

This question paper contains 4+1 printed pages]

HPAS (M)—2015

**ANIMAL HUSBANDRY AND VETERINARY
SCIENCE**

Paper-I

Time : 3 Hours

Maximum Marks : 150

Note :— Answer any five questions including question no. 5 which is compulsory.

1. (a) Define balance ration. 10
- (b) Explain the various methods of estimation of digestibility in ruminants. 10
- (c) Mention the nutrient requirement of broilers and layers at different stages. How could you improve meat and egg quality through feeding approach ? 10

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2. (a) Describe the various factors affecting microbial protein synthesis in the rumen. 10
- (b) How does animal protein affect Bone Mass ?
How can be determined the digestible bypass protein content of feedstuffs ? 10
- (c) Draw the flow diagram of glycolysis and krebs cycle and highlight the different rate limiting steps. 10
3. (a) Define and mention the composition of calf starter and milk replacer. 10
- (b) Calculate the nutrient requirement of a dairy cow having 350kg body weight producing 10 kg milk per day with 3.5% corrected fat. 10

- (c) Briefly describe the mineral-mineral, mineral-vitamin and mineral-hormone inter-relationships with suitable examples. 10
4. (a) What is the importance of animal husbandry in India ? 10
- (b) Describe current livestock status and trends in India and Himachal Pradesh. 10
- (c) Discuss the various schemes launched by Government of India through the 12th Five Year Plan to increase the productivity of livestock. 10
5. Write short notes on any *three* of the following :
- (a) Usefulness of probiotics in animal feed. 10
- (b) Various adulterants commonly used in milk with methods of detection. 10

- (c) Legal and BIS standards. 10
- (d) Utilization of Slaughter house by products. 10
6. (a) Enumerate the various types of essential records to be maintained by a commercial dairy farm and justify their maintenance in estimating and controlling the cost of milk production. 10
- (b) Briefly describe the housing, feeding and milk management practices of lactating cows. 10
- (c) Discuss the different methods of preservation of poultry and poultry products. 10
7. (a) Discuss the principle of deep freezing of semen. 10
- (b) What are the advantages and disadvantages of various packaging systems used for deep freezing of semen ? 10

- (c) Enumerate the precautions to be taken at the time of thawing of frozen semen for artificial insemination ? 10
8. (a) Prepare the lay out plan for establishment of Dairy farm for 100 animals. 10
- (b) Formulate the economic ration for them with locally available feed resources. What are the benefits of giving "Total Mixed Ration" to animal in the feed ? 10
- (c) Write various sanitation measures required for clean and safe milk production. 10