

St. Philomena's College (Autonomous), Mysore			
PG Department of Biochemistry			
Question Bank { Revised Curriculum (LOCF ) - 2020-22 Batch }			
Second Year- Third Semester			
Course Title (Paper Title): Immunology(HC) QP Code -84323			
Sl. No	Unit	Questions	Marks
1	1	What are immunoglobulins?	2
2	1	Name the antibodies predominant in secondary immune response.	2
3	1	Mention the classes of antibodies with their heavy chains.	2
4	1	What is an Epitope and Paratope?	2
5	1	What is MALT and GALT?	2
6	1	What is immunogenicity? Give an example.	2
7	1	What is valency of antigen?	2
8	1	What are allotypic and idiotypic antibodies?	2
9	1	What are NK Cells? Mention their role.	2
10	1	What are Macrophages? Mention its role.	2
11	1	Define immunogenicity and antigenicity.	2
12	1	What are haptens? Give example.	2
13	1	List the immunological organs in man.	2
14	2	Give examples for APCs.	2
15	2	What is antigen presentation?	2
16	2	Differentiate between T-Helper and T-Cytotoxic cells.	2
17	2	Name the macrophages specific to Kidney and its significance.	2
18	2	How interferon's act against viruses?	2
19	2	Differentiate between primary and secondary immunodeficiency.	2
20	2	Give the importance of T-suppressor cells in immune system.	2
21	2	write the functions of IL-L $\alpha$ .	2
22	2	Name the sub-types of T-Cells.	2
23	2	Give the subsets of B-Cells and their role in immunity.	2
24	2	What do you mean by immune response?	2
25	2	Give examples for professional APCs.	2
26	2	Define reticuloendothelial system.	2
27	2	What are cytokines? Name any two types.	2
28	2	What is phagocytosis? Which cell types perform this act?	2
29	3	What is ADCC?	2
30	3	Define Antibody Dependent Cell Cytotoxicity.	2
31	3	Mention the role of MHC in immune system.	2
32	3	Differentiate DAMP &PAMP.	2
33	3	How DAMP does differs from that of PAMP?	2

34	3	What is Autograft? Give its significance.	2
35	3	What is Xenograft? Give its significance.	2
36	3	What is Isograft? Give its significance.	2
37	3	What is Allograft? Give its significance.	2
38	3	Enlist the features of inflammation reaction.	2
39	3	How does mucus membrane acts as barrier to infection?	2
40	4	Differentiate between autoimmunity and alloimmunity.	2
41	4	What are tumor associated antigens? Give an example.	2
42	4	What is immune surveillance?	2
43	4	Define tumor antigens? Give example.	2
44	5	What are vaccines?	2
45	5	Define vaccines.	2
46	5	What is affinity and avidity?	2
47	5	Differentiate between affinity and avidity reaction.	2
48	5	What are polyclonal antibodies?	2
49	5	What are Monoclonal antibodies?	2
50	5	What are hybridomas?	2
51	5	Define hybridoma Technology.	2
52	5	Mention the uses of complement fixation in In-vitro studies.	2
53	5	Give the uses of precipitation reaction in In-vitro studies.	2
54	5	Mention the uses of Immunofluorescence reaction in In-vitro studies.	2
55	5	Outline the principle of Immunofluorescence technique.	2
56	5	Give any two examples for types of vaccines.	2
57	5	What are adjuvants? Give example.	2
1	1	Innate immunity is also highly specific like acquired immunity. Justify	5
2	1	Explain processing and presentation of intracellular antigen.	5
3	1	Describe the typical structure of an antibody. How are F(ab) and F(ab) <sub>2</sub> generated?	5
4	1	Give an account on primary and secondary lymphoid organs and their functions.	5
5	1	Write the antigenic role of carbohydrate and nucleic acid in immunity.	5
6	1	Describe the structure of IgG and add a note on the functions of Hyper variable regions.	5
7	1	Explain different classes and subclasses of immunoglobulins.	5
8	1	How innate immunity differs from that of Adaptive Immunity.	5
9	1	What is adaptive immunity? Explain its salient features.	5
10	1	Describe the structure, function and characteristics of IgG.	5
11	1	Describe the structure function and characteristics of IgM.	5
12	1	Discuss the role of secondary lymphoid organs in immunity.	5
13	1	What is innate immunity? Explain the various barriers involved in innate	5

		immune response.	
14	1	Write about immunogens and describe the various properties of the immunogens that contribute to its immunogenicity.	5
15	1	Explain with labeled diagrams the various classes of immunoglobulin.	5
16	1	What is an immunogens? How is it differs from an antigen?	5
17	1	Write short note on three line of defense.	5
18	1	Idiotopes on B cell surface immunoglobulins regulate immune responses. Justify.	5
19	1	Enlist the primary lymphoid organs. Explain its role in immune response.	5
20	1	List out any five non-specific components of innate immunity.	5
21	1	Explain the mode of action and applications of haptens and adjuvants.	5
22	1	Enlist the secondary lymphoid organs. Explain its role in immune response.	5
23	1	Give an comparative account on characteristic attributes of innate and acquired immune system.	5
24	1	Discuss the characteristics of antigen. What are T-Cell dependent and independent antigens?	5
25	1	Describe the nature and functions of lymphoid organs.	5
26	2	Describe the genetic basis of antibody heavy chain diversity.	5
27	2	Explain primary and secondary immune response.	5
28	2	Write short note on development and function of T-Cells.	5
29	2	Write short note on development and function of B-Cells.	5
30	2	What are immunoglobulin genes? Explain Clonal selection theory of Burnet.	5
31	2	Explain the interaction between T and B lymphocytes in Immune reaction against pathogen.	5
32	2	Describe the Primary and Secondary immune response and add a note on Immune response suppression.	5
33	2	Explain Burnet's Clonal selection Theory.	5
34	2	Discuss the maturation and differentiation of B-Cells.	5
35	2	How is antigen processed and presented?	5
36	2	Explain how antigen presenting cells , B and T-Lymphocytes interact to elicit specific immune response.	5
37	2	What are complements? Describe classical pathway of complement activation.	5
38	2	Describe the role of cytokines in immunogenic reaction.	5
39	2	Explain the immune Responses shown to viral, bacterial and parasitic infection.	5
40	2	Define antigen processing. Elucidate various steps in processing and presentation of antigens by cytosolic pathway.	5
41	2	Illustrate and discuss the cytosolic pathway for processing endogenous pathway.	5
42	2	Describe the classical pathways of activation of complement system.	5
43	2	Enumerate the biological consequences of complement system.	5
44	2	Explain molecular basis of antibody diversity.	5

45	2	Reasons for evolution of different immunoglobulins were functional insufficiencies of IgM. Justify.	5
46	2	Explain the process of maturation of B-cells	5
47	2	Describe the pathway for processing and presentation of endogenous antigens.	5
48	2	Explain the role of IL-4 and IFN- $\gamma$ in modulation of immune response.	5
49	2	Discuss the primary and secondary immune responses.	5
50	2	What is immunity? Elaborate the significance of immunosuppression.	5
51	2	Enlist the different immune cells. Explain role of any three.	5
52	2	Give an comparative account on characteristic attributes of T <sub>C</sub> & T <sub>H</sub> Cells.	5
53	3	Describe the structure and function of MHC.	5
54	3	Explain inflammation. Add a note on pro and anti-inflammatory cytokines.	5
55	3	What is hypersensitivity? Name the types with functions.	5
56	3	Define Autograft and Xenograft. Explain Graft Vs Host Reaction.	5
57	3	Give an account on MHC gene and its polymorphism.	5
58	3	What is hypersensitivity? Explain the types of hypersensitivity reactions.	5
59	3	Describe Graft rejection and Graft Vs Host Reaction.	5
60	3	Explain the role of MHC in immune response.	5
61	3	Explain Type-IV and Type-I hypersensitivity reaction.	5
62	3	What is transplantation? Describe different types of transplantations.	5
63	3	Describe the structure and functions of MHC Class-II molecule.	5
64	3	Describe immediate and delayed type hypersensitivity reactions.	5
65	3	Explain Gels and Comb's classification of hypersensitivity.	5
66	3	Describe various types of hypersensitivity reactions.	5
67	3	Discuss the properties of human class I & II MHC protein.	5
68	3	Explain the major events of inflammatory response.	5
69	3	Explain the basis o transplantation technology.	5
70	4	What are the types of tumor antigens? How does tumor escape the immune surveillance?	5
71	4	Explain Severe Combined Immunodeficiency disorder.	5
72	4	Write short note on factors affecting tumor growth.	5
73	4	Explain the pathology of immune response in AIDS.	5
74	4	Explain any two autoimmune disorders.	5
75	4	Write short note on AIDS.	5
76	4	Mention the evidences that implicate CD4, T-Cells, and MHC & TLR in autoimmunity.	5
77	4	Describe pathophysiology of Myasthenia Gravis.	5
78	4	Describe pathophysiology of AIDS.	5
79	4	Explain immunotolerance.	5

80	4	What is autoimmunity? Explain any two autoimmune diseases.	5
81	4	T and B-Cells differ in their susceptibility to tolerance induction. Justify	5
82	4	How tumor escapes host immune mechanism?	5
83	4	Explain the organ-specific and non-specific auto immune diseases.	5
84	4	Describe the applications of tumor antigens.	5
85	5	What are vaccines? Explain any one method of vaccine production.	5
86	5	Define Immunoflorescence. Explain any two application of this reaction.	5
87	5	Give an account on plant defense system.	5
88	5	Write short note on Immunodiffusion Technique.	5
89	5	What are Adjuvants? Give an account on Vaccine production.	5
90	5	Explain the principle and uses of Immune electrophoresis.	5
91	5	What are Vaccines? Discuss different types of vaccines.	5
92	5	Discuss the production and applications of Monoclonal Antibodies	5
93	5	Describe the principle and applications of ELISA.	5
94	5	Give an account on production and applications of monoclonal antibodies.	5
95	5	Give an account on different types of vaccines.	5
96	5	Highlight the advantages and disadvantages of vaccines.	5
97	5	Define: Cross reactivity, Avidity, Immunogens, Anaphylaxis, Adjuvant	5
98	5	Explain the principle & working of ELISA.	5
99	5	Explain hybridoma technology.	5
100	5	Explain the mechanism of antigen-antibody interaction.	5
101	5	What is hybridoma technology? Write on Monoclonal antibodies.	5
102	5	Write short note on whole organism vaccine.	5
103	5	Write briefly on production of monoclonal antibody by hybridoma technology.	5
104	5	Explain the polyclonal antibodies.	5
105	5	Write short notes on Toxoid vaccine and DNA vaccine	5
106	5	Explain the mode of action and applications of adjuvant and haptens.	5
107	5	Describe the applications of monoclonal and polyclonal antibodies.	5
108	5	Write an essay on vaccines and add a note on immunization.	5
1	1	Give an account on primary and secondary lymphoid organs.	10
2	1	What are immunoglobulins? Explain their types with functions.	10
3	1	Give an account on characteristic attributes of innate and acquired immune system.	10
4	1	Elaborate on characteristic attributes of innate and acquired immune system.	10
5	1	Innate immunity is also highly specific like acquired immunity. Justify	10
6	1	Adaptive immunity is specific in nature. Justify	10
7	2	Discuss the typical structure of IgG and add a note on the functions of Hyper variable regions.	10

8	2	Discuss on immune responses shown to viral, bacterial and parasitic infection.	10
9	2	Give an account interaction between T and B lymphocytes in Immune reaction against pathogen.	10
10	2	Describe the Primary and Secondary immune response and add a note on Immune response suppression.	10
11	2	How are antigen presenting cells, B and T-Lymphocytes interacting to elicit specific immune response?	10
12	3	Give an account on hypersensitivity reactions.	10
13	3	Give an account on Gels and Comb's classification of hypersensitivity.	10
14	4	What is autoimmunity? Explain the types of autoimmune diseases.	10
15	4	T and B-Cells differ in their susceptibility to tolerance induction .Justify	10
16	4	What are primary and secondary immunodeficiencies? Explain with suitable examples.	10
17	4	What is immune surveillance? How does tumor escape from it?	10
18	5	Explain immunization. Add a note on types of ELISA.	10
19	5	Discuss on different types of vaccines.	10
20	5	Explain the concept of antigen-antibody interaction with suitable examples.	10
21	5	Explain the mechanism of antigen-antibody interaction.	10
22	5	Give an account on vaccines and hybridoma technology.	10
23	5	What are monoclonal and polyclonal antibodies? Explain their applications.	10
24	5	Give an account on Cross reactivity, Immunogen, Adjuvant	10

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Model Question Paper		
St. Philomena's College (Autonomous), Mysore		
III Semester M.Sc-Final Examination		
Subject: Biochemistry		
Title: Immunology (HC)		
Time: 3 Hours		Max Marks: 70
<b>PART-A</b>		
<b>Answer any TEN of the following:</b>		<b>10x2=20</b>
1.	What are epitopes? Name the types	2
2.	Define reticuloendothelial systems.	2
3.	Name the receptors that confer specificity to innate immunity.	2
4.	What are allotypic antibodies?	2
5.	Name the subtypes of T-cells?	2
6.	What are PAMPs and DAMPs?	2
7.	How microbes escape from phagocytic killing?	2
8.	Define metastasis.	2
9.	Give any two reasons for autoimmunity.	2
10.	Distinguish between affinity and avidity of an antibody.	2
11.	Write the principle of hybridoma technology.	2
12.	Why Radioimmunoassay is also called saturation assay?	2
<b>PART-B</b>		
<b>Answer any SIX questions:</b>		<b>6x5=30</b>
13.	Innate immunity is also highly specific like acquired immunity. Justify	5
14.	What are the types of tumor antigens? How does tumor escape immune surveillance?	5
15.	Explain the processing and presentation of intracellular antigens.	5
16.	Describe the genetic basis of antibody heavy chain diversity.	5
17.	Discuss the structure and function of MHC.	5
18.	Explain inflammation. Add a note on pro and anti-inflammatory cytokines.	5
19.	Describe the typical structure of an antibody. How are F(ab) and F(ab) <sub>2</sub> generated?	5
20.	What is hypersensitivity? Name the types with functions.	5
<b>PART-C</b>		
<b>Answer any TWO questions:</b>		<b>2x10=20</b>
21.	Define transplantation, Autograft and Xenograft. Add a note on GVHR.	10
22.	What are vaccines? Explain the types with suitable examples.	10
23.	Explain Immunoprecipitation technique and ELISA.	10

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