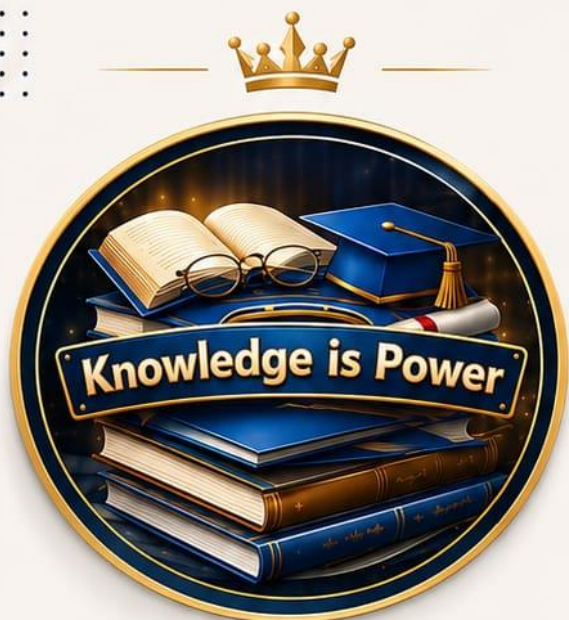




200 REPEATED ★ MIDTERMS CONCEPTUAL MCQs

COURSE
BT302
IMMUNOLOGY

 **CRASH QUESTIONS**
TO GET MAXIMUM MARKS


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Exam
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“



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is our mission.



EFFORT BY
SIR JAWAD CHAUDHARY
M.Phil Agriculture (UAF),
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These MCQs are carefully selected from past midterms to help you understand key concepts.
Use this resource along with your official handouts for the best preparation and maximum results.
If any question appears in your exam, consider it a positive step towards your success!

Best of Luck! ✨

JAWAD CHAUDHARY

MOST FREQUENTLY REPEATED CONCEPTUAL AREAS IN BT302 MIDTERM EXAMS

Q1. The ability of the body to resist infectious diseases is called _____.

Answer: Immunity

Q2. The branch of science that studies the immune system is called _____.

Answer: Immunology

Q3. Immunity that is present at birth and acts immediately is called _____ immunity.

Answer: Innate

Q4. Immunity that develops after exposure to antigens is called _____ immunity.

Answer: Adaptive

Q5. The first line of defense against pathogens is _____ immunity.

Answer: Innate

Q6. The characteristic feature of adaptive immunity is immunological _____.

Answer: Memory

Q7. Skin and mucous membranes function as _____ barriers.

Answer: Anatomical

Q8. The enzyme present in tears and saliva that destroys bacterial cell walls is _____.

Answer: Lysozyme

Q9. Antimicrobial peptides present in innate immunity are called _____.

Answer: Defensins

Q10. Beneficial microorganisms normally present in the body are called normal _____.

Answer: Flora

Q11. The movement of phagocytes toward the site of infection is called _____.

Answer: Chemotaxis

Q12. The passage of leukocytes through blood vessel walls is called _____.

Answer: Diapedesis

Q13. The process by which cells engulf microorganisms is called _____.

Answer: Phagocytosis

Q14. The coating of pathogens to enhance phagocytosis is called _____.

Answer: Opsonization

Q15. Natural killer cells are particularly important in eliminating _____ infected cells.

JAWAD CHAUDHARY

Answer: Virus

Q16. The white blood cells primarily involved in parasitic infections are _____.

Answer: Eosinophils

Q17. Macrophages originate from circulating blood _____.

Answer: Monocytes

Q18. Rapid oxygen consumption during phagocytosis is called _____ burst.

Answer: Respiratory

Q19. The enzyme myeloperoxidase produces _____ ions during microbial killing.

Answer: Hypochlorite

Q20. Receptors that recognize PAMPs are called _____ recognition receptors.

Answer: Pattern

Q21. The complement pathway activated by antigen-antibody complexes is the _____ pathway.

Answer: Classical

Q22. The complement pathway activated directly by microbial surfaces is the _____ pathway.

Answer: Alternative

Q23. The complement pathway initiated by mannose-binding lectin is the _____ pathway.

Answer: Lectin

Q24. The complement component mainly responsible for opsonization is _____.

Answer: C3b

Q25. Complement proteins that induce inflammation are called _____.

Answer: Anaphylatoxins

Q26. The complement system consists of plasma _____.

Answer: Proteins

Q27. The antibody classes that activate classical complement pathway are IgG and _____.

Answer: IgM

Q28. Cytokines that inhibit viral replication are called _____.

Answer: Interferons

Q29. IL-1 is mainly associated with induction of _____.

Answer: Fever

Q30. Lactoferrin inhibits microbial growth by binding _____.

Answer: Iron

Q31. The primary lymphoid organ where B-cells mature is the _____ marrow.

Answer: Bone

Q32. T-cell maturation occurs in the _____.

Answer: Thymus

Q33. Lymph nodes are classified as _____ lymphoid organs.

Answer: Secondary

Q34. The largest secondary lymphoid organ is the _____.

Answer: Spleen

Q35. Stem cells that give rise to all blood cells are called _____ stem cells.

Answer: Hematopoietic

Q36. B-cells, T-cells, and NK cells arise from the _____ lineage.

Answer: Lymphoid

Q37. Neutrophils and macrophages originate from the _____ lineage.

Answer: Myeloid

Q38. The continuous movement of lymphocytes between tissues is called lymphocyte _____.

Answer: Recirculation

Q39. Activation of naïve lymphocytes by antigen is called _____.

Answer: Priming

Q40. The theory stating that antigens select specific lymphocyte clones is called _____ selection theory.

Answer: Clonal

Q41. A substance capable of inducing an immune response is called an _____.

Answer: Immunogen

Q42. A substance that reacts with immune products is called an _____.

Answer: Antigen

Q43. A small molecule that becomes immunogenic only after binding to a carrier is called a _____.

Answer: Hapten

Q44. The specific part of an antigen recognized by antibodies is called an _____.

Answer: Epitope

Q45. Proteins are generally the most _____ immunogens.

Answer: Potent

Q46. Larger molecules are generally more _____.

Answer: Immunogenic

Q47. T-cell dependent antigens are usually _____ in nature.

Answer: Protein

Q48. T-cell independent antigens are commonly _____.

Answer: Polysaccharides

Q49. Antigens causing polyclonal T-cell activation are called _____.

Answer: Superantigens

Q50. Foreignness is an important determinant of _____.

Answer: Immunogenicity

Q51. Molecular structures shared by groups of pathogens are called _____.

Answer: PAMPs

Q52. Toll-like receptors belong to the family of _____ recognition receptors.

Answer: Pattern

Q53. TLR-4 recognizes bacterial _____.

Answer: Lipopolysaccharide

Q54. TLR-5 recognizes bacterial _____.

Answer: Flagellin

Q55. PRRs are important components of _____ immunity.

Answer: Innate

Q56. Antibodies are also known as _____.

Answer: Immunoglobulins

Q57. Antibodies are produced by _____ cells.

Answer: Plasma

Q58. Each antibody molecule contains two heavy and two _____ chains.

Answer: Light

Q59. The two types of light chains are kappa and _____.

Answer: Lambda

Q60. The antigen-binding site of an antibody is called the _____.

Answer: Paratope

Q61. Regions responsible for antigen recognition are called _____ regions.

Answer: Variable

Q62. The flexible portion of an antibody molecule is called the _____ region.

Answer: Hinge

Q63. The highly diverse regions involved in antigen binding are called _____ regions.

Answer: Hypervariable

Q64. Antigen-binding fragments of antibodies are called _____ fragments.

Answer: Fab

Q65. The fragment responsible for effector functions is the _____ fragment.

Answer: Fc

Q66. The most abundant immunoglobulin in serum is _____.

Answer: IgG

Q67. The only antibody class capable of crossing the placenta is _____.

Answer: IgG

Q68. The first antibody produced during primary immune response is _____.

Answer: IgM

Q69. Secretory immunity is primarily mediated by _____.

Answer: IgA

Q70. Allergic reactions are mainly mediated by _____.

Answer: IgE

Q71. The immunoglobulin functioning as a B-cell receptor is _____.

Answer: IgD

Q72. Pentameric immunoglobulin is _____.

Answer: IgM

Q73. Secretory IgA exists predominantly as a _____.

Answer: Dimer

Q74. The antibody most effective in complement activation is _____.

Answer: IgM

Q75. Immediate hypersensitivity reactions involve _____ antibodies.

Answer: IgE

Q76. The strength of interaction between one epitope and one paratope is called _____.

Answer: Affinity

Q77. The overall binding strength between multivalent antigens and antibodies is called _____.

Answer: Avidity

Q78. The optimal antigen-antibody ratio is called the _____ zone.

Answer: Equivalence

Q79. Clumping of particulate antigens by antibodies is called _____.

Answer: Agglutination

Q80. Agglutination involving red blood cells is called _____.

Answer: Hemagglutination

Q81. The highest serum dilution showing agglutination is called antibody _____.

Answer: Titer

Q82. Antibodies involved in precipitation reactions are called _____.

Answer: Precipitins

Q83. Precipitation reactions involve _____ antigens.

Answer: Soluble

Q84. Radial immunodiffusion is used to measure serum _____ levels.

Answer: Immunoglobulin

Q85. Double immunodiffusion is useful for determining antigen _____.

Answer: Purity

Q86. ELISA stands for Enzyme-Linked Immunosorbent _____.

Answer: Assay

Q87. Direct ELISA is commonly used to detect unknown _____.

Answer: Antibodies

Q88. Sandwich ELISA is commonly used to detect unknown _____.

Answer: Antigens

Q89. Color development in ELISA indicates enzyme-substrate _____.

Answer: Reaction

Q90. Complement Fixation Test depends on consumption of _____ proteins.

Answer: Complement

Q91. Absence of RBC lysis in CFT indicates a _____ result.

Answer: Positive

Q92. Presence of RBC lysis in CFT indicates a _____ result.

Answer: Negative

Q93. Antibody-secreting cells are called _____ cells.

Answer: Plasma

Q94. Cells responsible for rapid secondary immune responses are _____ cells.

Answer: Memory

Q95. Secondary immune responses predominantly involve _____ antibodies.

Answer: IgG

Q96. The first encounter with an antigen produces a _____ immune response.

Answer: Primary

Q97. Subsequent exposure to the same antigen produces a _____ immune response.

Answer: Secondary

Q98. During secondary responses, antibody class switching commonly occurs from IgM to _____.

Answer: IgG

Q99. The hallmark of adaptive immunity is immunological _____.

Answer: Memory

Q100. Expansion of antigen-specific lymphocytes following activation is called clonal _____.

Answer: Expansion

Q101. The light chain gene family encoding lambda chains is located on chromosome _____.

Answer: 22

Q102. The light chain gene family encoding kappa chains is located on chromosome _____.

Answer: 2

Q103. The heavy chain gene family is located on chromosome _____.

Answer: 14

Q104. The gene segments responsible for diversity in heavy chains are called _____ segments.

Answer: D (Diversity)

Q105. The rearrangement of immunoglobulin genes in B-cells is called somatic _____.

Answer: Recombination

Q106. During kappa light chain recombination, _____ genes become close to J genes.

Answer: V

Q107. In heavy chain recombination, D segments first combine with _____ segments.

Answer: J

Q108. After D-J recombination, _____ segments join to complete heavy chain formation.

Answer: V

Q109. Removal of non-coding sequences during recombination occurs through _____.

Answer: Splicing

Q110. Enhanced mutation occurring in V region genes is called somatic hyper _____.

Answer: Mutation

Q111. Somatic hypermutation mainly occurs in genes coding for the _____ hypervariable region.

Answer: Second

Q112. Somatic hypermutation contributes to increased antibody _____.

Answer: Affinity

Q113. Activation-induced cytidine deaminase is abbreviated as _____.

Answer: AID

Q114. Humans can produce approximately 10^7 – 10^8 different antibody _____.

Answer: Specificities

Q115. Diversity generated by joining gene segments is called V(D)J combinatorial _____.

Answer: Diversity

Q116. Recombination signal sequences are abbreviated as _____.

Answer: RSS

Q117. RSS regions are composed of conserved heptamer and _____ sequences.

Answer: Nonamer

Q118. Enzymes involved in V(D)J recombination are called _____ genes.

Answer: RAG

Q119. The two recombination-associated genes are RAG-1 and _____.

Answer: RAG-2

Q120. Deficiency of RAG enzymes leads to _____ combined immunodeficiency.

Answer: Severe

Q121. B-cell receptors can recognize antigens in _____ form.

Answer: Soluble

Q122. T-cell receptors mainly recognize antigens that are _____ in nature.

Answer: Protein

Q123. Unlike BCRs, TCRs cannot recognize _____ antigens.

Answer: Soluble

Q124. T-cell receptors recognize antigens only after association with _____ molecules.

Answer: **MHC**

Q125. Cytotoxic T-cells recognize antigens presented with _____ MHC.

Answer: **Class I**

Q126. Helper T-cells recognize antigens presented with _____ MHC.

Answer: **Class II**

Q127. Fragmentation of antigens inside cells is called antigen _____.

Answer: **Processing**

Q128. Association of peptide fragments with MHC molecules is called antigen _____.

Answer: **Presentation**

Q129. Viruses are examples of _____ antigens.

Answer: **Endogenous**

Q130. Endogenous antigens are processed within the cellular _____.

Answer: **Cytosol**

Q131. Endogenous antigens are degraded in organelles called _____.

Answer: **Proteasomes**

Q132. MHC Class I molecules are synthesized in the _____.

Answer: **Endoplasmic reticulum**

Q133. Exogenous antigens are usually taken up by _____.

Answer: **Endocytosis**

Q134. Bacteria present in endosomes are examples of _____ antigens.

Answer: **Exogenous**

Q135. Exogenous antigens are presented through MHC Class _____.

Answer: **II**

Q136. Exogenous proteins are degraded by enzymes called _____.

Answer: **Proteases**

Q137. MHC II molecules combine with peptide fragments within _____.

Answer: **Endosomes**

Q138. Macrophages are examples of professional antigen-presenting _____.

Answer: **Cells**

Q139. Dendritic cells are specialized _____ cells.

Answer: Antigen-presenting

Q140. B-cells can function as _____.

Answer: APCs

Q141. The interaction between APCs and T-cells forms an immunological _____.

Answer: Synapse

Q142. MHC genes are highly _____ in nature.

Answer: Polymorphic

Q143. MHC genes were first identified during studies of tissue _____.

Answer: Transplantation

Q144. Class I MHC molecules are expressed on all _____ cells.

Answer: Nucleated

Q145. Class II MHC molecules are primarily expressed on _____.

Answer: APCs

Q146. Class I MHC molecules contain a long alpha chain and short _____ chain.

Answer: Beta

Q147. The antigen-binding groove of Class I MHC is formed by $\alpha 1$ and _____ domains.

Answer: $\alpha 2$

Q148. Class I MHC molecules can accommodate peptides of _____ amino acids.

Answer: 8–10

Q149. Class II MHC molecules contain alpha and beta chains of _____ length.

Answer: Equal

Q150. The peptide-binding groove of Class II MHC is formed by $\alpha 1$ and _____ domains.

Answer: $\beta 1$

Q151. CD4 molecules bind with the _____ domain of Class II MHC.

Answer: $\beta 2$

Q152. Class II MHC molecules can accommodate peptides of _____ amino acids.

Answer: 13–25

Q153. The antigen-binding groove of Class II MHC is relatively _____.

Answer: Open

Q154. The antigen-binding groove of Class I MHC is relatively _____.

Answer: Closed

Q155. Langerhans cells belong to the category of _____ cells.

Answer: Antigen-presenting

Q156. T-cell receptors belong to the immunoglobulin _____.

Answer: Superfamily

Q157. The TCR is a _____ receptor.

Answer: Heterodimer

Q158. Most TCRs are composed of alpha and _____ chains.

Answer: Beta

Q159. TCR specificity is determined by its _____ regions.

Answer: Hypervariable

Q160. Each T-cell receptor exhibits _____ specificity.

Answer: Single

Q161. T-cell maturation occurs in the _____.

Answer: Thymus

Q162. TCR alpha chain genes contain V and _____ segments.

Answer: J

Q163. TCR beta chain genes contain V, D, and _____ segments.

Answer: J

Q164. TCR diversity is generated through combinatorial _____.

Answer: Diversity

Q165. T-cells carrying gamma and delta chains are called _____ T-cells.

Answer: $\gamma\delta$

Q166. $\gamma\delta$ T-cells are predominantly found in _____ epithelium.

Answer: Mucosal

Q167. Unlike $\alpha\beta$ T-cells, $\gamma\delta$ T-cells recognize antigens independent of _____.

Answer: MHC

Q168. CD3 stands for Cluster of Differentiation _____.

Answer: 3

Q169. CD3 is located adjacent to the _____.

Answer: TCR

Q170. CD3 plays an important role in signal _____.

Answer: Transduction

Q171. The co-stimulatory molecule present on T-cells is _____.

Answer: CD28

Q172. The ligands for CD28 are B7-1 and _____.

Answer: B7-2

Q173. Co-stimulatory molecules enhance cellular _____.

Answer: Responses

Q174. TCR, MHC, accessory molecules, and co-stimulatory molecules together form an immunological _____.

Answer: Synapse

Q175. Cytokine secretion occurs following T-cell _____.

Answer: Activation

Q176. Lack of co-stimulation causes T-cell _____.

Answer: Anergy

Q177. Anergy refers to T-cell _____ to antigens.

Answer: Non-responsiveness

Q178. CTLA-4 downregulates T-cell _____.

Answer: Activation

Q179. Absence of CD28 signaling results in T-cell _____.

Answer: Inactivation

Q180. Proper T-cell activation requires both antigen recognition and _____.

Answer: Co-stimulation

Q181. T-independent antigens stimulate B-cells without T-cell _____.

Answer: Help

Q182. Most T-independent antigens are _____ in nature.

Answer: Polysaccharide

Q183. Streptococcus pneumoniae antigens are examples of _____ antigens.

Answer: T-independent

Q184. Repeated epitopes on antigens promote _____ B-cell activation.

Answer: Direct

Q185. Simultaneous activation of multiple B-cell clones is called _____ activation.

Answer: Polyclonal

Q186. B-cell receptors are membrane-bound _____.

Answer: Immunoglobulins

Q187. Mature B-cells differentiate into _____ cells after activation.

Answer: Plasma

Q188. Plasma cells are specialized for _____ secretion.

Answer: Antibody

Q189. Some activated B-cells differentiate into _____ cells.

Answer: Memory

Q190. B-cell activation ultimately contributes to _____ immunity.

Answer: Humoral

Q191. The first exposure to antigen induces a _____ response.

Answer: Primary

Q192. The secondary response mainly involves _____ cells.

Answer: Memory

Q193. Memory pools are primarily composed of activated T and _____ lymphocytes.

Answer: B

Q194. Antibody class switching commonly occurs from IgM to _____.

Answer: IgG

Q195. Secondary immune responses are dominated by _____ antibodies.

Answer: IgG

Q196. Some plasma cells differentiate into _____ cells.

Answer: Memory

Q197. Secondary responses occur more _____ than primary responses.

Answer: Rapidly

Q198. The hallmark of secondary responses is immunological _____.

Answer: Memory

Q199. Affinity maturation is associated with _____ immune responses.

Answer: Secondary

Q200. Enhanced antibody production during repeated exposure is due to _____ cells.

Answer: Memory

200 Most Important Repeated Conceptual MCQs

Important Note:

These MCQs have been compiled from repeated exam patterns, important concepts, and previous assessments to support your preparation.

 However, do NOT rely solely on this compilation.

For the best results, thoroughly study your Handouts, PPTs, Video Lectures, and Course Material as well.

Prepare Smart, Work Hard, and Aim for Excellence.

Best of Luck!  

BS Biological Sciences Team  