers in their own words as far as practicable.

Answer *any eight* of the following questions:

1. Define placenta. Describe different types of placenta on the basis of histology.
2. What is spermiogenesis? Why oogenesis is called a wasteful process? Add a brief note on capacitation.
3. What is acrosome reaction? How do the cortical granules block polyspermy?
4. Classify eggs according to amount of yolk. What is superficial cleavage?
5. What is embryonic induction? Elucidate briefly role of the roof of archenteron in embryonic induction.
6. Give an account of the various morphological and physiological changes that take place during metamorphosis in amphibians.
7. What is involution? Difference between autonomous and conditional specification.
8. Elucidate briefly different types of extra embryonic sacs. State functions of the amniotic fluid.
9. Give a brief account of the process of vitellogenesis. What is neurulation?
10. Discuss briefly, the pattern of cell movement during the process of gastrulation in vertebrates.

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