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**Reg. No. :**

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**Question Paper Code: 54B05**

B.E. / B.Tech. DEGREE EXAMINATION, APRIL 2019

Fourth Semester

Biomedical Engineering

15UBM405- PATHOLOGY AND MICROBIOLOGY

(Regulation 2015)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

- Which one of the following cancer does not form a solid neoplasm? CO1- R  
(a) Leukemia                      (b) Lymphoma                      (c) Lipoma                              (d) Sarcoma
- Apoptosis cannot kill \_\_\_\_\_. CO1- R  
(a) Cell infected with viruses                              (b) Cell with DNA damage  
(c) Cancer cells    (d) Immune cells
- \_\_\_\_\_ is used to visualize live cells. CO2- R  
(a) SEM    (b) TEM  
(c) Phase Contrast microscope                              (d) Bright field microscope
- Nichrome loop wire is used in \_\_\_\_\_ technique. CO2- R  
(a) Pour Plate                      (b) Streak Plate                      (c) Spread Plate                      (d) Roll Tube
- Essential Element of blood clotting is \_\_\_\_\_. CO3- R  
(a) Calcium                      (b) Chloride                      (c) Sulphate                      (d) Phosphate
- Viruses that attack bacteria are called \_\_\_\_\_. CO3- R  
(a) Lysophage                      (b) Bacteriophage                      (c) Virophage                      (d) None of these
- Gene mutation occurs at the time of \_\_\_\_\_. CO4- R  
(a) DNA repair                      (b) Cell division                      (c) DNA replication                      (d) RNA transcription

8. Which of the following is not a type of plasmid? CO4- R  
 (a) F (b) R (c) Ti (d) T4
9. The Ig that mediates allergic reaction is \_\_\_\_\_. CO5- R  
 (a) IgM (b) IgG (c) IgA (d) IgE
10. The technology used for the production of monoclonal antibodies is \_\_\_\_ CO5- R  
 (a) Mass culture (b) Hybridoma (c) Suspension culture (d) None of these

PART – B (5 x 2= 10 Marks)

11. Outline metastasis. CO1 R
12. Define freeze etching. CO2 R
13. Difference between Leukemia and Lymphomas. CO3 R
14. State conjugation. CO4 R
15. What are opsonins? CO5 R

PART – C (5 x 16= 80 Marks)

16. (a) Explain the cellular degeneration and its repair mechanism in detail. CO1- U (16)  
 Or  
 (b) Elaborate on neoplasia classification and their spreading mechanism. CO1- U (16)
17. (a) Describe the working mechanism of electron microscope and its sample preparation for TEM and SEM. CO2- U (16)  
 Or  
 (b) Elaborate on simple, gram staining, AFB staining and its importance. CO2- U (16)
18. (a) What are some common hematological disorders and Demonstrate the consequences in hematological disorders. CO3- U (16)  
 Or  
 (b) Illustrate on eukaryotic microbes and their role in microbiology. CO3- U (16)

19. (a) Elaborate gene transfer mechanism and its types in detail. CO4- Ana (16)
- Or
- (b) Summarize on regulation of gene expression in prokaryotes. CO4- Ana (16)
20. (a) Evaluate on types of antibodies and the techniques involved in immunology. CO5- U (16)
- Or
- (b) Explore on bacterial, fungal and viral diseases in detail. CO5- U (16)

