



Q1/ Choose the correct answer for each of the following questions: (60 mark)

1. **Blood granulocytes can be divided into:**
 - a. Neutrophils, Basophils and Eosinophils.
 - b. Monocyte and lymphocyte.
 - c. Monocytes and Neutrophils.
 - d. Thrombocytes and monocytes
2. **Irregular clumps of red blood corpuscular are called:**
 - a. Sickle cells.
 - b. Red cell-agglutination.
 - c. Rouleaux formation.
 - d. Anisocytosis
3. **The anticoagulants do not exist in:**
 - a. Serum.
 - b. Plasma.
 - c. Lymph.
 - d. Cerebrospinal fluid
4. _____ **is an anticoagulant not used for platelets counting.**
 - a. Ammonium oxalate.
 - b. Heparin.
 - c. Sodium fluoride.
 - d. EDTA
5. **The Increase in the Size of a Red blood cell larger than normal in diameter is called:**
 - a. Macrocytosis.
 - b. Normocytic cell.
 - c. Hypochromic cell.
 - d. Poicklocytosis
6. **The unit of main corpuscular Hemoglobin concentration (MCHC) is:**
 - a. Pigogram.
 - b. g/dL.
 - c. Femtoliters.
 - d. IU.
7. **Plasma proteins include:**
 - a. Albumin and Globulins.
 - b. Fibrinogen and Sodium.
 - c. Potassium and Heparin.
 - d. Lymph
8. **Plug contains only platelets is called:**
 - a. White thrombus.
 - b. Red thrombus.
 - c. Activated platelets.
 - d. Hemorrhage
9. **The Normal value of bleeding time in domestic animals is:**
 - a. 2 – 5 minutes.
 - b. 3 – 5 minutes.
 - c. 2- 10 minutes.
 - d. 1 hour.
10. **The principle function of the Eosinophils is:**
 - a. Phagocytosis.
 - b. Immunological.
 - c. Detoxification by inactivation of histamine.
 - d. Oxygen transport.
11. **The thick smear is most useful for detecting the presence of:**
 - a. Bacteria.
 - b. Fungi.
 - c. Parasites.
 - d. Virus
12. **Bile pigment in the blood is known as:**
 - a. Urobilinogen.
 - b. Bilirubin.
 - c. Sterobilinogen.
 - d. Hemoglobin
13. **A special stain used for bone marrow smear is:**
 - a. Gram stain
 - b. methylene blue
 - c. wright- Giemsa stain.
 - d. Hematoxyline
14. **Albumin concentration varies by the species of animal, but it is generally between:**
 - a. 5 -6 g/d.
 - b. 2.5 -4.5 g/d.
 - c. .1 -2 g/d in plasma or serum.
 - d. 10- 12 g/ d
15. **The main method used for evaluation of fibrinogen in the serum is:**
 - a. Heat precipitation test.
 - b. mathematically method.
 - c. Centrifugation
 - d. Seiving
16. **Adhesive-tape method is used in horses for the detection of:**
 - a. *Oxyuris equi*.
 - b. *Babesia caballi*.
 - c. *Theileria equi*.
 - d. *Anaplasma bovis*.
17. **Baermann technique is used for the detection of:**
 - a. Lung worm larvae.
 - b. Nematode eggs.
 - c. Trematode eggs.
 - d. Cestode egg
18. ***Cryptosporidium* spp. in the feces can be stained by:**
 - a. Lugols iodine.
 - b. Acid-fast stain.
 - c. Giemsa stain.
 - d. Hematoxvline

19. In the fecal examination, Lugols iodine and New Methylene Blue are the common stains used with:
 a. Direct method. b. Flotation method. c. Sedimentation method.
 d. Centrifugation
20. Zinc sulfate flotation method is suitable for the detection of:
 a. Trematode eggs. b. Cestodes eggs. c. Nematode eggs. d. Mite mange
21. Sodium nitrate Flotation method is suitable for the detection of:
 a. Nematode egg. b. Mite eggs. c. Trematode eggs. d. Tick eggs
22. Methylene blue stain is used for staining of:
 a. *Fasciola hepatica*. b. *Chabertia ovina*. c. *Ostertagia ostertagi*. d. Virus
23. Giemsa stain that is used in blood smear is suitable for the detection of:
 a. Soft tick. b. Argasidae. c. Trypanosoma. d. Hard tick
24. The best laboratory method used for the detection of microfilaria in domestic animals is:
 a. Hematocrit (Buffy coat) method. b. Plasma concentration technique. c. Fixed smear technique.
 d. Beermann technique
25. Animal Lice are divided into two types:
 a. Biting and Sucking. b. Fleas and Flies. c. Mite and Demodex.
 d. Borrowing and non-borrowing
26. Ixodidae can be divided into:
 a. Hard and Soft tick. b. Soft and Lice tick. c. Hard and fleas tick. d. Tricophyton
 and microsporum
27. The indirect leukocytes count test in milk is called:
 a. Hotis test. b. Whiteside test. c. Chloride test. d. PCR
28. _____ is the special stain used for milk film.
 a. Giemsa stain. b. New methylene blue stain. c. Newman-Lampert stain.
 d. Acid fast stain
29. A test detects abnormally acid milk by changing the color to the yellow when milk pH is below 5.2.
 a. Bromothymol blue test. b. Bromocresol purple test. c. Chloride test.
 d. Rose-bengal test
30. DNA release due to rupture of leukocytes of milk (somatic cells) by the reagent is the principle of:
 a. Catalase Test. b. California Mastitis Test. c. Whiteside Test d. Latex agglutination.
31. The physical examination of milk is done by:
 a. Bromothymol blue test. b. Chloride Test. c. Strip-cup test. d. PCR
32. The normal range of chloride in the milk is:
 a. 0.08 - 0.14 %. b. 0.14- 0.18 %. c. 0.04- 0.05 %. d. 14- 18 %.
33. Rumen fluid sample should be evaluated as soon as possible after the collection in order to:
 a. Prevent over growth of protozoa. b. Prevent drying of the sample.
 c. Minimize the effect of cooling and air exposure on protozoa activity and pH.
 d. Decrease rumen motility
34. The physical analysis of the ruminal fluid includes:
 a. Color, Odor and Consistency b. pH and Methylene blue reduction test.
 c. Glucose fermentation test. d. Rumen contraction
35. The normal rate of gas formation of rumen sample in Fermentation saccharometer is:
 a. 5-10 mL/hr. b. 20-23 mL/hr. c. 1-2 mL/hr. d. 40-50 mL/hr.
36. Rumen pH can be estimated by using:
 a. Logo's iodine. b. pH paper. c. Spectrophotometer d. Light microscope
37. Ammonia smell of Rumen fluid occurs in case of:
 a. Ruminal acidosis b. Ketosis c. Urea poisoning d. Diarrhea



38. The type of specimens for bacteriological examination is generally determined by:
a. History. b. Species of animals. c. Clinical sign and lesions.
d. color of animal
39. _____ is a selective medium used to differentiate between types of Streptococci depending on the characteristic colonies.
a. Mannitol salt agar. b. Sodium Azide-Crystal Violet Blood agar. c. Edward Medium.
d. Agar media
40. Glycine tellurite agar media used for growing of _____, which is characterized by black colonies.
a. Streptococci. b. Staphyococci. c. Micrococci. d. Microsporium
41. The sample that should be submitted to the laboratory for detection of johne's disease must be:
a. Milk sample. b. Fecal sample. c. Urine sample. d. Skin scrappy
42. Ziehl-Neelsen stain is used to determine:
a. Fungi. b. *Brucella spp.* c. Mycobacterium. d. Staphylococcus spp
43. For bacteriological examination, proper method used for collection of urine in small animals is:
a. Catheterization. b. Mid-stream. c. Cystocentesis. d. Intratracheal tube
44. Direct smear of cerebrospinal fluid is stained with:
a. Gram stain. b. Methylene blue. c. Giemsa stain. d. Rose bengal
45. The most potent pathogenic bacteria are:
a. Aerobic. b. Anaerobic. c. Faculatative anaerobic. d. Opportunistic bacteria
46. Overeating disease of sheep is caused by which type of *Clostridium perfringens*?
a. Type A. b. Type B. c. Type C. d. Type D.
47. Common name for "tetanus" is
a. Headache. b. Fever. c. Locked jaw. d. Scurvy.
48. The etiologic agent of Bovine Pyelonephritis is
a. *Corynebacterium pseudotuberculosis.* b. *Escherichia coli.*
c. *Corynebacterium renale .* d. *Mycoplasma spp*
49. In Anthrax, the hemorrhage to the exterior from orifices of the animal at death is caused by:
a. Severe itching. b. Action of the toxin. c. Exit of the bacteria from the orifices.
d. Biting
50. A stellate scar on the nasal septum with dark honey colored pus are seen in:
a. Ulcerative lymphangitis. b. Glanders. c. Strangles. d. Rabies
51. Johne's Disease can be transmitted by:
a. Consumption of food and water contaminated with feces of infected animals.
b. Aerosol of infected dust. c. Intramammary infection by the use of contaminated teat Syphon.
d. Movement
52. The Synonym of "Actinobacillosis" is:
a. Wooden Tongue. b. Lock jaw. c. Lumpy jaw. d. Johne's Disease
53. In Hemorrhagic Septicemia "HS", the infection starts in:
a. Tonsil and adjacent nasopharyngeal tissues. b. Mouth and buccal cavity.
c. Nose and nasal cavity. d. Throat.
54. Major environmental pathogen that causes bovine mastitis can be:
a. *Mycoplasma bovis.* b. *Staph. aureus.* c. *E. coli.* d. *Anaplasma bovis*
55. Penetration of *Listeria monocytogenes* to the mucosa of the intestine causes:
a. Bloody Diarrhea. b. Prolonged fecal excretion of the organism. c. No effect.
d. Mastitis
56. Young animals are more susceptible to the infection with Ringworm due to _____.
a. Latent infection. b. Lack of immunity. c. Soft skin layers d. Rapid growth

Skin scrapings for sampling of suspected cases with Ringworm should be taking from the edge of the lesions, because of _____.

- a. Presence of high concentration of sebum.
- b. Absence of bacterial contamination at the periphery of lesion.
- c. Fungi are active at the periphery of lesion.
- d. More dry

58. Anemia in case of trypanosome infection is generally developed due to:

- a. Growth of parasite inside the RBCs.
- b. Massive erythro-phagocytosis in the spleen.
- c. Liberation of hemolysine by parasite.
- d. Hemoglobinurea

59. Reduced wool growth in some cases of eperythrozoon infection in sheep is due to:

- a. Severe anemia.
- b. Liver damage.
- c. Skin lesions
- d. Increased appetite

60. In some cases of Babesiosis; the distribution of edema at fetlock joint and abdomen and sometime head may be due to:

- a. Myocardium infarction.
- b. Increase vascular permeability.
- c. Enlargement of superficial lymph nodes
- d. Trauma

Q2. Indicate either True or False for the following questions:


(40 mark)

1. Types of Larval flies are Anoplura and Boophilus .
2. Fecal samples can be Stored indefinitely in Formalin or Methyl alcohol.
3. Adhesive-tape method used in horses for the detection of Oxyuris equi. .
- 4- *Fasciola hepatica* can be detection by Flotation Methods.
- 5- The acid-fast stain is suitable for detection of Cryptosporidium.
- 6- Best laboratory methods for detection of microfilaria in domestic animals is Filter technique.
- 7- Zinc nitrate flotation method is suitable for detection of Nematode eggs.
- 8- Carpological examination method of feces can be divided in to two types Macroscopic and Microscopic examination.
- 9- Potassium hydroxide are used to the diagnosis of Mite.
- 10- All insects have bodies composed of Head, Thorax and Abdomen parts .
- 11- Number of eggs per gram in feces can be determined by McMaster slide technique .
- 12- Gram stain is the best stain used for the diagnosis of parasite.
- 13 - High concentration of some bacteriostatic agent are consider as bactericidal .
- 14- Ethyl alcohol is used for decolonization in gram stain in concentration
- 15- Some types of bacteria are grow well after incubated in refrigerator is *Listeria* spp.
- 16- Blood smear for bacteriological examination is fixed alcohol only.
- 17- Modified Ziehl Neelsen stain is used to determine of *Brucella* spp.
- 18- Normal milk 8-14% contain chloride.
- 19- All physical changes in milk can be detected by Strip Cup test.
- 20- Special stain used for milk is Newman lampert stain .
- 21- Leukocyte in milk is known as somatic cell .
- 22- Bromothymole blue reagent used for determined PH of milk.
- 23- Clinical biochemistry is consider as the branch of clinical Microbiology .
- 24- In acute ruminal acidosis the fluid is fetid ,yellow to gray with high ph.
- 25- The abnormal consistency of rumen fluid is Watery.
- 26- One of the chemical ruminal fluid analysis is Nitrate reduction test.
- 27- The normal pH of rumen fluid is between 6-7.
- 28- The normal value of bleeding time in domestic animals is 2 to 5 minutes.
- 29- Serum are clear liquid separated of clotted blood.
- 30- Morphological classification of anemia is based on the results MCV, MCH and MCHC values.
- 31- Components of Plasma are Water, Salts and Lipids .
- 32- The indirect method is used for estimating the number of Platelets by blood smear.

- 33- Hypoproteinemic is referred to increase level of plasma protein in blood circulating.
34- One method used for detection of total protein in serum is Biuret methods.
35- The proper method used for collection urine in case of small animals is Cystocentesis .
36- Urine secreted in the kidney is sterile unless the kidney is infected .
37- Tube agglutination method is a quantitative test determine the level of antibodies in serum..
38- Rapid agglutination method which can be used for identification of blood group.
39- Bone marrow is the soft material found in central core of many bones..
40- Gram stain is the best test used for the diagnosis of bone marrow smear.



Best Wishes


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