PART A

1. Write a note on the partitioning of energy within the animal and explain the concepts of gross energy, digestible energy, metabolisable energy and net energy. (8+3+3+3+3+=20)

2. What are the methods of conserving fodder? Give the advantages and disadvantages with respect to different crops. (10+10=20)

3. Write about the circulatory system in mammary gland of a crossbred cow. Describe milk biosynthesis and hormonal regulation of lactation. (10+10=20)

4. What are the methods of preservation of semen? Discuss the factors affecting semen quality. (10+10=20)

PART B

5. Mention the feeding regime followed for weaning pigs (creep and starter rations) and grower pigs (12 to 50kg body weight). (10+10=20)

6. Explain the role of heritability in Animal breeding along with its advantages. How do qualitative traits differ from quantitative traits? (10+10=20)

7. Write short notes on:
   (a) Hardy Weinberg Law
   (b) Recombinant DNA technology
   (c) Forces changing gene frequency
   (d) Mutation
   (4×5=20)

8. Discuss about major constraints in transfer of technology in rural India for livestock and poultry production. (20)