UNIVERSITY OF NAMIBIA

FACULTY	HEALTH SCIENCES AND VETERINARY MEDICINE		
SCHOOL	SCHOOL OF VETERINARY MEDICINE		
DEPARTMENT	PARA CLINICAL STUDIES		
MODULE	INFECTIOUS DISEASES II		
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DURATION	3 HRS	**MARKS**	150

SECOND OPPORTUNITY EXAMINATION

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This question paper consists of **seven (7)** pages including this front page. Additional materials to be supplied: **None**
Instructions: *This question paper consists of Section A, B, C and D. Answer all questions.*

SECTION A: MULTIPLE CHOICE QUESTIONS **[25 marks, 1 mark each]**

1. SMEDI is a syndrome in pigs caused by:
    a. Coronavirus
    b. Parvovirus
    c. Adenovirus
    d. Myxovirus
2. The recommended method for eradication of FMD in enzootic areas is:
    a. Vaccination
    b. Test and slaughter
    c. Quarantine
    d. Culling
3. The following is not the clinical sign of canine distemper in dogs:
    a. Chorea
    b. Chewing gum type seizure
    c. Blindness
    d. None of the above
4. The enteric Coronaviruses generally cause the most severe disease in:
    a. Ruminants
    b. Very young animals
    c. Cloven-hoofed animals
    d. Pregnant animals
5. Which of the following transmissible spongiform encephalopathies occurs naturally in wildlife?
    a. Chronic wasting disease
    b. Bovine spongiform encephalopathy
    c. Scrapie
    d. Transmissible mink encephalopathy
6. Which animal species is believed to be the "mixing pot" for influenza viruses?
    a. Cattle
    b. Rodents
    c. Swine
    d. Monkeys
7. Birnaviruses may cause disease in:
    a. Birds and amphibians
    b. Birds and fish
    c. Reptiles and insects
    d. Horses and cattle
8. Nipah virus was transmitted to humans from:
    a. Fish
    b. Rodents
    c. Horses
    d. Swine

b. Iridoviruses; DNA replication
c. Herpesviruses; splicing mRNA
d. Herpesviruses; host mRNA degradation

18. The viruses that utilize terminal hairpins to prime DNA replication are which of the following?
    a. Parvoviridae
    b. Circoviridae
    c. Polyomaviridae
    d. Papillomaviridae
19. In herpesvirus infected cells, virion capsids assemble in/at the:
    a. Nucleus
    b. Cytoplasm
    c. inner lamella of the nuclear membrane
    d. plasma membrane
20. Canine herpesvirus infection may cause a generalized infection in pups because of:
    a. Hypothermia
    b. stress of weaning
    c. viral mamilitis in bitches
    d. failure to acquire passive immunity

SECTION B. TRUE/FALSE AND FILL IN THE BLANKS QUESTIONS **[35 marks]**

QUESTION 1. Indicate whether the statement is TRUE or FALSE **[25 marks, 1 mark each]**

(a) Canine Papillomaviruses cause cutaneous and visceral papillomatosis in dogs.
(b) In swine, foetal death is not an important consequence of parvovirus infection.
(c) Cancer is a consequence of cellular transformation during a gammaherpesvirus infection.
(d) Members of the family *Poxviridae* have the highest mutation rate.
(e) Parvoviruses replicate mostly in rapidly dividing intestinal crypt cells.
(f) African Swine Fever virus is clinically indistinguishable from Classical Swine Fever (hog Cholera) and can persist in infected meat for over fifteen years.
(g) The virus which cause Infectious Bovine Rhinotracheitis (IBR) can be transmitted through artificial insemination with fresh-cooled or cryopreserved semen.
(h) Egg drop syndrome (EDS) can be difficult to identify the early stages of the disease as hens will eat the shell-less eggs
(i) Maedi Visna virus (MVV) and Caprine arthritis encephalitis virus (CAEV) belong to the small ruminant lentiviruses
(j) There is antigenic cross reactivity of nucleoproteins between different types of avian influenza
(k) The Infectious Bursal Disease virus is a member of the Avibirnavirus genus within the Birnaviridae family.
(l) Rotaviruses are divided into 7 groups (A to G).
(m) The Equine Encephalosis virus penetrates the host organism through the bite of a Culex mosquito.
(n) Viruses that are members of the Bunyaviridae family are transmitted by arthropods.
(o) Rift Valley Fever virus is surprisingly resistant in the external environment.

QUESTION 5. Name three **(3)** vesicular diseases in farm animals **[3 marks]**

QUESTION 6. Name two **(2)** samples that should be collected for the detection of prion protein in BSE cases **[2 marks]**

SECTION D: STRUCTURED QUESTIONS **[80 marks]**

QUESTION 1. **[35 marks]**

(a) Indicate the number and names of the different clinical forms of African Horse Sickness, and for each form, describe the most important clinical signs. **[27 marks]**

(b) Indicate the most important *Culicoides* species responsible for the global spread and transmission of African Horse Sickness. **[5 marks]**

(c) Indicate any three (3) diseases that should be considered for differential diagnosis of African Horse sickness **[3 marks]**

QUESTION 2. **[10 marks]**

(a) Rinderpest has been eradicated in many countries worldwide including Namibia. However, there is always a possibility of the disease reoccurring and or reemerging. Which clinical signs would trigger suspicion of the classic form of this disease? **[5 marks]**

(b) Discuss the clinical signs of the paralytic/dumb form of rabies in dogs **[5 marks]**

QUESTION 3. **[8 marks]**

(a) To which family of viruses does the causative agent of infectious bronchitis belong to? Outline the clinical signs of this disease in layers. **[5 marks]**

(b) Equine viral arteritis (EVA) may be confused with many other conditions because of the diverse clinical signs. Give any three **(3)** of such symptoms. **[3 marks]**

QUESTION 4. Bovine spongiform encephalopathy (BSE) is an important disease for mandatory regular testing in Namibia even though it has never been diagnosed; this is due to export requirements. Outline the ways of transmission of this disease. **[5 marks]**

QUESTION 5. Describe briefly the risk factors for the development of Equine herpesvirus-1 (EHV-1) myeloencephalitis **[8 marks]**

QUESTION 6. Describe briefly the clinical manifestation of a **respiratory disease** due to a concurrent infection by **EHV-1 and EHV-4** in adult horses. **[5 marks]**

QUESTION 7. **[9 marks]**

(a) Complete the life cycle stages 1,2,3,4 and 5 of a parvovirus infection as illustrated in the diagram below. **[4 marks]**