

M.Sc. (Zoology) Semester - 2 (CBCS) Examination**March/April- 2018****BIOTECHNOLOGY AND IMMUNOLOGY****(CORE)****Time: 2:30 Hours****Marks: 70****Instructions:**

1. All questions are compulsory.
 2. Figures to the right indicate marks.
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- Que-1(A) Answer the following (any seven). (14)
1. Define : Isoschizomers and Genomic Library.
 2. What is biostimulation and bioaugmentation ?
 3. Explain the principle of entrapment and adsorption of enzyme.
 4. What are large capacity vectors and expression vectors ?
 5. Write contribution of Cohen, Paul Berg and Bolivar in biotechnology.
 6. Write the ingredients of MS medium.
 7. What is somaclonal variation ?
 8. What are antigenic determinants ?
 9. Name few chemical mediators and allergens of Type I hypersensitivity.
 10. Explain importance of MHC-II and CD-4 in activation of immune response.
- Que- 2 Answer the following (any two). (14)
1. Explain methodology and application of enzyme immobilization.
 2. Discuss types of bioremediation.
 3. Discuss media and applications of animal tissue culture.
- Que-3 Answer the following. (05)
1. Describe plasmids as vectors. (05)
 2. Explain protocol for isolating desired DNA fragment. (04)
 3. Give examples of type II REN with their source and products.
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- Que- 3 Answer the following. (07)
1. Explain selection of recombinant host. (07)
 2. Write a note on phage vectors and hybrid vectors.
- Que-4 Answer the following (any two). (14)
1. Explain types of plant tissue culture.
 2. Discuss media, sources and instrumentation for plant tissue culture.
 3. Write in detail about applications of PTC.
- Que-5 Answer the following (any two). (14)
1. Describe elucidation of structure of Ig and add a note on their biological functions.
 2. Explain mechanisms and examples of auto immune diseases.
 3. Describe the protocol and HAT selection of Hybridoma cell preparation.
 4. What is immunogenicity ? which parameters can be used to increase it ?
