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**Question Paper Code: 94B05**

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2023

Fourth Semester

Biomedical Engineering

19UBM405- PATHOLOGY AND MICROBIOLOGY

(Regulation 2019)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. Investigate cell injury and cell death. CO3-Ana
2. How do you implement tissue processing for tumour using microtome? CO2-App
3. How do you analyze clotting time using capillary tubes? CO3-Ana
4. How do you differentiate Leukemia patients with normal human? CO3-Ana
5. How do you distinguish moist Heat and cold killing of microbes. CO3-Ana
6. Draw a schematic diagram of TEM. CO1-U
7. Give a list of cancer causing chemical and physical mutagens. CO3-Ana
8. Draw a schematic diagram of operon model? CO3-Ana
9. Define phagocytosis. CO1-U
10. How antibodies are more specific to antigens? CO3-Ana

PART – C (5 x 16= 80 Marks)

11. (a) Give a brief note on intracellular accumulations and analyse its various types due to the accumulation process? CO3- Ana (16)
- Or
- (b) Give a brief notes on cellular adaptations. Comparative study of hypertrophy with hyperplasia. CO3- Ana (16)

12. (a) Describe Hematological disorders and its causing factors in human. Demonstrate of bleeding time for analysis of the fluid in the human body. CO3- Ana (16)
- Or
- (b) Describe Bleeding disorders and its impact on human health. Demonstrate of bleeding time for analysis of the fluid in the human body. CO3- Ana (16)
13. (a) How do you isolate pure bacterial strains from mixed population using spread and streak plate technique? Give your suggestion for the simple and suitable method. CO3- Ana (16)
- Or
- (b) Describe media preparation and sterilization process. Comparative analysis of physical and chemical techniques for sterilization. CO3- Ana (16)
14. (a) Give a brief notes on operon concepts. Investigate operon model to regulate gene expression in Gram negative bacteria? CO1- U (16)
- Or
- (b) Explain in detail on Bacterial genetic system. Distinguish transformation and transduction techniques with examples. CO1- U (16)
- 15 (a) Give a brief note on Immunological techniques. How do you use mono-clonal antibody technology for the bacterial treatment? CO1- U (16)
- Or
- (b) Define mono-clonal antibody technology. How do you use mono-clonal antibody technology for the cancer treatment? CO1- U (16)