



**PUNJAB PUBLIC SERVICE COMMISSION**  
**COMBINED COMPETITIVE EXAMINATION**  
**FOR RECRUITMENT TO THE POSTS OF**  
**PROVINCIAL MANAGEMENT SERVICE, ETC -2021**  
**CASE NO. 3C2022**

**SUBJECT: VETERINARY SCIENCE (PAPER-I)**

**TIME ALLOWED: THREE HOURS**

**MAXIMUM MARKS: 100**

**NOTE:**

- i. All the parts (if any) of each Question must be attempted at one place instead of at different places.
- ii. Write Q. No. in the Answer Book in accordance with Q. No. in the Q. Paper.
- iii. No Page/Space be left blank between the answers. All the blank pages of Answer Book must be crossed.
- iv. Extra attempt of any question or any part of the question will not be considered.

**Attempt FIVE Questions in All. Attempt in Urdu or English.**

- Q.No.1** Vaccination is one of the best methods to protect ruminants from various diseases. Please mention details of five diseases in small ruminants in Pakistan including their etiology, pathogenesis and symptoms along with best time of vaccination. **(20 Marks)**
- Q.No.2** Global Climate Change has become a reality and is affecting the physiology of our livestock as well. Please discuss the possible actions to be taken today at national level to minimize the stress of climate change on the productive performance of our local animals. **(20 Marks)**
- Q.No.3** What is One Health Concept. Why the world is moving towards it and what is role of livestock sector in Pakistan in this regard? **(20 Marks)**
- Q.No.4** Pakistani buffaloes are considered among the best buffaloes in the world but still the potential of this Black Gold is not being fully utilized by us. Suggest how our local farmers and dairy industry can better utilize this resource to get maximum economic output? **(20 Marks)**
- Q.No.5** Increased use of antibiotics has resulted in Multi Drug Resistance issues in animals and humans. What are the causes of this problem and how can we effectively deal with this to minimize its adverse effects? **(20 Marks)**
- Q.No.6** A field veterinarian is often busy dealing with reproductive disorders in cattle and buffaloes in Pakistan. Brief about five leading reproductive disorders of large ruminants and suggest their possible treatments. **(20 Marks)**
- Q.No.7** Latest Molecular Biology and Genomics technologies are being utilized in various countries for better selection of their local animal. Please discuss some of potential techniques that can be adopted for improving the productivity of local animal genetic resources of Pakistan. **(20 Marks)**
- Q.No.8** Pakistani livestock and dairy products cannot be exported to many countries of the world due to WTO standards. Please explain what are those international standards which are not being fulfilled by us at the moment and how can we overcome this issue in future by taking some steps at national level? **(20 Marks)**
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**CASE NO. 3C2022**

**SUBJECT: VETERINARY SCIENCE (PAPER-II)**

**TIME ALLOWED: THREE HOURS**

**MAXIMUM MARKS: 100**

**NOTE:**

- i. All the parts (if any) of each Question must be attempted at one place instead of at different places.
- ii. Write Q. No. in the Answer Book in accordance with Q. No. in the Q. Paper.
- iii. No Page/Space be left blank between the answers. All the blank pages of Answer Book must be crossed.
- iv. Extra attempt of any question or any part of the question will not be considered.

**Attempt FIVE Questions in All. Attempt in Urdu or English.**

- Q. No. 1.** (a) What is the role of minerals in dairy animals' ration? Discuss in detail.  
(b) How energy balance influences the reproductive efficiency in dairy animals?  
(10+10=20 Marks)
- Q. No. 2.** For a Holstein cattle farm of 500 animals, how you as a manager, will manage year round plan to meet the feeding (forages and concentrate) requirements of all classes of animals?  
(20 Marks)
- Q. No. 3.** How do you see the future of imported exotic live dairy animals in Pakistan (subtropical environment)? What are the implications of this import and its impact on small livestock holders?  
(20 Marks)
- Q. No. 4.** An investor (Non-technical in relation to livestock) intends to establish a modern meat production enterprise. As a technical person, how would you guide him for the purpose? From where he should start his business and how to make it a success?  
(20 Marks)
- Q. No. 5.** How modern day broiler has been developed and improved overtime?  
(20 Marks)
- Q. No. 6.** (a) Give an account of marker assisted selection and its application in farm animals' improvement.  
(b) How would you plan for genetic improvement in farm animals with special reference to buffaloes in Pakistan?  
(10+10=20 Marks)
- Q. No. 7.** (a) How a dairy sire is important in genetic improvement and how its reproductive efficiency can be improved?  
(b) Give an account of progeny testing program for Sahiwal cattle and buffaloes in Pakistan.  
(10+10=20 Marks)
- Q. No. 8.** Backyard poultry is an important segment of poultry industry in Pakistan. Give a comprehensive plan to improve its performance.  
(20 Marks)