Ministry of Higher Education & Scientific Research
Tikrit University
College of Veterinary Medicine
Postrgaduate Division

Class: M.Sc. Microbiology
Time: 3 hours
Form (1)
Date: 30/ 6 / 2025

Competitive exam for postgraduate students-Master's program (2025-2026)

Note : Answer all following questions

Choose the correct answer (150 Marks)

Virology Section:

1- Which of the following statements is FALSE?
a. Viruses contain DNA or RNA.
b. The nucleic acid of a virus is surrounded by a protein coat.
c. Viruses multiply inside living cells using viral mRNA, tRNA, and ribosomes.
d. Viruses cause the synthesis of specialized infectious elements.

2- Which of the followings is NOT a characteristic of viruses?
a. They have a few or no enzymes for their own metabolism.
b. They always use host cell machinery to produce their components, such as viral messenger RNA (mRNA), protein, and identical copies of the genome.
c. The virion may contain essential or accessory enzymes.
d. The envelope of the virus protects its nucleic acid from the activity of nuclease enzymes in biological fluids.

3- The extracellular, infectious viral particle is called:
a. Capsid b. Virion c. Envelope d. Capsomere

4- The spikes are glycoprotein-like projections on the outer surface of the envelope. Most spikes act as:
a. Toxin b. Antiphagocytic protiens
c. Protective protiens from invironmental factors d. Viral attachment proteins

5- Which of the following is NOT a properties of viral genome:
a. Consist of either DNA or RNA but not both
b. The DNA viruses may be single stranded or double stranded
c. The DNA viruses may be linear or circular
d. The DNA can be either positive sense (+) or negative sense (-)

6- The viruses usually remain viable in a pH range of:
a. 5-9 b. 12-3 c. 6-7 d. 7-10

7- With regard to viral entry to the cells, which of the followings is NOT true:
a. A non-enveloped virus may enters the cell by a process known as endocytosis.
b. A non-enveloped virus may enters the cell by a process known as viropexis
c. Enveloped virus may enters the cell by a process known as fusion.
d. Enveloped virus may enters the cell by a process known as endocytosis.

8- The process of the separation of viral nucleic acid from its protein core called:
a. Realeasing b. Uncoating
c. Penetration d. Biosynthesis

9- HIV-1 binds specifically to:

a. CD4 b. CD8
c. Acetylcholine receptors d. Sialic acid

10- Which of the following have their own RNA polymerases for mRNA transcription?

a. Negative sense RNA virus b. Positive sense RNA virus
c. Negative sense DNA virus d. Positive sense DNA virus

11- In some viral infection, the virus components may be synthesised, but the maturation is defective. The progeny virions are either not released or are non-infectious.This known as:

a. Abortive infection b. Defective virus
c. Pseudovirions d. All of the previous

12- Poxviridae characterized by all the followings EXCEPT:

a. Brick-shaped viruses.
b. They have a single linear molecule of double-stranded DNA genome.
c. The poxviruses are associated with skin lesions.
d. The viral components are synthesised and assembled in the nucleus of infected host cells.

13- Which of the following is TRUE according to Rhabdoviridae:

a. Are bullet-shaped b. They are non-enveloped
c. Contain DNA d. Measure 10-20 μm

14- Orthomyxoviridae characterized by all the followings EXCEPT:

a. Envelopedviruses b. Have single-stranded RNA genome.
c. Have segmented RNA genome d. Contain the medically important genus which cause rabies

15- Retroviruses are so named because they possess the enzyme:

a. RNA-dependent DNA polymerase.
b. RNA-dependent RNA polymerase
c. DNA-dependent RNA polymerase
d. DNA-dependent DNA polymerase

16- Viroids are:

a. Nucleic acid without protein coat b. Protein without any detectable nucleic acid.
c. Nucleic acid without envelope d. Envelope without nucleic acid

17- The outcome of the viral infection (disease manifestation) depends on the:

a. Age, general health and immune status of the person.
b. Dose of the infective virus.
c. Genetics of the host and the virus.
d. All of the above

18- The cell that allows replication of a particular type of strain of virus (by providing biosynthesis compounds) called:

a. Permissive cell b. Non-permisive cell
c. Semi-permisive d. Semi-defective cell

19- What is the mode of action of Amantadine and Rimantadine:

a. Fusion inhibitor b. Integrase inhibitor
c. Blocks viral uncoating d. Reverse transcriptase inhibitors

20- The selective action of Acyclovir against:
a. Herpesvirus b. HIV c. Hepatitis virus d. Poxvirus

21- Which of the following is Non-NucleosidePolymeraseInhibitors
a. Fuscarnet b. Ribavirin c.Azidothymidine d.Acyclovir

22- Interferons are produced by leukocytes and many other cells in response to
a. Endotoxin b. Mutagenic and antigenic stimuli. c. Infection by virus d. All of the previous

23- Nucleoside analogues cause selective inhibi-tion of virus replication by:
a. binding better to viral DNA polymerase rather than to the cellular DNA polymerase
b. Only virally infected cell hasreceptors for the drug
c. The drug can not enter human cells
d. None of the above

24- Inclusion bodies in cytoplasm (Negri bodies) are seen in infection with:
a. Cytomegalovirus b. Measlesvirus c. HIV d. Rabiesvirus

25- According to viral withstand to temperature, which of the following is true
a. Most of the viruses are highly heat-labile and inactivated within seconds at 56 C.
b. The viruses are not stable at low temperatures and die at -70.
c. Most viruses are heat-stable and can resist 60 C for hours.
d. None of the above

26- Each capsids is composed of a large number of protein sub-units called:
a. Nucleocapsids b. Capsules c. Capsidophores d.Capsomeres

27- Which of the following viruses do not enter through the alimentary tract:
a. Rotaviruses b. Enteroviruses c. Adenoviruses d. Rabies viruses

28- The persistent viral infection may be:
a. Non-lytic and productive (chronic). b. Latent. c. Recurrent d. All of the previous

29- Infection with viruses that cause cell death are called:
a. Lysogenic infection b. Lytic infection c. Temperate infection d. None of the previous

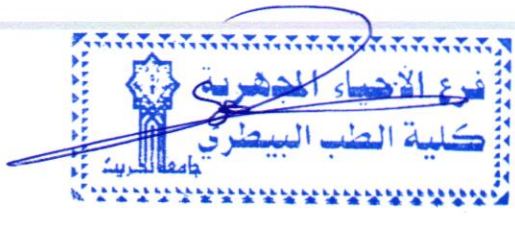
30- Some phages integrate into the genome of the bacterial chromosome without causing any lysis of the bacteria. The integrated phage nucleic acid is known as:
a. Bacteriophage b. Interophage c. Prophage d. Lysogenes

Bacteriology Section:

31- Which of the following genera is considered a major pathogen in the Enterobacteriaceae family?
a. Hafnia b. Klebsiella c. Escherichia coli d.Erwinia

32- Which of the following is a common virulence factor in pathogenic Escherichia coli?
a. Endotoxin (LPS) b. Coagulase c. Exotoxin d.Capsule formation

33- Which test can be used to differentiate between Salmonella species and other enteropathogens?
a. IMViC test b. MacConkey agar test c. Brilliant green agar d. TSI agar



34- Which of the following is NOT a toxin-mediated disease caused by S. aureus?
a. Food poisoning b. Toxic shock syndrome c. Staphylococcal scalded skin syndrome d. Tuberculosis

35- Protein A, a major protein in the cell wall of S. aureus, is responsible for:
a. Inducing motility b. Inhibiting phagocytosis c. Capsule formation d. Spore production

36- Which factor is NOT a virulence factor of S. aureus?
a. Coagulase b. Protein A c. Hemolysins d. Flagella

37- The function of the bacterial cell wall includes all EXCEPT:
a. DNA replication b. Providing shape c. Rigidity d. Environmental protection

38- Gram-negative cell walls contain all EXCEPT:
a. Peptidoglycan b. Lipoteichoic acid c. Lipopolysaccharide d. Phospholipid

39- The outer membrane of Gram-negative bacteria is:
a. Single-layered b. Absent c. Bilayered d. Made entirely of protein

40- The main structural molecule in Gram-positive cell walls is:
a. Lipid A b. Teichoic acid c. LPS d. Flagellin

41- Which of the following is a key characteristic of Enterobacteriaceae?
a. Gram-positive rods b. Catalase-negative c. Facultative anaerobes d. Non-motile

42- Which of the following Enterobacteriaceae species is non-motile at 30°C?
a. Klebsiella pneumoniae b. Escherichia coli c. Enterobacteraerogenes d. Salmonella serotypes

43- Which antigen is responsible for the motility of Escherichia coli?
a. O antigen b. H antigen c. K antigen d. F antigen

44- The bacterial cell wall is primarily composed of:
a. Phospholipids b. DNA and RNA c. Peptidoglycan d. Cellulose

45- On blood agar, S. aureus produces:
a. Alpha-hemolysis b. Beta-hemolysis c. Gamma-hemolysis d. No hemolysis

46- A unique feature of S. aureus is the ability to:
a. Ferment mannitol b. Produce green pigment c. Be motile d. Produce spores

47- Which of the following is NOT typical for S. aureus?
a. Gram-positive cocci b. Arrangement in clusters c. Motility d. Beta-hemolysis

48- What is the primary habitat of Enterobacteriaceae bacteria?
a. Bloodstream of animals b. Soil and water only
c. Intestinal tract of animals and humans d. Respiratory system of animals

49- What is the typical colony appearance of Klebsiella on agar?
a. Swarming colonies b. Pink, mucoid colonies
c. Red, flat colonies d. Green colonies with metallic sheen

50- Which of the following biochemical tests is used to differentiate Escherichia coli from other Enterobacteriaceae?

a. Citrate utilization test b. Indole production test c. Urease activity test d. Voges-Proskauer test

51- Which of the following is true for Yersinia species?

a. They are lactose fermenters b. They are oxidase-positive
c. They produce H2S in TSI agar d. They are responsible for bubonic plague

52- Which of the following virulence factors contributes to E. coli ability to cause urinary tract infections?

a. Capsule production b. Endotoxin c. Fimbrial adhesions d. Enterotoxins

53- What is a characteristic feature of Enterobacteraerogenes colonies?

a. Swarming on blood agar b. Mucoid appearance
c. Red pigment production d. Metallic sheen on EMB agar

54- Which test is used to detect O and H antigens in Escherichia coli, Salmonella, and Yersinia species?

a. Serotyping test b. IMViC test c. Triple sugar iron (TSI) test d. Urease test

55- A major component of S. aureus cell wall that mediates mucosal attachment is:

a. Capsule b. Teichoic acid c. Protein A d. Lipase

56- The enzyme produced by S. aureus that hydrolyzes DNA is:

a. Lipase b. Nuclease c. Protease d. Amylase

57- Which of the following is found only in Gram-positive bacterial cell walls?

a. Lipoproteins b. Lipid A c. Teichoic acid d. Lipopolysaccharides

58- Which type of bacteria has thicker cell walls?

a. Old bacteria b. Young bacteria c. Rapidly dividing bacteria d. Spores

59- In Gram-negative bacteria, what structure contains Lipid A?

a. Inner membrane b. Cytoplasm c. Outer membrane d. Peptidoglycan

60- Which structure is responsible for energy capture in bacterial cells?

a. Ribosomes b. Nucleoid c. Cell wall d. Cell membrane

Mycology& Mycoplasma Section:

61- The fungal cell characterized by the presence of the followings EXCEPT:

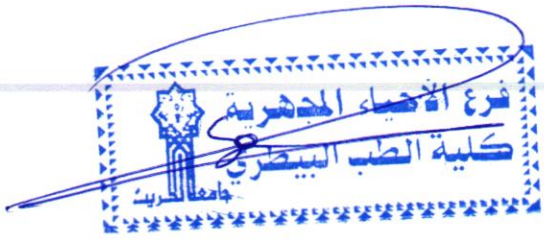
a. Chitin b. Glycerophospholipids c. Sphingolipids d. Peptidoglycam

62- Which of the following is true according to fungi:

a. Contain Mitochondria and endoplasmic reticulum
b. The considered as Prokaryotes
c. Reproduced only asexually
d. Mode of nutrition are both autotrophic and heterotrophic

63- According to aerobic requirements of fungal growth, which of the following growth condition is NOT suitable for fungi:

a. Strict aerobic b. Strict an aerobic c. Facultative an aerobic d. None of the previous



64- Which of the following immune response plays a key role in protection against fungal infections?
a. Cell mediated b. Humoral c.Both cell mediated and humoral d. interferon

65- Which of the following fungi cause opportunistic infection
a. Histoplasma b.Blastomyces c. Coccidioides d.Candida

66- Asexual spores include all the followings EXCEPT:
a. Zygospores b. Ascospores c. Basidiospores d. Chlamydospores

67- Which of the following is the main route of transmission of broncho-pulmonary aspergillosis:
a. Ingestion of contaminated food
b. Inhalation of spores
c. Normal flora of the respiratory tract mucus membrane
d. None of the above

68- Fungi imperfecti are those the lack:
a. Sexual phase b.Cell wall c. Virulence factores d. All of the previous

69- Dimorphic Fungi mean:
a. Fungi which have both hyphal/mycelia forms and yeast forms
b. Fungi which have both sexual and asexual phases
c. Fungi which have two shapes
d. Fungi which have two types of spores

70- Infections by fungi that can invade the internal organs such as lungs and digestive tract in immunocompetent individuals are generally referred to as:
a. Opportunistic infection b. Systemic infection c. Internal infection d. All of the previous

71- Which of the following growth characteristics generally helpful in the identification of fungi:
a. Morphology of the colonies
b. Colour of colonies on the obverse
c. Pigmentation on the reverse
d. All of the above

72- What is the mode of action of polyenes antifungal drugs like amphotericin B:
a. Bind to ergosterol b.Inhibit DNA and RNA synthesis
c. Inhibit cholesterol synthesis d.Inhibit protein synthesis

73- Non-septate hyphae are:
a. Uni-nucleated b. Multi-nucleated c. Non-nucleated d. All of the previous

74- Which of the following nuclear material are present in fungi:
a. DNA only b. RNA only c. Both DNA and RNA d. None of the previous

75- Potassium hydroxide (KOH) wet mount examination is commonly used in the examination of specimens for fungal infection, because KOH dissolves:
a. Proteins b. Chitin c. Lipid d. Carbohydrates

76- Which of the following is true with regard to mycoplasma?
a. Their cell wall contain sterol b.Share DNA homology with other bacteria
c. Resistant to penicillin and cephalosporins d. All of the previous

77- Mycoplasma multiply by:
a. Binary fission b. Mitosis c. Asexual spores d. Sexual spores

78- Pelvic inflammatory disease caused by:
a. Mycoplasma pneumonia b. Mycoplasma pirum c. Mycoplasma orale d. Mycoplasma hominis

79- The best medium used for the isolation of mycoplasma is:
a. SDA medium b. Blood agar c. PPLO agar d. MacConkey agar

80- P1 antigen is the key virulence factor of mycoplasma. It act as:
a. Cytotoxic toxin b. Enterotoxin c. Endotoxin d. Adhesion molecule

81- M. pneumonia behaves as a superantigen. This causes migration of inflammatory cells to the site of infection and produces cytokines, such as :
a. Tumour necrosis factor-alpha. b. Interleukin-1. c. Interleukin-6. d. All of the previous

82- Tetrazolium reduction test based on the principle that:
a. M. pneumonia can reduce triphenyl tetrazolium, a colourless compound, to formazan, a red-coloured compound.
b. M. pneumonia can reduce triphenyl tetrazolium, a colourless compound, to formazan, a blue-coloured compound
c. M. pneumonia can reduce triphenyl tetrazolium, a colourless compound, to formazan, a black-coloured compound
d. M. pneumonia can reduce triphenyl tetrazolium, a colourless compound, to formazan, a yellow-coloured compound

83- M. pneumonia is most commonly transmitted by:
a. Fecal-oral route b. Sexual contact with infected person
c. Insect bites d. Inhalation of aerosolized droplets.

84- The colonies of mycoplasma have a characteristic appearance called:
a. Rose appearance b. Puffy appearance c. Fried-egg appearance d. None of the previous

85- The reservoir of Mycoplasma pneumonia include:
a. Rodents b. Cats and dogs c. Sheep and cow d. Is a strict human pathogen.

86- Which serological test is used for Mycoplasma diagnosis?
a. Widal test b. Cold agglutinin test c. ASO titer d. VDRL

87- Which of the following diseases is caused by Mycoplasma pneumoniae?
a. Tuberculosis b. Walking pneumon c. Syphilis d. Leprosy

88- The energy source for Mycoplasma is primarily:
a. Photosynthesis b. Chemolithotrophy c. Fermentation d. Host-derived nutrients

89- Which of the following is NOT a characteristic of Mycoplasma?
a. Pleomorphism b. Sterols in the cell membrane
c. Obligate intracellular parasites d. Resistance to beta-lactams

90- Which of the following is NOT a Mycoplasma species?
a. Mycoplasma hominis b. Mycoplasma pneumonia c. Mycoplasma leprae d. Mycoplasma genitalium

Parasitology section:

91- Which of the following features is more commonly associated with Babesia bovis compared to Babesia bigemina?

a. Parasitaemia exceeding 10% b. Haemoglobinuria appearing early in disease
c. Hypotensive shock syndrome d. Abortions in late-term pregnant cows

92- Nervous signs in bovine babesiosis are primarily associated with which species?

a. Babesia bigemina b. Babesia bovis
c. Both species equally d. Nervous signs are not associated with babesiosis

93- Which clinical finding differentiates B. bigemina infections from B. bovis infections?

a. Production of dark red or brown urine b. Fever
c. Nervous signs due to cerebral sequestration d. Anaemia

94- What is the typical percentage range of parasitaemia in acute Babesia bigemina infections?

a. Less than 1% b. 1-5% c. 5-10% d. Up to 30%

95- Which organ is typically enlarged and friable during postmortem examination of a cow infected with B. bovis?

a. Heart b. Liver c. Spleen d. Kidneys

96- What pathological feature is commonly found in the kidneys during B. bovis infections?

a. Petechiae b. Congestion and dark discoloration c. Atrophy d. Thickening of capsule

97- Which reproductive disorder may be associated with Babesiabigemina infections in cattle?

a. Permanent infertility b. Late-term abortion c. Congenital malformations d. Pyometra

98- Which of the following accurately describes the carrier state in recovered animals?

a. Animals remain infected with B. bigemina for life
b. Animals clear B. bovis infection within months
c. Animals remain infected with B. bovis for years
d. Carrier state is symptomatic

99- Which pathological feature is NOT typically associated with B. bovis infection lesions?

a. Enlarged gallbladder with thick granular bile b. Petechiae in the brain
c. Necrosis of spleen d. Jaundice and generalized anemia

100- Which of the following most accurately explains the low parasitaemia in acute B. bovis infections?

a. Early destruction of infected erythrocytes
b. Sequestration of infected erythrocytes in capillaries
c. Efficient immune clearance by the host
d. B. bovis does not multiply within erythrocytes

101- What is the usual incubation (occult) period of Theileria parva before infected lymphocytes can be detected in aspirates?

a. 2–4 days b. 5–10 days c. 11–14 days d. 18–24 days

102- What cellular event is typically observed starting around day 14 post-infection with T. parva?

a. Appearance of piroplasms in RBCs b. Death of infected animals
c. Merogony in parasitized lymphocytes d. Anaemia due to erythrocyte lysis

103- Which of the following is a characteristic feature of red blood cells infected by Theileria parva merozoites?

a. Large spherical inclusions
b. Small, rod-shaped or oval piroplasms
c. Crescent-shaped schizonts
d. Maltese cross formations

104- Which of the following clinical signs typically occurs terminally in East Coast Fever (ECF)?

a. Severe anaemia
b. High fever exceeding 42°C
c. Pulmonary exudate pouring from the nostrils
d. Petechiae on the conjunctiva

105- Why is anaemia NOT a major diagnostic sign in Theileria parva infections?

a. Parasites do not invade RBCs
b. Minimal parasite replication occurs in RBCs
c. RBC destruction is compensated by bone marrow
d. Parasite replication in RBCs occurs late

106- What is a typical postmortem finding in the lymph nodes of cattle infected with ECF?

a. Necrosis of Peyer's patches
b. Extensive enlargement and oedema
c. Atrophy of lymphoid tissue
d. Presence of caseous necrosis

107- Which organ frequently shows petechial and ecchymotichaemorrhages in East Coast Fever cases?

a. Liver
b. Muscles
c. Serosal surfaces of organs
d. Heart valves

108- Which part of the gastrointestinal tract commonly shows ulceration and necrosis in severe cases of ECF?

a. Duodenum
b. Pyloric part of the abomasum
c. Jejunum
d. Cecum

109- What happens to the lymph nodes in chronic cases of ECF?

a. They become hyperplastic and haemorrhagic
b. They become necrotic and shrunken
c. They calcify and harden
d. They completely disappear

110- Which of the following accurately describes the immune response of animals that recover from T. parva infection?

a. They develop complete immunity to all Theileria strains
b. They remain susceptible to the same strain
c. They are immune to the same strain but may be susceptible to heterologous strains
d. They clear the parasite completely with no carrier state

111- What is the primary mechanism by which Giardia intestinalis attaches to the intestinal wall?

a. Flagella
b. Ventral sucking disk
c. Cilia
d. Pseudopodia

112- Which of the following is NOT a characteristic of Giardia intestinalis trophozoites?

a. Two big nuclei
b. Cilia for movement
c. Pear-shaped body
d. Median bodies

113- In which form is Giardia intestinalis most commonly found in firm stool?

a. Trophozoites only
b. Cysts only
c. Both trophozoites and cysts equally
d. Neither trophozoites nor cysts

114- How many trophozoites does each Giardia cyst release upon excystation in the small intestine?

a. 1
b. 2
c. 4
d. 8

115- Which of the following animals is NOT commonly mentioned as a host for Giardia intestinalis?

a. Cats
b. Birds
c. Deer
d. Frogs

116- What is a potential complication of chronic giardiasis related to nutrient absorption?
a. Iron deficiency anemia b. Vitamin B12 deficiency
c. Calcium malabsorption d. Excessive fat absorption

117- Which of the following best describes the typical onset time for giardiasis symptoms after infection?
a. Within 24 hours b. Within 48 hours c. Within 2 weeks d. After 1 month

118- How is Giardia intestinalis commonly transmitted among humans?
a. Respiratory droplets b. Anal-oral sexual contact c. Mosquito bites d. Blood transfusion

119- What is the typical shape of Giardia intestinalis cysts?
a. Round b. Crescent-shaped c. Oval to ellipsoid d. Rectangular

120- What is the main reason diarrhea in giardiasis can become life-threatening?
a. Severe anemia b. Dehydration with electrolyte loss
c. Intestinal perforation d. Paralysis of intestinal muscles

Immunology Section:

121- An antigen is a molecule that:
a. Acts to destroy immune cells and directly causes disease symptoms
b. Promotes the production of cytokines regardless of specificity
c. Suppresses the immune system and prevents antibody formation
d. Stimulates a specific immune response by acting as a foreign trigger

122- Haptens are best described as molecules that
a. Fully immunogenic on their own b. Cannot bind to antibodies
c. Need a carrier to trigger immunity d. Stimulate immune response without help

123- Proteins are more immunogenic than lipids or nucleic acids because:
a. They are heavier and cannot be degraded b. They are more complex structurally
c. They are water soluble and heavier d. They cannot be degraded

124- Which route typically elicits the strongest immune response?
a. Intravenous b. Subcutaneous c. Oral d. Nasal

125- The function of adjuvants is to:
a. Reduce sensitivity to antigens b. Break antigens into smaller parts
c. Boost immune response to antigens d. Control antibody overproduction

126- Self-antigens that are normally hidden from the immune system include:
a. Skin proteins b. Sperm proteins c. Red blood cells d. Muscle tissue

127- T-cell dependent epitopes are mostly:
a. Proteins b. Lipids c. Polysaccharides d. Nucleic acids

128- The cytokine storm in COVID-19 is due to:
a. Delayed antibody response b. Superantigen-like activity
c. Lack of MHC I d. IgM overproduction

129- The enzyme C1s in the classical pathway first acts on:
a. C3 and C5 b. C2 and C3 c. C4 and C2 d. C1q and C4

130- The final product of complement activation responsible for cell lysis is:
a. C3 convertase b. C5 convertase c. Membrane attack complex d. C4b2a complex

131- The only immunoglobulins that activate the classical pathway are:
a. IgA and IgE b. IgD and IgM c. IgG and IgM d. IgE and IgG

132- The central molecule in all three complement activation pathways is
a. C1q b. C5b c. MAC d. C3b

133- The pathwaythat triggered by mannose-binding lectin (MBL)is
a. Classical b. Lectin c. Alternative d. None

134- Which complement fragment is responsible for inflammation?
a. C3a b. C3b c. C4a d. C5a

135- The first protein which to bind during activation of the alternative complement pathway is
a. C1q b. Factor B c. C3 d. C4

136- The immune reactant involved in Type I hypersensitivity reactions such as hay fever, asthma, and eczema is:
a. IgG b. IgM c. IgE d. T-cells

137- The type of antigen which involved in Type II (cytotoxic) hypersensitivity reactions is:
a. Soluble antigen b. Cell-bound antigen c. Viral antigen d. Self-DNA

138- The type of hypersensitivity reaction involved in contact dermatitis and organ transplant rejection is:
a. Type I b. Type II c. Type III d. Type IV

139- Histamine release through mast cell degranulation is a key feature of:
a. Type II cytotoxic reactions b. Type III immune complex reactions
c. Type I anaphylactic reactions d. Type IV cell-mediated reactions

140- IgG or IgM antibodies binding to cell-surface antigens and activating complement is the mechanism of:
a. Type I hypersensitivity b. Type II hypersensitivity
c. Type III hypersensitivity d. Type IV hypersensitivity

141- Which of the following are classic examples of Type III hypersensitivity reactions?
a. Asthma and hay fever b. Hemolytic anemia and transfusion reactions
c. Arthus reaction and serum sickness d. Contact dermatitis and graft rejection

142- Digestion of immunoglobulin by papain results in:
a. One Fab fragment b. Two Fab and one Fc fragment
c. Two Fc fragments only d. Two Fab and one Fc fragment

143- The immunoglobulin with the longest serum half-life is:
a. IgA b. IgM c. IgG d. IgE

144- The two types of light chains found in immunoglobulins are:
a. Alpha and beta b. Kappa and lambda
c. Kappa and lambda d. Delta and epsilon

145- The only immunoglobulin that can cross the placenta is:
a. IgA b. IgE c. IgG d. IgM

146- The first antibody to appear in a primary immune response is:
a. IgG b. IgA c.IgE d.IgM

147- An example of a body fluid that does not contain secretory IgA is:
a. Tears b.Saliva c.Urine d. Colostrum

148- The J chain in immunoglobulin structure serves to:
a. Assist in antigen bindingspecificity of antibodies
b. Enable placental transferof immunoglobulins
c. Join monomer units in IgA and IgM
d. Initiate of immunoglobulinssynthesis

149- The region of the antibody molecule that determines its isotype is:
a. Variable region b.Constant region c. Hinge region d.Fab fragment

150- This immunoglobulin is found primarily on the surface of mature B cells, and its serum function is not well known:
a. IgD b. IgA c. IgE d.IgG

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كلية الطب البيطري
30-06-2024
اللجنة الامتحانية

Good Luck

Examiner	Examiner	Head of the Dept.	Examiner	Examiner
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