

Royal Civil Service Commission
Technical / Professional Graduates Selection Examination, 2007
Paper III : Subject Specialization Paper

Date of examination: 16th November, 2007

Time : 2.5 hrs
Total Mks : 100

Instructions to the examinee:

Read the questions carefully before you start answering.

The question paper is divided into *two sections*, Section A and B.

This question paper contains *10 pages*.

Write the answers in the space provided against every question (for Section B use the 4 attached answer sheets).

Both the Sections carry *equal marks of 50 each*.

Section A is *compulsory* and comprises of *multiple choice* questions.

Section B consists of *2 case studies*, out of which you will attempt *only one*.

Section A

Multiple choice questions (Total 30 Mks)

1. Name the followings (0.5x10 Mks)

- a) One common cattle tick in Bhutan. _____
- b) The most prevalent FMD sero-type in Bhutan. _____
- c) Part of the brain used for diagnosis of Canine Rabies. _____
- d) Most preferred sample for diagnosis of Babesiosis. _____
- e) Vector of Gid disease. _____
- f) Other name for pulmonary form of human anthrax. _____
- g) One Eimeria species causing intestinal coccidiosis. _____
- h) Scientific name of cattle lung worm. _____
- i) One disease eradicated from Bhutan (OIE declaration). _____
- j) One vertically transmitted disease of poultry. _____

2. What do you mean by the following *terms* or *phrases* ? (1x5 mks)

- a) RT-PCR

- b) Shift to left or left shift

- c) Metastasis

- d) Pyelonephritis

- e) Gangrene

3. Give one or two most important reasons for the following (1x5 Mks)

- a) Negri body test for Rabies diagnosis is not a reliable test.

- b) One should not vaccinate animals which are below 3 months.

- c) Incubation period of Rabies virus is highly variable.

- d) It will be quite impossible to find sero-opositive H5N1 poultry birds from sero-surveillance.

- e) If you have found out PCV, you may not require to do Hb estimation.

4. State True or False (write either T or F within the given brackets at the end of each sentence) (0.5x10 Mks)

- a) Presence of Eosinophilia indicates primarily an allergic condition. ()
- b) Salt poisoning in pigs does not cause any nervous signs. ()
- c) The number of faecal eggs does not indicate the number of intestinal worms. ()
- d) Purkinji cells are found in cerebellum. ()
- e) Primary photosensitization is often due to ingestion of preformed photodynamic substances contained in plants such as buck wheat. ()
- f) *Fasciola hepatica* is the most common trematode found in Bhutan. ()
- g) Tissue sections for histology are usually cut at the thickness of 4 – 6 microns. ()
- h) Alcohol and paraffin do not mix. ()
- i) Paired blood sera are very important in the diagnosis of FMD. ()
- j) *Haemorrhagic Septicemia* vaccine is locally produced in Bhutan. ()

5. Choose the most appropriate answers and circle the number against each. (1x10 Mks)

- 1) Carcass suspected of Anthrax should not be opened because *Bacillus anthracis*
 - a. can infect human
 - b. escapes into the air and form spores
 - c. is resistant to common disinfectants
 - d. is in the vegetative form inside the carcass

- 2) ELISA is a highly recommended serological test because
 - a. it is a costly and a modern test
 - b. it is highly sensitive as well as specific test
 - c. it can be used for testing a large number of samples at a time
 - d. various types of reagents are used

- 3) After fixation, the tissue specimen is
 - a. dehydrated by transferring it through a series of alcohols of increasing concentration
 - b. dehydrated through a series of xylene of decreasing percentage
 - c. subjected to clearing by passing through 100% alcohol
 - d. none of the above

- 4) Marek's disease mainly causes
- enlargement of liver
 - enlargement of nerves
 - muscle degeneration
 - degeneration of feather follicles
- 5) Out of the 4 *Listeria* species of bacteria, one species which can infect human is
- L. seelgerii*
 - L. innocua*
 - L. monocytogenes*
 - L. welshimeri*
- 6) The best and easiest sample to collect from live birds for lab diagnosis of Highly Pathogenic Avian Influenza is
- tracheal swab
 - cloacal swab
 - blood
 - eye swab
- 7) In Bracken fern poisoning, the abnormalities seen in the urine is mainly
- haemoglobinuria
 - haematuria
 - haematuria as well as haemoglobinuria
 - proteinuria
- 8) The most susceptible species to aflatoxicosis is
- sheep
 - cattle
 - poultry
 - dog
- 9) The most commonly reported poisoning seen in yaks in Bhutan is
- Pyrrolizidine Alkaloid poisoning
 - Insecticide poisoning
 - Blue-green algae poisoning
 - Tall Fescue poisoning
- 10) Measly pork is caused by
- metacestode of *Cysticercus tenuicollis*
 - metacestode of *Taenia solium*
 - metacestode of *Taenia hydatigena*
 - larvae of *Trichenella nematode*

4. Enlist the various methods of food preservation techniques and describe in brief any of them.

Section B (50 Mks)

Attempt any one of the following two questions.

1. A report of a food poisoning is reported to your agency. It happened soon after a school picnic where about 30 students got hospitalized out of about 350 pupils who eat the food. Soon after the report, a team of expert groups represented by all the concerned agencies was formed for the investigation. Mention in detail the approaches you would take to under take the investigation (both field and laboratory) to diagnose the particular case. Also what will be your recommendations to the school authorities to prevent such incidence of food poisoning in the future.

or

2. An out break of suspected Foot and Mouth disease occurs in one of the quarantine stations in the southern region of the country. The quarantine station is having on quarantine about 30 cattle which include 25 adult cows and 5 calves. What would you do to confirm the outbreak in the first place? What organizational and technical strategies would you adopt to contain the disease in the out break area? Also mention briefly the future line of action to avoid such out breaks.