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Question Paper Code: 94B05

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2022

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. Define Cell injury CO1-U
2. Comparative analysis of the mechanism of hypertrophy and hyperplasia with neat diagram. CO3-Ana
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. Explain the mechanism of immune diffusion ? CO1-U
10. Define phagocytosis. CO1-U

PART – C (5 x 16= 80 Marks)

11. (a) Define apoptosis. Enumerate different pathways of apoptotic process with neat sketch. CO3- Ana (8)
- Or
- (b) Give a brief notes on cellular adaptations. Comparative study of hypertrophy with hyperplasia. CO3- Ana (8)

12. (a) Give a brief note on embolism and thrombosis and analyse its various types and factors with neat diagram? 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) Describe bacterial genetic system and its flow. Distinguish transformation and transduction techniques with examples. CO2- App (16)
Or
(b) Give a brief notes on Operon concept. Demonstrate this approach to regulate gene expression in *E.coli*? CO1- U (16)
- 15 (a) Explain antibodies and how do you examine their interaction with antigens by Immunological techniques. 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)