

1. The phenomenon of “abortion storm” in brucellosis refers to:
 - A) **Simultaneous abortion in a herd**
 - B) A single isolated case
 - C) Late-term stillbirths only
 - D) Mild reproductive failure
2. In India, which FMD serotype is most frequently associated with outbreaks?
 - A) **Type O**
 - B) Type A
 - C) Asia 1
 - D) SAT 2
3. Tetanus is characterized by:
 - A) Flaccid paralysis
 - B) **Spastic paralysis and “lockjaw”**
 - C) Hemorrhagic diarrhea
 - D) Vesicular lesions
4. The anthrax capsule is composed primarily of:
 - A) Polysaccharide
 - B) **Poly-D-glutamic acid**
 - C) Peptidoglycan
 - D) Lipopolysaccharide
5. The term “carrier state” in FMD refers to:
 - A) **Animals that have recovered and still harbor the virus**
 - B) Animals that are never infected
 - C) Animals that are immune
 - D) Animals with acute symptoms
6. In sheep and goats, the most common agent isolated in respiratory pasteurellosis is:
 - A) Pasteurella multocida
 - B) **Mannheimia haemolytica A2**
 - C) Bibersteinia trehalosi
 - D) Streptococcus uberis
7. The “rectal pinch” method is used to:
 - A) Treat Johne’s disease
 - B) **Diagnose Johne’s disease**
 - C) Vaccinate against Johne’s disease
 - D) Differentiate Johne’s disease from tuberculosis
8. How long can the FMD virus survive on hay or straw bedding?
 - A) 2 weeks
 - B) 4 weeks
 - C) **Up to 20 weeks**
 - D) 6 months
9. Peste des petits ruminants (PPR) is primarily a disease of:
 - A) Cattle and buffaloes
 - B) **Sheep and goats**
 - C) Pigs
 - D) Equines
10. The “white side test” is used in the diagnosis of:
 - A) **Mastitis**
 - B) Tuberculosis
 - C) Rinderpest
 - D) Listeriosis

11. Hemorrhagic septicemia is caused by:
- A) **Pasteurella multocida type 1**
 - B) Pasteurella multocida type B
 - C) Mannheimia haemolytica
 - D) Escherichia coli
12. Dry cow therapy is implemented to:
- A) Treat acute mastitis
 - B) **Prevent new intramammary infections during the dry period**
 - C) Increase milk yield
 - D) Vaccinate against tuberculosis
13. Johne's disease is caused by:
- A) Mycobacterium bovis
 - B) Mycobacterium tuberculosis
 - C) **Mycobacterium avium subspecies paratuberculosis**
 - D) Mycobacterium leprae
14. In hemorrhagic septicemia, the nasopharynx of carrier animals is a major reservoir.
- A) **True**
 - B) False
 - C) Uncertain
 - D) Not applicable
15. One advantage of oil-adjuvant vaccines in FMD control is:
- A) **Single-dose long-term immunity**
 - B) Immediate onset of immunity
 - C) Ease of administration
 - D) Low cost
16. In pasteurellosis, bacterial toxins such as leukotoxin contribute to:
- A) Increased mucus production
 - B) **Destruction of ruminant leukocytes**
 - C) Enhanced phagocytosis
 - D) Formation of granulomas
17. A unique feature of Listeria monocytogenes is its ability to:
- A) **Grow at low temperatures (4°C)**
 - B) Form spores
 - C) Produce a capsule
 - D) Resist all antibiotics
18. To differentiate vaccinated from naturally infected animals in FMD control, which test is used?
- A) VNT
 - B) **NSP antibody ELISA**
 - C) PCR
 - D) Bacterial culture
19. Which diagnostic test is most frequently used for tuberculosis screening in cattle?
- A) Rose Bengal test
 - B) **Single intradermal tuberculin test**
 - C) ELISA for NSP antibodies
 - D) Complement fixation test
20. Brucellosis in bulls may result in:
- A) **Orchitis and epididymitis**
 - B) Lameness

- C) Respiratory distress
 - D) Skin lesions
21. Rinderpest was eradicated globally in:
- A) 1998
 - B) 2004
 - C) **2011**
 - D) 2015
22. The MGIT BACTEC system is used for:
- A) **Rapid culture and drug-sensitivity testing of tuberculosis**
 - B) DNA sequencing
 - C) Antibody detection
 - D) Histopathology
23. Pasteurellosis in pigs is typically associated with:
- A) **Nasal discharge and bronchopneumonia**
 - B) Enteritis
 - C) Lameness
 - D) Skin lesions
24. The California Mastitis Test (CMT) is used to detect:
- A) Bacterial count
 - B) **Somatic cell count**
 - C) pH changes in milk
 - D) Protein concentration
25. Rinderpest is caused by a virus belonging to the:
- A) **Paramyxoviridae family**
 - B) Picornaviridae family
 - C) Adenoviridae family
 - D) Retroviridae family
26. In clostridial diseases, early treatment is crucial because:
- A) The bacteria are slow-growing
 - B) **The toxins act rapidly**
 - C) The infection is self-limiting
 - D) Vaccines are ineffective post-exposure
27. Anthrax spores can survive in soil for:
- A) A few days
 - B) Several months
 - C) Several years
 - D) **Decades**
28. The major cause of early postnatal disease in neonates is often related to:
- A) Bacterial infections only
 - B) **Metabolic and noninfectious factors such as hypoglycemia**
 - C) Genetic defects
 - D) Parasitic infestations
29. The characteristic gross lesion in Johne's disease is:
- A) Fibrous adhesions in the lungs
 - B) **Thickened and corrugated intestinal mucosa**
 - C) Granulomas in the spleen
 - D) Ulcerative skin lesions
30. Which test is used for the screening of brucellosis in cattle?
- A) **Rose Bengal Plate Test**
 - B) PCR assay

- C) Western blot
 - D) Agglutination test
31. Which *Brucella* species is most important from a zoonotic standpoint in sheep and goats?
- A) *B. abortus*
 - B) ***B. melitensis***
 - C) *B. suis*
 - D) *B. canis*
32. The first clinical sign of hemorrhagic septicemia in cattle is typically:
- A) **High fever and brisket edema**
 - B) Vesicular lesions in the mouth
 - C) Chronic cough
 - D) Neurological signs
33. The FMD virus belongs to which family?
- A) **Picornaviridae**
 - B) Paramyxoviridae
 - C) Rhabdoviridae
 - D) Orthomyxoviridae
34. Which cell layer is most favorable for FMD virus reproduction?
- A) Basal cell layer
 - B) Stratum corneum
 - C) **Middle layer of stratum spinosum**
 - D) Stratum granulosum
35. Which test is used as a herd–screening tool for mastitis in dairy animals?
- A) Somatic cell count (SCC)
 - B) California Mastitis Test (CMT)
 - C) **Both A and B**
 - D) Bacterial culture
36. Which supportive therapy is important in the management of hemorrhagic septicemia?
- A) **Both fluid therapy and anti-inflammatories**
 - B) Fluid therapy only
 - C) Anti-inflammatories only
 - D) None of the above
37. In FMD, which host is considered an amplifier host?
- A) Cattle
 - B) Sheep
 - C) **Pigs**
 - D) Goats
38. The “primary complex” in bovine tuberculosis is most often seen in:
- A) Lymph nodes
 - B) **Lungs**
 - C) Liver
 - D) Kidneys
39. In Black Quarter, the typical necropsy finding is:
- A) Granulomatous lesions in the liver
 - B) **Gas production in swollen muscles**
 - C) Fibrotic lung tissue
 - D) Calcified kidney

40. Listeriosis is caused by:
- A) **Listeria monocytogenes**
 - B) *Listeria ivanovii*
 - C) *Listeria grayi*
 - D) *Listeria seeligeri*
41. The FMD virus is most stable at which pH range?
- A) 4–6
 - B) **6–9**
 - C) 8–10
 - D) 9–11
42. Which medium is commonly used for culturing *Mycobacterium tuberculosis*?
- A) MacConkey agar
 - B) **Lowenstein–Jensen medium**
 - C) Blood agar
 - D) Chocolate agar
43. In mastitis, the normal pH of milk increases to above:
- A) 6.8
 - B) 7.0
 - C) **7.4**
 - D) 8.0
44. In sheep, listeriosis may also cause:
- A) **Circling behavior**
 - B) Severe coughing
 - C) Lameness
 - D) Skin eruptions
45. *Mycobacterium avium* is primarily associated with:
- A) Cattle tuberculosis
 - B) **Avian tuberculosis**
 - C) Porcine tuberculosis
 - D) Human tuberculosis
46. The concept of “test and slaughter” is applied in the control of:
- A) FMD
 - B) **Tuberculosis**
 - C) Brucellosis
 - D) Mastitis
47. The term “Pearl’s disease” in tuberculosis refers to:
- A) **The formation of nodular tubercles**
 - B) Miliary spread in the liver
 - C) Caseation necrosis in lymph nodes
 - D) Calcification of lung lesions
48. Botulism is an intoxication caused by:
- A) Ingestion of live bacteria
 - B) **Ingestion of preformed toxin**
 - C) Direct wound infection
 - D) Inhalation of spores
49. The use of penicillin in clostridial infections is aimed at:
- A) Neutralizing toxins
 - B) **Killing the bacteria**
 - C) Enhancing antibody production
 - D) Inhibiting spore formation

50. A characteristic sign of anthrax in animals is:
A) **Sudden death with dark, unclotted blood**
B) Chronic weight loss
C) Vesicular skin lesions
D) Neurological deficits
51. Which of the following is used in the treatment of hemorrhagic septicemia?
A) Sulfonamides
B) Tetracyclines
C) Penicillin
D) **All of the above**
52. The vesicular lesions in FMD are most pronounced on:
A) The udder
B) **The tongue and feet**
C) The tail
D) The ear pinnae
53. The term “pneumonic pasteurellosis” refers to:
A) A localized infection in the tonsils
B) **Systemic infection with lung involvement**
C) A skin infection
D) A joint infection
54. Which of the following tests is used as a confirmatory test for brucellosis?
A) **STAT (Standard Tube Agglutination Test)**
B) Gram stain
C) Culture on MacConkey agar
D) Coagulase test
55. Mycobacterium bovis primarily affects:
A) Birds
B) **Cattle**
C) Pigs
D) Dogs
56. In tuberculosis, the most common route of entry of the organism is through:
A) Skin inoculation
B) **Inhalation**
C) Ingestion
D) Vector-borne transmission
57. In PPR, the PPR virus belongs to which genus?
A) **Morbillivirus**
B) Pestivirus
C) Coronavirus
D) Rotavirus
58. A key predisposing factor for hemorrhagic septicemia is:
A) Overcrowding
B) **Stress from transportation**
C) Poor ventilation
D) Nutritional deficiency
59. FMD virus inactivation requires:
A) pH below 4
B) **Temperatures above 56°C for 30 minutes**
C) Exposure to UV light only
D) Freezing conditions

60. A normal inhabitant of the porcine upper respiratory tract is:
- A) Mannheimia haemolytica
 - B) **Pasteurella multocida**
 - C) Staphylococcus aureus
 - D) Escherichia coli
61. Bacillus anthracis is best described as:
- A) Gram-negative rod
 - B) **Gram-positive spore-forming bacillus**
 - C) Acid-fast bacillus
 - D) Non-spore forming coccus
62. In neonatal colibacillosis, the causative agent is:
- A) Salmonella typhimurium
 - B) **Escherichia coli (enteropathogenic strains)**
 - C) Clostridium perfringens
 - D) Rotavirus
63. In neonatal calf diarrhea, metabolic acidosis is primarily due to:
- A) Lactic acid accumulation
 - B) **Loss of bicarbonate in the intestine**
 - C) Renal failure
 - D) Excessive feeding
64. Subclinical mastitis is best detected by:
- A) Visual examination of milk
 - B) **California Mastitis Test (CMT)**
 - C) Bacterial culture only
 - D) Ultrasonography
65. Which of the following is a major route of FMD virus transmission?
- A) Direct contact
 - B) Ingestion of contaminated water
 - C) Inhalation of aerosols
 - D) **All of the above**
66. The McFadyean reaction is used to demonstrate:
- A) Toxin production
 - B) **Capsule presence in Bacillus anthracis**
 - C) Spore formation
 - D) Antibiotic sensitivity
67. The term “carrier state” in FMD (distinct from acute disease) means that:
- A) Animals show no clinical signs and are not infectious
 - B) **Recovered animals harbor the virus intermittently**
 - C) Only young animals carry the virus
 - D) Vaccinated animals become carriers
68. Which Brucella antigen ratio is typical for Brucella melitensis?
- A) 20:1 (A:M)
 - B) 1:20 (A:M)
 - C) **1:20 (A:M)**
 - D) 20:1 (M:A)
- (Note: Option C is identical to B; the key point is that melitensis has a low A to high M antigen ratio.)*
69. Listeriosis in ruminants most commonly presents as:
- A) Septicemia
 - B) **Encephalitis**

- C) Diarrhea
 - D) Mastitis
70. Which serotype of FMD virus has not been reported since 1995?
- A) Type O
 - B) Type A
 - C) **Type C**
 - D) Asia 1
71. Clostridial vaccines are generally:
- A) Live attenuated
 - B) **Formalin-killed**
 - C) Recombinant
 - D) DNA-based
72. Brucellosis transmission to humans primarily occurs through:
- A) Inhalation of aerosols
 - B) Direct contact with infected blood
 - C) **Consumption of unpasteurized milk**
 - D) Arthropod vectors
73. The primary site of infection in Johne's disease is the:
- A) Rumen
 - B) **Ileum**
 - C) Liver
 - D) Lung
74. Is the following statement true? "The FMD virus is inactivated at temperatures above 56°C for 30 minutes."
- A) **True**
 - B) False
 - C) Partially true
 - D) Cannot be determined
75. The primary site of hemorrhagic septicemia bacterial proliferation is:
- A) The lungs
 - B) **The tonsillar region**
 - C) The liver
 - D) The kidneys
76. Hemorrhagic septicemia is primarily diagnosed based on:
- A) **Clinical signs and seasonality**
 - B) PCR testing
 - C) Skin biopsy
 - D) Radiography
77. In pasteurellosis, leukotoxin produced by bacteria primarily causes:
- A) Increased mucus secretion
 - B) **Destruction of leukocytes**
 - C) Formation of biofilms
 - D) Enhanced phagocytosis
78. Mycobacterium avium is most commonly associated with:
- A) Cattle tuberculosis
 - B) **Avian tuberculosis**
 - C) Porcine tuberculosis
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 - D) Coagulase test
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 - B) **Cattle**
 - C) Pigs
 - D) Dogs
86. In tuberculosis, the most common portal of entry is via:
- A) Skin puncture
 - B) **Inhalation**
 - C) Oral ingestion
 - D) Vector transmission
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 - B) Pestivirus
 - C) Coronavirus
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88. A key predisposing factor for hemorrhagic septicemia is:
- A) Overcrowding
 - B) **Stress from transportation**
 - C) Poor ventilation
 - D) Nutritional deficiency
89. FMD virus inactivation is achieved by:
- A) Lowering the pH below 4

- B) **Heating above 56°C for 30 minutes**
 - C) Exposure to UV light
 - D) Freezing
90. A common commensal of the porcine upper respiratory tract is:
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 - C) Staphylococcus aureus
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91. In neonatal colibacillosis, which pathogen is most commonly responsible?
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 - B) **Escherichia coli (enteropathogenic strains)**
 - C) Clostridium perfringens
 - D) Rotavirus
92. In neonatal calf diarrhea, metabolic acidosis is chiefly due to:
- A) Lactic acid buildup
 - B) **Loss of bicarbonate in the intestine**
 - C) Renal dysfunction
 - D) Overfeeding
93. Subclinical mastitis is best detected using:
- A) Visual inspection
 - B) **California Mastitis Test (CMT)**
 - C) Bacterial culture alone
 - D) Ultrasonography
94. Which of the following represents a major route of FMD virus transmission?
- A) Direct contact only
 - B) Ingestion only
 - C) Inhalation only
 - D) **All of the above**
95. The McFadyean reaction is employed to detect:
- A) Toxin activity
 - B) **Capsule presence in Bacillus anthracis**
 - C) Spore formation
 - D) Antibiotic susceptibility
96. In brucellosis, the growth of the organism is enhanced by the presence of which sugar in fetal tissues?
- A) Glucose
 - B) Sucrose
 - C) **Erythritol**
 - D) Fructose
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