

**COMBINED COMPETITIVE EXAMINATION (MAIN)**

**ANIMAL HUSBANDRY AND VETERINARY SCIENCES**

**Paper—II**

Time : 3 hours

Full Marks : 200

- Note :** (1) The figures in the right-hand margin indicate full marks for the questions.  
(2) Attempt **five** questions in all.  
(3) Question No. 1 is compulsory.

1. Answer any *ten* of the following :

4×10=40

- (a) What do you mean by genetic aberration?
- (b) What are the differences between stain and dye?
- (c) How do endocrine glands differ from paracrine glands?
- (d) Why is drug biotransformation necessary?
- (e) How can the chhana be judged and scored?
- (f) How to prepare a good quality cream?
- (g) Define glandular by-products and their uses.
- (h) Classify dyes used for staining of tissue sections.
- (i) What are the by-products obtained from poultry industry?
- (j) There is no single best extension teaching method. Justify.
- (k) Define integrated rural development programme.
- (l) What is progeny testing?

2. Answer any *eight* of the following :

5×8=40

- (a) What is inbreeding depression?
- (b) What is hypersensitivity? Classify hypersensitivity.
- (c) What are the common sources of water pollution?
- (d) How can the quality of ghee be improved?

- (e) What are the important characteristics of wool quality to be considered for preparation of fine garments?
- (f) Write down the objectives and weaknesses of TRYSEM.
- (g) Define instantiation. What is the purpose of it?
- (h) Define pharmacokinetics. How does it differ from pharmacodynamics?
- (i) What is the vaccination schedule of layer poultry bird in India?

3. Answer any *five* of the following :

8×5=40

- (a) Differentiate between innate immunity and acquired immunity. What are different methods of vaccination?
- (b) What is selection? What are the three stages at which gene frequency is altered?
- (c) Give a brief account on embryonic development of cow.
- (d) What is diabetes mellitus? How does it develop in body?
- (e) How to maintain the quality of packaged milk and milk products?
- (f) Describe various welfare programmes for the disabled and unproductive animals in India.

4. Answer any *four* of the following :

10×4=40

- (a) Describe, in detail, different methods of heritability.
- (b) What is the importance of antemortem examination of meat animals? What are the important issues the veterinarians should consider during antemortem examination of meat animals?
- (c) Classify various methods of extension education with their key objectives.
- (d) How does the animal health become affected by air pollution?
- (e) Describe the epidemiology, clinical symptoms and preventive measures of bird flu.

5. Answer any *two* of the following :

20×2=40

- (a) What is the causative agent of haemorrhagic septicaemia? Describe the epidemiology, clinical symptoms and diagnosis of haemorrhagic septicaemia in cattle.
- (b) What is chhana? What are the chemical composition as well as food and nutritive values? Elaborate different methods in practice in India for preparation of ghee.
- (c) Define and classify zoonosis. What are the important zoonotic diseases that can be transmitted from animals to man through meat and meat products?

6. Answer any *four* of the following :

10×4=40

- (a) What are the common methods of packaging of whole milk and milk products?
- (b) Discuss, in brief, the biochemical basis of hereditary process.
- (c) Describe the major factors that affect the quality of meat and meat products.
- (d) Cross-breeding is sometimes criticized for large-scale destruction of indigenous breeds of cattle. Justify.
- (e) Describe the economic importance of hides and skins obtained from slaughtered animals.

7. Answer any *five* of the following :

8×5=40

- (a) What is the role of different constituents of milk in the preparation of dried milk?
- (b) What do you understand by 'humane slaughter'? What are different techniques applied for humane slaughter of meat animals?
- (c) Define heritability and state how heritability differs from repeatability.
- (d) What is frozen tissue section? How to prepare it?
- (e) How to purify water when mixed with impurities?
- (f) What are the specific guidelines for collection of glands from the slaughtered animals for human use?

8. Answer any four of the following :

10×4=40

- (a) What are various ways and means of utilizing fallen animals for profit-making purpose?
- (b) Draw a diagram of the structure of ovary of cattle. What are the hormones secreted from ovary and what are their functions?
- (c) What are the grading systems used to apply for grading of animal hides and skins?
- (d) Give an account of the major cross-breeding programmes of cattle development in India.
- (e) What is the legal importance of examination of animal carcass by the veterinarians?

9. Answer any eight of the following :

5×8=40

- (a) How does blood clot?
- (b) What are the hormones that regulate pregnancy in bovines?
- (c) How does wool differ from hair?
- (d) What do you know about *Gousadan* and *Gaushala*? Write down the differences between them.
- (e) Write down the salient features of various self-employment programmes for rural youth.
- (f) What is the composition of blood?
- (g) What is lethal gene and how will you eliminate it?
- (h) How do the respiratory mechanisms differ between mammals and birds?
- (i) How does blood circulate in the body?

10. Answer any *five* of the following :

8×5=40

- (a) Why should the carcass of animals, died due to anthrax, not undergo postmortem examination? How to dispose the carcass of animals died due to anthrax?
- (b) What are the possible defects may appear in cream and how to prevent them?
- (c) What is the importance of utilization of animal by-products? Classify animal by-products and also mention their usefulness.
- (d) Write, in detail, about any one extension method of your choice with definition, objectives, preparation, planning, follow up, and merits and demerits.
- (e) What is excretory organ of vertebrate? How does it work?
- (f) Explain the influence of selection on genetic properties of population.

\*\*\*