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Total Number of Pages 16

B.V.Sc. & A.H. (Second Professional) Examination – 2022

Veterinary Microbiology Paper -II

(MSVE 2016)

To be filled by the candidate:

Candidate's Roll Number:

In figure

In words

Candidate's Enrolment Number:

Day and date of examination:

Please see for general instructions overleaf.

Signatures of invigilators verifying the details filled by the candidate

Signature of invigilator 1: 2:



Candidate should not write anything below this line

Marks to be filled by the examiner

Section A	
Q. No.	Marks
1.	
2.	
3.	
4.	
5.	
Total	

Total Marks obtained:

In figures: In words:

Signature of examiner:

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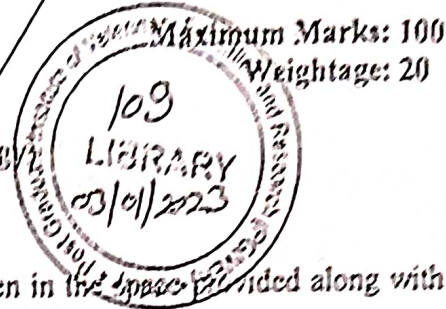
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B.V.Sc. & A.H. (Second Professional) Examination – 2022
Veterinary Microbiology Paper -II

Time: Three Hours

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 Immune cells undergoes maturation in _____ lymphoid organ.
- 1.2 The term "VIRUS" was coined by scientist _____.
- 1.3 The immune response mediated by T-Cytotoxic cells is called _____.
- 1.4 _____ is the first animal virus discovered by the scientist.
- 1.5 A specialized dendritic cell population in skin is called _____.
- 1.6 _____ are infectious agents composed of a protein in a misfolded form.
- 1.7 The full form of CFT is _____.
- 1.8 _____ is the only viruses with a fiber (the fiber antigen) protruding from each of the 12 pentons.
- 1.9 _____ virus is use for the preparation of Marek's disease vaccine.
- 1.10 _____ cell is regarded as the first line of defense against infection.
- 1.11 The Hinge region rich in amino acid _____ and _____.
- 1.12 _____ is a granular, acidophilic, intracytoplasmic inclusion body observed in the infected tissues of birds with avian pox.
- 1.13 _____ number of segment present in genome of rotavirus.
- 1.14 The myocardial form of the disease in young puppies are commonly observed in _____ disease.
- 1.15 The most pathogenic subtype of Bird flu is _____.
- 1.16 _____ type of immunoglobulin having highest concentration in normal serum.
- 1.17 The _____ serotype of FMD virus has highest prevalence in India

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1.18 Interaction of antibodies with soluble antigen give _____ type of reaction.

1.19 Clonal theory of antibody formation is proposed by _____ scientist.

1.20 The FMD virus viral protein that produces protective immunity is _____

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 T cell mature in ()
1. Payer patches

2. Lymph node

3. Thymus

4. Bursa of Fabricius

2.2 Which Immunoglobulin provides immunity against the parasite ()
1. IgG

2. IgM

3. IgE

4. IgA

2.3 Antigen binding part of immunoglobulin is at ()
1. Variable region

2. Hinge

3. Constant region

4. None of them

2.4 The number of haemagglutinin (H) types reported with influenza type A (including provisionally designated) is ()
1. 9

2. 11

3. 15

4. 18

2.5 Which of the following is true with abortion in cattle due to IBR virus ()

1. Abortion is mostly seen during the last trimester of pregnancy (6 to 9 months)

2. The first trimester of pregnancy (1 to 3 months)

3. The second trimester of pregnancy (3-5 months)

4. Any time during the gestation period

2.6 The interferon considered to be an immune-regulatory cytokine is ()

1. Interferon-gamma

2. Interferon-alpha

3. Interferon-beta

4. All of the above

2.7 Coggins test is used for the diagnosis of ()

1. Equine rhinopneumonitis

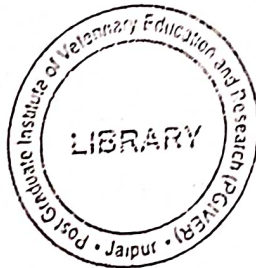
2. Equine infectious anemia

3. Equine arteritis

4. Equine influenza

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- 2.8 In India, the Rinderpest virus can be stored and maintained only by the National Morbilli virus Laboratory at ()
1. IVRI, Mukhteswar
 2. IVRI, Bhopal
 3. IVRI, Bangalore
 4. IVRI, Izatnagar
- 2.9 Potential candidate for the development of a virion-free vaccine is ()
1. G protein
 2. Nucleo protein
 3. N protein
 4. All of these
- 2.10 Highest lysosomal activities are observed in ()
1. Tear
 2. CSF
 3. Urine
 4. Bile
- 2.11 Viruses range in size from ()
1. 1-100 nm
 2. 17-280 μm
 3. 25-300 nm
 4. 1-10 μm
- 2.12 IgE plays a major role in the following immunological process ()
1. Antigen presentation
 2. Bacterial Infection
 3. Opsonization
 4. Type I hypersensitivity
- 2.13 Mareks disease is caused by ()
1. Gallid herpes virus-1
 2. Gallid herpes virus-2
 3. Gallid herpes virus-3
 4. Gallid herpes virus-4
- 2.14 Immunoglobulin found in highest concentration in secretion ()
1. IgG
 2. IgM
 3. IgE
 4. IgA
- 2.15 Sites for B-cell maturation is ()
1. Mucosal-associated lymphoid tissue (MALT)
 2. Appendix in rabbit
 3. Thymus in bird
 4. Cutaneous associated lymphoid tissue (CALT)
- 2.16 Bovine spongiform encephalitis was mostly confined to the United Kingdom, because of a unique combination of risk factors namely ()
1. High ratio of sheep and cattle
 2. Practice heavy feeding of meat and bone meal of cattle and sheep origin to dairy cattle
 3. Relatively high rate of endemic scrapie
 4. All of the above



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- 2.17 The dogs at what age are severely affected with the canine parvovirus infection ()
1. The first week of age
 2. Old age dogs
 3. Puppies less than 6 months
 4. At any age
- 2.18 Arthus reaction is example of localized type ()
1. Type II hypersensitivity
 2. Type I hypersensitivity
 3. Type III hypersensitivity
 4. Type IV hypersensitivity
- 2.19 The major loss in infectious bronchitis is due to ()
1. Decreased production
 2. Poor quality of eggs
 3. Heavy mortality in young chicks
 4. All of the above
- 2.20 Presence of pale bone marrow, generalized lymphoid atrophy, and haemorrhages throughout the body in 2-3 week old birds are the characteristic feature of ()
1. Chicken anaemia virus infection
 2. Reticuloendotheliosis
 3. Inclusion body hepatitis
 4. Marek's disease

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 Write four main cytokines produced by the macrophages

3.2 Bluetongue cannot be controlled even in netted housing facilities-Give reason

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3.3 Write 3 differences between live and killed vaccine

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.....

3.4 What are the microscopic changes observed in a brain affected with the Bovine Spongiform Encephalopathy

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3.5 Write four intrinsic factors of antigen affecting immunogenicity

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3.6 Write most striking clinical signs observed in cattle affected with the Lumpy skin disease.

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3.7 What are the lesions observed on embryos inoculated with the Infectious bronchitis virus

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3.8 Name the organs that classify under primary lymphoid organs

3.9 Chicks less than 3 weeks of age may have a subclinical infection of IBDV-
Give reason

3.10 Define the term active immunity

3.11 Why pig is considered as mixing vessel for Avian Influenza

3.12 What are secondary binding test give one example

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4.3 Write in detail about the properties of a good vaccine

4.4 Clinical signs and pathological lesions observed in PPR in goat

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4.8 Diagnosis and prevention of Rabies

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

- 5.1 a) Define term immunity (2 marks)
b) Classification of immunity (4 marks)
c) Briefly describe the mechanism of innate immunity (6 marks)
- 5.2 a) Write various serotypes of the FMD virus along with their geographical distribution. (2 marks)
b) Briefly describe the host, transmission, and clinical symptoms of FMD. (5 marks)
c) Write detail about the diagnosis and prevention of the FMD virus (5 marks)
- 5.3 a) Define the term "VIRUS" (2 marks)
b) Classify the virus based on its major properties (4 marks)
c) Write in detail about viral capsid symmetry with a diagram (6 marks)

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