

Please write your Roll Number above this line

**B.V.Sc. & A.H. (Second Professional) Examination – 2023**  
**Veterinary Microbiology Paper -II**

**Time: Three Hours**

**Maximum Marks: 100**

**Weightage: 20**

Unit-4 (Veterinary Immunology and Serology)

Unit-5 (General and Systematic Veterinary Virology)

**Instructions:**

- 1) Attempt all questions
- 2) Answer of all questions is to be written in the space provided along with the question in question-booklet.
- 3) Overwriting is not allowed in the objective type question.

**Q.1 Fill in the blanks. (20x0.5 = 10)**

- 1.1 An epitope located in the variable region of an immunoglobulin molecule \_\_\_\_\_.
- 1.2 The controlled self destruction of a cell is \_\_\_\_\_.
- 1.3 The strength of binding between two molecules of such as Antigen & Antibody is known as \_\_\_\_\_.
- 1.4 The inability of an animal to mount an immune response against a specific antigen \_\_\_\_\_.
- 1.5 \_\_\_\_\_ are the macrophages present in the kidney.
- 1.6 Atopy and anaphylaxis are the examples of \_\_\_\_\_ hypersensitivity.
- 1.7 Clonal Selection Theory was given by \_\_\_\_\_.
- 1.8 In Immunodiffusion, if the precipitation lines merge with a spur formation, is indicative of \_\_\_\_\_ identity.
- 1.9 Lectin Pathway of complement system is a part of \_\_\_\_\_ immunity.
- 1.10 Interleukin 1 is secreted by \_\_\_\_\_.
- 1.11 The disease which has been successfully eradicated globally after small pox is \_\_\_\_\_.
- 1.12 Creeping is the feature of \_\_\_\_\_ viruses.
- 1.13 BHK stands for \_\_\_\_\_.
- 1.14 Chicken Infectious anaemia is caused by \_\_\_\_\_.
- 1.15 Retro viruses were named after the discovery of enzyme \_\_\_\_\_.
- 1.16 Blue comb disease of turkey is caused by \_\_\_\_\_.
- 1.17 \_\_\_\_\_ selectively replicate in cloacal bursa leading to enlargement upto 5 times.



Please write your Roll Number above this line \_\_\_\_\_

1.18 Bovine spongiform encephalopathy in bovines is caused by \_\_\_\_\_.

1.19 Bovine Ephemeral Fever is also known as \_\_\_\_\_.

1.20 F1 strain vaccine is used to control \_\_\_\_\_ disease.

**Q.2 Choose the most suitable answer and write the number of the correct answer 1 or 2 or 3 or 4 in the space given against each sub question: (20x0.5 = 10)**

2.1 The complement fragment that has the ability to stimulate the mast cells degranulation and release vasoactive amines is called- ( )

1. Allergen
2. Reaginic antibody
3. Anaphylatoxin
4. Opsonin

2.2 The valency of IgM is- ( )

1. One
2. Two
3. Four
4. Five

2.3 Antibodies are secreted by- ( )

1. Follicular dendritic cells
2. Plasma cells
3. T cells
4. Macrophages

2.4 Kupffer cells, histiocytes, mesangial cells are examples of- ( )

1. Macrophages
2. Neutrophils
3. B cells
4. T cells

2.5 Tuberculin reaction was discovered by- ( )

1. Robert Koch
2. Rosalyn Yalow
3. Jules Bordet
4. Paul Ehrlich

2.6 The type of antibody that plays primary role in protecting against pathogens that invade through the gut or respiratory mucosa- ( )

1. IgM
2. IgG
3. IgE
4. sIgA

2.7 During an immune response the cells which act as antigen presenting cells (APC)- ( )

1. B cell
2. Dendritic cells
3. Both
4. None

- 2.8 Active immunity is not acquired by- ( )
1. Infection
  2. Vaccination
  3. Colostrum
  4. Toxoid injection
- 2.9 Hapten - ( )
1. Produces humoral immunity-
  2. Binds to carrier to produce its effect
  3. Is high molecular weight protein
  4. Is the same as epitope
- 2.10 Example of pattern recognition receptors is - ( )
1. Fc fragment of antibody
  2. Toll like receptor
  3. MHC class II proteins
  4. CD protein on T-cell
- 2.11 The canine distemper virus is antigenically and closely related to ( )
1. Measles
  2. Rinderpest
  3. Both of the above
  4. None of the above
- 2.12 Which of the following family is not a member of Order Mononegavirales- ( )
1. Paramyxoviridae
  2. Rhabdoviridae
  3. Filoviridae
  4. Orthomyxoviridae
- 2.13 DNA arbovirus is - ( )
1. Sui Pox virus
  2. African Swine Fever Virus
  3. Classical Swine Fever Virus
  4. Fowl Pox
- 2.14 Which of the following are devoid of nucleic acid - ( )
1. RNA virus
  2. Prion
  3. DNA virus
  4. All of the above
- 2.15 Coggins test is performed to diagnose - ( )
1. Infectious Bovine Rhino Tracheitis
  2. Swine flu
  3. Equine Infectious Anaemia
  4. Canine Distemper
- 2.16 Equine Sarcoids are caused by - ( )
1. Papilloma virus
  2. Pox virus
  3. Picorna virus
  4. Herpes Virus

Please write your Roll Number above this line

- 2.17 Parvo Virus can agglutinate erythrocytes of- ( )
1. Chicken RBC at 37°C
  2. Chicken RBC at 20°C
  3. Human RBC at 37°C
  4. Porcine RBC at 4°C
- 2.18 Old Dog Encephalitis is also known as - ( )
1. Infectious canine hepatitis
  2. Canine parvo viral diarrhea
  3. Canine Distemper
  4. All
- 2.19 Which route is employed for cultivation of Blue Tongue virus - ( )
1. CAM
  2. Allantoic
  3. Yolk sac
  4. Intra venous
- 2.20 Button shape Ulcers are found in.- ( )
1. Hog cholera
  2. Canine distemper
  3. Louping ill
  4. FMD

**Q.3 Attempt any ten out of the following twelve questions. Answer of each question should be in 2 to 3 lines. (10x2.0= 20)**

3.1 Passive Immunity

-----  
-----  
-----

3.2 Allergy

-----  
-----  
-----  
-----

3.3 Allotype

-----  
-----  
-----  
-----

Please write your Roll Number above this line

3.4 Attenuation

-----  
-----  
-----  
-----

3.5 Primary lymphoid organs

-----  
-----  
-----  
-----

3.6 Interferons

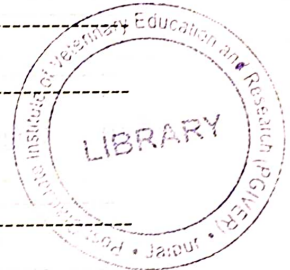
-----  
-----  
-----  
-----

3.7 MATSA

-----  
-----  
-----  
-----

3.8 Visna-Macdi

-----  
-----  
-----  
-----



Do not write across this line

Please write your Roll Number above this line

3.9 Viroid

-----  
-----  
-----  
-----

3.10 Coggins test -

-----  
-----  
-----  
-----

3.11 EDS-76

-----  
-----  
-----  
-----

3.12 Emerging and re-emerging diseases

-----  
-----  
-----  
-----

**Q.4 Attempt any six out of the following eight questions. Answer of each question should be in 8 to 10 lines. (6 x 6.0 = 36)**

4.1 Properties of good antigen

-----  
-----  
-----

Do not write across this line

Please write your Roll Number above this line

-----

-----

-----

-----

-----

-----

-----

-----

-----

-----

4.2 Adjuvant

-----

-----

-----

-----

-----

-----

-----

-----

-----

-----

-----

-----

-----

-----

-----

-----

4.3 Monoclonal antibody

-----

-----

-----

-----

Donot write across this line

Please write your Roll Number above this line

Handwriting practice lines consisting of multiple sets of three horizontal dashed lines.

4.4 Marker Vaccine

Handwriting practice lines consisting of multiple sets of three horizontal dashed lines.

4.5 Prions

Handwriting practice lines consisting of multiple sets of three horizontal dashed lines.

Donot write across this line



Please write your Roll Number above this line

4.6 Pathotypes of New Castle disease virus

4.7 CAM route of inoculation in embryonated eggs

Do not write across this line

Please write your Roll Number above this line

4.8 Antigenic Shift and Drift

**Q.5 Answer the following question in 1-2 pages (attempt any two). (2x12.0 = 24)**

- 5.1 Enumerate the functions of complement. Describe the Classical pathway of complement activation with line diagram in detail. (4+8)
- 5.2 Write down the properties of Orthomyxovirus, pathogenesis and diagnosis of avian influenza ? (4+4+4)
- 5.3 Write the epidemiology , diagnosis and control of Foot and mouth disease in bovines ? (4+4+4)