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Question Paper Code: 97D03

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

Seventh Semester

Biotechnology

19UBT703 - IMMUNOLOGY

(Regulations 2019)

Duration: Three hours

Maximum: 100 Marks

PART A - (10 x 2 = 20 Marks)

1. List out the types of white blood cells and mention which one is first initiated at the site of infection? CO1-U
2. Differentiate between active immunity and passive immunity CO1-U
3. Expand the following: CO2-App
 - (i) ADCC
 - (ii) PAMPs
 - (iii) GALT
 - (iv) HLA
4. Interpret the function of cytotoxic T cells CO1-U
5. Name one common condition in which immunosuppressive drugs are used to manage an overactive immune response. CO2-App
6. Differentiate between paratope and epitope. CO1-U
7. Explain some events in transplantation immunology? CO2-App
8. Give any two examples of autoimmune disease CO1-U
9. Name a type of white blood cell associated with autoimmune responses. CO1-U
10. Define Autoimmunity. CO1-U

PART – B (5 x 16= 80 Marks)

11. (a) Define adaptive immunity. Differentiate between humoral and cell-mediated immunity. CO1-U (16)

Or

- (b) Innate and adaptive immunity act in cooperative and interdependent ways to protect the host. Discuss the collaboration of these two forms of immunity. CO1-U (16)
12. (a) Rishi is instructed to develop a detailed note about how the antigen and antibody interactions are applied in clinical diagnostic tools. CO2-App (16)
- Or
- (b) Government has taken as initiative to produce indigenous antibodies. Being a production executive explain the concept of monoclonal antibodies production and its application to panel members? CO2App (16)
13. (a) Describe in detail about the pathogen defense strategies and also how the pathogens avoid the recognition and inactivate the components used for their elimination CO1-U (16)
- Or
- (b) Describe in detail about the immune responses to various infections CO1-U (16)
14. (a) Discuss the clinical applications of tumor immunology, including specific types of cancers that have benefited from immunotherapies. CO1-U (16)
- Or
- (b) Describe in detail about the tumor immunology and also discuss about several mechanisms by which tumor cells appear to evade the immune system CO1-U (16)
15. (a) Describe the role of genetic and environmental factors in the development of autoimmune diseases. How do these factors interact to trigger autoimmune responses in susceptible individuals? CO1-U (16)
- Or
- (b) Explain the underlying mechanisms of autoimmune diseases. Provide examples of common autoimmune disorders and discuss their impact on the immune system and the body as a whole. CO1-U (16)