

ANIMAL SCIENCES (Code-15)

1. Shape of Y chromosome in Gir cattle is:
- (A) Meta centric (B) Telocentric
(C) Acrocentric (D) Sub Metacentric
2. Rhode Island Red breed of poultry belongs to:
- (A) American class
(B) English class
(C) Mediterranean class
(D) Asiatic class
3. Accuracy of selection based on single record on an individual is:
- (A) $1/2h$ (B) $1/4h$
(C) $1/8h$ (D) h
4. If 9 out of 100 individuals in a population suffer from a homozygous recessive disorder, frequency of the disease-causing allele is:
- (A) 0.7 (B) 0.9
(C) 0.09 (D) 0.3
5. Alkali disease is caused due to toxicity of:
- (A) Molybdenum (B) Selenium
(C) Sulphur (D) Potassium
6. Amino acid precursor of lignin is:
- (A) Phenylalanine (B) Tyrosine
(C) Ananine (D) Glycine
7. Mineral needed for acetate incorporation in cholesterol biosynthesis is:
- (A) Calcium (B) Copper
(C) Manganese (D) Magnesium
8. The most deficient amino acid in cereal is:
- (A) Arginine (B) Lysine
(C) Tyrosine (D) Glycine
9. If the nitrogen content of feedstuff is 4% its crude protein content will be....%:
- (A) 25 (B) 15
(C) 45 (D) 20
10. 'Vacreation' is most commonly used in pasteurization of:
- (A) Milk
(B) Cream
(C) Flavoured milk
(D) Condensed milks

11. According to B.I.S. standard good quality butter should not contain moisture more than:
(A) 16.0% (B) 10.0%
(C) 12.0% (D) 8.0%
12. *Cysticercus cellulosae* is found in the:
(A) Intestine of human being
(B) Intestine of pig
(C) Muscles of pigs
(D) Muscles of cattle
13. General combining ability indicates the importance of:
(A) Non additive gene action
(B) GE interaction
(C) Environmental variation
(D) Additive gene action
14. Wool quality can genetically be improved by selecting animals for:
(A) Reduced modulation %
(B) Increased modulation %
(C) Increased fiber diameter
(D) Short staple length
15. Casings prepared from the stomach is known as:
(A) Middies (B) Bung
(C) Cap (D) Maws
16. The most abundant protein in animal body is:
(A) Myosin (B) Actin
(C) Collagen (D) Titin
17. Committee which fix the price of egg in India is:
(A) NEPC (B) NECC
(C) NERC (D) NEEC
18. Grey matter is composed of:
(A) Nerve cell (B) Nervefibres
(C) Nerve tissue (D) Myelin sheath
19. Main excretory organ is:
(A) Kidney (B) Skin
(C) Liver (D) GIT
20. Time of Placentation in Sow is:
(A) 10-12 days
(B) 18-20 days
(C) 30-35 days
(D) 4-5 days

21. Gestation period of Yak is:
(A) 9 months
(C) 17 months
(B) 12 month
(D) 6 months
22. During moulting, feathers are shed in order of:
(A) Head-Neck-Breast-Body-Wing-Tail
(B) Head- Breast-Body-Wing-Tail- Neck
(C) Breast-Body-Wing-Tail -Head
(D) Tail -Head- Body-Wing- Breast
23. Queen of milch breed of goat is:
(A) Saanen
(C) Nubian
(B) Alpine
(D) Anglo-Nubian
24. The mutation in sickle-cell disease is due to:
(A) Deletion
(C) Insertion
(B) Duplication
(D) Point mutation
25. Part of placenta which is immediate covering of the foetus is:
(A) Yolk sac
(C) Allantois
(B) Amnion
(D) Chorion
26. Fats aid in absorption of:
(A) Vitamin-B1
(C) Vitamin-C
(B) Vitamin-E
(D) Vitamin-B12
27. New Zealand White is a breed of Rabbit originated in:
(A) New Zealand
(C) UK
(B) USA
(D) USSR
28. Only sheep breed of south India producing fine wool is:
(A) Bellari
(C) Nilgiri
(B) Deccani
(D) Nellore
29. Curled toe paralysis in birds is caused due to deficiency of:
(A) Thiamin
(C) Biotin
(B) Pyndoxin
(D) Riboflavin
30. Which of the following contributes least in total volatile fatty acids production in rumen:
(A) Acetic acid
(C) Valleric acid
(B) Propionic acid
(D) Butyric acid
31. Proportion of nitrogen absorbed which is retained by the animal is called as:
(A) Protein efficiency ratio
(B) Biological value
(C) Net protein retention
(D) Gross protein value

32. The crossing of crossbred is:

- (A) Inter-se mating
- (B) Back crossing
- (C) Test crossing
- (D) Criss crossing

33. P.H. of the ruminant saliva:

- (A) 5.4
- (B) 8.1
- (C) 11.2
- (D) 3.5

34. What causes the release of histamine in an allergic reaction:

- (A) Binding of IgM to basophils
- (B) Binding of IgE to mast cells
- (C) Release of histamine by helper T cells
- (D) Free radical stimulation of endothelial cells

35. How many gm of methane is formed for every 100 g of carbohydrate digested:

- (A) 4.5 g
- (B) 10 g
- (C) 20 g
- (D) 40 g

36. The true digestibility different from apparent digestibility and always is:

- (A) Higher
- (B) Lower
- (C) Three-fourth
- (D) Half

37. The wet : dry ratio in organized dairy herd should be:

- (A) 1:1
- (B) 2:1
- (C) 3:1
- (D) 4:1

38. The main problem with mass communication is:

- (A) Costly
- (B) No local dialect
- (C) Same information
- (D) Cumbersome

39. Acid detergent soluble fractions of feed includes:

- (A) Soluble carbohydrate
- (B) Cellulose
- (C) Hemicellulose
- (D) Lignin

40. One gram of fat produce how many grams of metabolic water:

- (A) 0.56
- (B) 0.4
- (C) 1.07
- (D) 0.8

41. The energy available to animal body for useful purpose is:

- (A) Metabolisable energy
- (B) Net energy
- (C) Heat increment
- (D) Digestible Energy

42. In poultry ration Mannan oligosaccharides are used as:

- (A) Antioxidants
- (B) Synbiotic
- (C) Prebiotic
- (D) Probiotic

43. Principal site of lipid digestion in non-ruminants is:
- (A) Stomach (B) Small intestine
(C) Large intestine (D) Oesophagus
44. The effective antidote is for urea toxicity in cattle:
- (A) Acetic acid (B) Hydrochloride acid
(C) Liquid ammonia (D) Glycerol
45. Site of fertilization in poultry is:
- (A) Uterus
(B) Ovary
(C) Infundibulum
(D) Ampullary-Isthmus Junction
46. The e-chaupal concept in extension delivery is promoted by:
- (A) ITC (B) MSSRF
(C) KINFRA (D) CAPART
47. Central Institute for Research on Buffaloes is located at:
- (A) Anand (B) Bareilly
(C) Hissar (D) Karnal
48. Which one of the following sets of ions is necessary in the chemical events for muscle contraction?
- (A) Na^+ and K^+ (B) Ca^{++} and Mg^{++} ions
(C) Na^+ and Ca^{++} ions (D) Na^+ and Mg^{++} ions
49. Unfertilized ovum remains for months in the oviduct of:
- (A) Sow (B) Mare
(C) Ewe and doe (D) Bitch
50. Longest phase of estrous cycle is:
- (A) Estrus (B) Proestrus
(C) Diestrus (D) Metestrus
51. During blood coagulation thromboplastin is released by:
- (A) RBC (B) WBC
(C) Blood plasma (D) Clumped platelets
52. Which of the following is a potent vasoconstrictor released by platelets adhering to a wounded blood vessel?
- (A) Serotonin (B) Prothrombin
(C) Thrombin (D) Thromboplastin
53. Which of the following is the most rapidly available source of energy within a muscle cell?
- (A) Adenylate Kinase (B) Creatine Kinase
(C) Glycogen (D) Phosphocreatine

4. Act of passage of food from the mouth to the stomach through pharynx and esophagus:
- (A) Mastication
 - (B) Deglutition
 - (C) Regurgitation
 - (D) Rumination
55. pH of TRIS extender is:
- (A) Slightly acidic
 - (B) Slightly alkaline
 - (C) Neutral
 - (D) Alkaline
56. The slope of the roof in animal shed should not exceed:
- (A) 90°
 - (B) 65°
 - (C) 45°
 - (D) 25°
57. Faulty milking method in dairy animals :
- (A) Stripping
 - (B) Full hand
 - (C) Knuckling
 - (D) Machine
58. "Alfalfa" fodder is commonly known as:
- (A) Berseem
 - (B) Lucerne
 - (C) Cowpea
 - (D) Maize
59. If the number of trials is large and probability of occurrence of an event is very small, the distribution is:
- (A) Binomial distribution
 - (B) Poisson's distribution
 - (C) Normal distribution
 - (D) Asymmetric distribution
60. Karan Fries is a synthetic cattle breed produced by crossing HF bull with the female of:
- (A) Tharparkar
 - (B) Red Sindhi
 - (C) Sahiwal
 - (D) Gir
61. The most important genetic cause of heterosis is:
- (A) Co-dominance
 - (B) Overdominance
 - (C) Directional dominance
 - (D) Epistasis
62. Central fluid filled cavity of the blastula is known as:
- (A) Blastocoel
 - (B) Blastocyst
 - (C) Morula
 - (D) Zygote
63. Fertilizin is produced from:
- (A) Acrosome
 - (B) Polar bodies
 - (C) Middle piece of sperm
 - (D) Mature eggs
64. Cock feathering trait in chicken is a:
- (A) Sex-linked trait
 - (B) Sex-influenced trait
 - (C) Sex-limited trait
 - (D) Sex-controlled trait

65. If a coin is tossed twice, the result of second throw would not affect the result of first throw, this type of events is:
- (A) Mutually exclusive event (B) Independent event
(C) Equally likely (D) Exhaustive event
66. The regression equation of x on y is the equation of best fitting straight line in the form:
- (A) $y = a + bx$ (B) $x = a + by$
(C) $y = bx + c$ (D) $x = b + ay$
67. The percentage of items covered by $\text{mean} \pm 2\sigma$ in a normal distribution is:
- (A) 68 (B) 75
(C) 95 (D) 99
68. Which one of the following is non-parametric test?
- (A) Z-test (B) t-test
(C) F-test (D) Chi-square test
69. A single sheet of printed matter made to give accurate information on a specific topic is:
- (A) Pamphlet (B) Poster
(C) Leaflet (D) Circular letter
70. The method of purchasing done to ensure uninterrupted supply of raw material to the production process:
- (A) Purchasing for a future period
(B) Contract purchasing
(C) Scheduled buying
(D) Current market purchasing
71. Which one is an example of variable input in dairy farm:
- (A) Farm family's labour
(B) Casual hired labour
(C) Farm manager's labour
(D) Permanently hired labour
72. Actual price that is existed at a particular point of time:
- (A) Normal price (B) Market price
(C) Issue price (D) Equilibrium price
73. What type of a farming enterprise is Low-input, low-output farming system?
- (A) Commercial (B) Intensive
(C) Subsistence (D) Extensive
74. A summary statement of all the assets and liabilities of a business at a given point of time is:
- (A) Profit and loss statement (B) Balance sheet
(C) Cash flow statement (D) None of the above

75. Traders are the main participants in this market:
- (A) Local market
 - (B) Primary market
 - (C) Secondary market
 - (D) Village market
76. The conversion of paddy in to rice is:
- (A) Place utility
 - (B) Time utility
 - (C) Form utility
 - (D) Possession utility
77. The pure breed inheritance after five generations of grading up is (in percentage):
- (A) 93.75
 - (B) 96.87
 - (C) 98.43
 - (D) 99.21
78. The release of energy is slow in certain feeds/nutrients and such feeds/nutrients are considered as 'non-heating' for horse feeding. They are:
- (A) Carbohydrates
 - (B) Fat
 - (C) Protein
 - (D) Feed additives
79. The internal width of a shed (from wall to wall) is termed:
- (A) Span
 - (B) Plinth
 - (C) Eaves
 - (D) Pitch
80. A phenomenon in which one gene of one pair masks the expression of the genes of another pair:
- (A) Interaction
 - (B) Over dominance
 - (C) Dominance
 - (D) Epistasis
81. The following is not commonly seen in an animal cell:
- (A) Lysosome
 - (B) centrisome
 - (C) golgi bodies
 - (D) plastids
82. The value of an individual judged by mean value of its offspring is:
- (A) Breeding value
 - (B) phenotypic value
 - (C) non-additive genetic value
 - (D) dominance value
83. Calving interval is sum of :
- (A) Service period and Gestation period
 - (B) Service period and Dry period
 - (C) Service period and Lactation length
 - (D) Gestation period and Dry period
84. Crossing of red sindhi cow x red sindhi bull is an example for:
- (A) Top crossing
 - (B) Out crossing
 - (C) Cross breeding
 - (D) Upgrading
85. Unmasking of recessive genes occur:
- (A) Out breeding
 - (B) Inbreeding
 - (C) Cross breeding
 - (D) Outcrossing

86. The eructation contractions in reticulo-rumen are initiated at ;
(A) Reticulum
(B) Dorsal rumen sac
(C) Ventral rumen sac
(D) Cardia
87. Which of the following end product is absorbed in the body through blood:
(A) SCFA
(B) LCFA
(C) Cholesterol
(D) Glycerides
88. The functional equivalent of teeth in birds is:
(A) Beak
(B) Ventriculus
(C) Proventriculus
(D) Crop
89. Which of the following is called "Hunger hormone":
(A) CCK
(B) Glucagon
(C) Leptin
(D) Ghrelin
90. Rabbits can be fed the following feed in liberal quantity:
(A) Cabbage vegetable
(B) Cottonseed meal
(C) Subabul green foliage
(D) Cowpea hay
91. Slat system of housing is preferred for housing:
(A) Broilers
(B) Broiler breeders
(C) Layers
(D) Layer breeders
92. Common litter borne disease encountered in deep litter housing system is:
(A) Salmonellosis
(B) E coli infection
(C) Coccidiosis
(D) Mycoplasmosis
93. The colour of mutton is:
(A) bright red to dark red
(B) light pink to dark pink
(C) dark red
(D) light red to brick red
94. Bacterial group that causes spoilage of milk at refrigerator temperature is called as:
(A) Halophilic
(B) Thermophilic
(C) Coliform
(D) Psychrophilic
95. Apis cerana indica is:
(A) Indian bee
(B) rock bee
(C) Indian butter fly
(D) Italian butter fly
96. One of the following is fit into festive occasions and serve recreational purpose:
(A) Exhibition
(B) Meetings
(C) Campaign
(D) Lecture
97. Milk secretion occurs in:
(A) Gland cistern
(B) Alveoli
(C) Teat cistern
(D) Milk gland

98. When the adult dry animal is neither losing nor gaining in body weight and its body condition is constant, then the nutrient requirements are called as:
- (A) Work requirements (B) Maintenance requirements
(C) Pregnancy requirements (D) Growth requirements
99. The appearance resulting from a given gene combination is referred to as the:
- (A) Phototype (B) Genotype
(C) Stereotype (D) Phenotype
100. The crop left over after harvesting of any cereal/millet/legume is called:
- (A) Hull (B) Straw
(C) Bran (D) Husk
101. Better use of productive resources is seen in:
- (A) Diversified farming (B) Peasant farming
(C) Specialized farming (D) Aqua farming
102. Water soluble antineuretic factor is:
- (A) Thiamine (B) Riboflavin
(C) Pyridoxine (D) Biotin
103. Major anion of the extra cellular fluid of the body involved in osmotic pressure regulation is:
- (A) Chloride (B) Sodium
(C) Potassium (D) Selenium
104. The faeces is the primary path for phosphorous excretion in:
- (A) Omnivore (B) Carnivore
(C) Monogastric (D) Herbivore
105. Substitution of a purine by a pyrimidine is called:
- (A) Translation (B) Transversion
(C) Transmission (D) Translocation
106. The quantity of saliva (litres) produced by an adult cattle in a day is about:
- (A) 2-3 (B) 130-180
(C) 50-80 (D) 100
107. Oedema is caused by:
- (A) Increased in capillary pressure
(B) Increased rate of return of lymph
(C) increased permeability of the capillary walls
(D) Decreased rate of return of lymph
108. Fatty liver kidney syndrome is caused in poultry due to deficiency of:
- (A) Biotin (B) Vit B₁₂
(C) Choline (D) Vit B₆

109. The repetitive growing of the same sole crop on the same piece of land is:
(A) Polyculture
(B) Monoculture
(C) Monohybrid
(D) Polyhybrid
110. Colostrum has antibodies in the protein fraction of :
(A) Casein
(B) Cystine
(C) Lactalbumin
(D) Lactoglobulin
111. Estimation of repeatability is not possible for:
(A) Litter size in successive kindlings of Rabbits
(B) Fleece yield in successive shearing
(C) Age at first calving
(D) Milk yield in different lactations
112. The following factor will not affect the chemical composition of forage crop is:
(A) Manuring and fertilization
(B) Method of harvesting of the forage crop
(C) Stage of maturity of the plant
(D) Soil composition
113. Organisms or substances which contribute to intestinal microbial balance are:
(A) Probiotics
(B) Antibiotics
(C) Prebiotics
(D) Hormones
114. Chromosome compliment of nullisomics is:
(A) $2n-2$
(B) $2n+1$
(C) $2n+2$
(D) $2n$
115. If a female hemophilic married a normal male, what percentage of their male offspring would be expected to have hemophilic? (%)
(A) 25
(B) 33
(C) 100
(D) 50
116. Grinding of grains increases the digestibility, because of:
(A) Slower rate of passage in digestive tract
(B) Decreased surface area for enzymatic action
(C) Faster rate of passage from digestive tract
(D) Increased surface area for enzymatic action
117. For determining the digestibility of a feed by conducting digestion trial in ruminants, the optimum length of 'collection period' followed is:
(A) 7 days
(B) 14 days
(C) 21 days
(D) 30 days
118. The digestibility of the following nutrient is not determined:
(A) EE
(B) CP
(C) CF
(D) Ash

119. Change of gene frequency in migration is given by:
- (A) $q_m(m+q_o)$ (B) $q_o(m+q_m)$
 (C) $m(q_m-q_o)$ (D) $m(q_m+q_o)$
120. The 'External Indicator' used to determine the digestibility of a feed in non-ruminants is:
- (A) Titanium dioxide (B) Carmine red
 (C) Magnesium ferrite (D) Chromic oxide
121. In a linkage experiment, if the observed number of double cross over are 5 and expected are 7, coefficient of coincidence is:
- (A) 0.8 (B) 0.92
 (C) 1.5 (D) 0.71
122. Selenium is a component of the enzyme :
- (A) Glutathione peroxidase (B) Xanthine oxidase
 (C) Cytochrome oxidase (D) Aldehyde oxidase
123. If Hardy-Weinberg equilibrium can be assumed, the frequency of heterozygotes among all individuals is given by :
- (A) $2q(1-q)$ (B) $2q(1+q)$
 (C) $2q(1-q)^2$ (D) $2q(1+q)^2$
124. Which of the following is the correct sequence of code transfer during polypeptide formation ?
- (A) DNA, mRNA, tRNA, Amino acids
 (B) DNA, tRNA, rRNA, mRNA
 (C) mRNA, tRNA, DNA, Amino acids
 (D) rRNA, DNA, mRNA, tRNA
125. In a locus there are three alleles A_1 , A_2 and A_3 with the frequencies of 0.6, 0.3 and 0.1, respectively. If the parents mates at random, the frequency of A_1A_2 genotype in the progeny generation will be :
- (A) 0.36 (B) 0.06
 (C) 0.09 (D) 0.12
126. Castrated male pig is known as :
- (A) Neuter (B) Barrow
 (C) Capon (D) Wedder
127. As the age of animal/human advances the following nutrient decreases:
- (A) Carbohydrate (B) Protein
 (C) Fat (D) Vitamins
128. Inbreeding in a population:
- (A) Reduces variance
 (B) Increases heritability
 (C) Increases the fitness
 (D) Reduces the genetic abnormalities

129. The gene which kills an individual before birth is called as:

- (A) Semi lethal
- (B) Sub vital
- (C) Lethal
- (D) Sub lethal

130. One of the following is a non-ionizing radiation :

- (A) X-rays
- (B) UV rays
- (C) Gamma rays
- (D) Cosmic rays

131. The most variable constituent of milk is:

- (A) Protein
- (B) Fat
- (C) Ash
- (D) None of the above

132. Pig skin is called:

- (A) Hide
- (B) Rind
- (C) Kip
- (D) Slunk

133. Anti-nutritional factor present in groundnut cake is a:

- (A) Aflatoxin
- (B) Glycogen
- (C) Glucosinolate
- (D) None of the above

134. Which of the following is true for Red muscle fibers:

- (A) Lacks mitochondria
- (B) Rich in mitochondria
- (C) Rich in hemoglobin
- (D) All of the above

135. Which of the following stabilizer is from animal source:

- (A) Gelatin
- (B) CMC
- (C) Sodium alginate
- (D) Guar gum

136. Salmonellosis is an example of the following:

- (A) Infectious type of food poisoning
- (B) Non-Infectious type of food poisoning
- (C) Chemical food poisoning
- (D) Metabolic disease

137. Which heat is more effective:

- (A) Moist
- (B) Dry
- (C) Mixture
- (D) 60-40 combination

138. Red rot of egg is due to :

- (A) Proteus and pseudomonas
- (B) Pseudomonas fluorescens
- (C) Serratia
- (D) Spirotrichum, Penicillium, Cladosporium

139. Cornish breed of chicken has:

- (A) Single comb
- (B) Pea comb
- (C) Walnut comb
- (D) Rose comb

140. Continuous variation is shown by:

- (A) less genes with large effect
- (B) more genes with small effect
- (C) less genes with less effects
- (D) more genes with large effect

141. Melatonin controls:

- (A) cyclic breeding behaviour
- (B) feeding behaviour
- (C) investigative behaviour
- (D) teasing behaviour

142. Gimmer is female sheep between:

- (A) 2 to 3 years of age
- (B) 1st and 2nd shearing
- (C) 4 to 6 years of age
- (D) 6 to 8 years of age

143. Mature sheep have:

- (A) 30 teeth
- (B) 32 teeth
- (C) 34 teeth
- (D) 36 teeth

144. Native tract of Dangi breed is:

- (A) Maharashtra
- (B) Uttar Pradesh
- (C) Gujarat
- (D) Rajasthan

145. Increase in number of daughters per bull:

- (A) decreases accuracy of sire evaluation
- (B) increases accuracy of sire evaluation
- (C) does not affect accuracy of sire evaluation
- (D) improves intensity of selection

146. Progeny testing is valuable for:

- (A) high heritable traits
- (B) medium heritable traits
- (C) low heritable traits
- (D) non heritable traits

147. Heritability of fertility traits is:

- (A) Low
- (B) Medium
- (C) High
- (D) Very high

148. Diestrus phase of estrus is predominated by influence of:

- (A) Estrogen
- (B) Progesterone
- (C) Testosterone
- (D) FSH

149. Concept of A2 milk is associated with:

- (A) α S1 casein
- (B) α S2 casein
- (C) β casein
- (D) κ casein

150. A primary spermatocyte is transformed into:

- (A) two spermatids
- (B) four spermatids
- (C) eight spermatids
- (D) sixteen spermatids

DIRECTIONS: (Question No. 151 to 160) Cross matching type questions. Each sub-question carries ONE mark. Choose the correct answer (A, B, C, D and E) for each sub-question (i, ii, iii, iv and v) and enter your choice in the circle (by shading with Black/Blue Ball Point Pen) on the OMR- Answer Sheet. For each wrong answer 0.20 marks will be deducted.

151. Match the following:

- | | |
|------------------------------|---------------------|
| (i) Vitamin-A | (A) Ergocalciferol |
| (ii) Vitamin-D ₂ | (B) Retinol |
| (iii) Vitamin-D ₃ | (C) Cholecalciferol |
| (iv) Vitamin-E | (D) Phyloquinone |
| (v) Vitamin-K | (E) Tocopherol |

152. Match the following:

- | | |
|-----------------------------------|----------------------------|
| (i) Total digestible nutrients | (A) Deficiency of Thiamine |
| (ii) Castor bean | (B) Deficiency of Iron |
| (iii) Immature jowar green fodder | (C) Measure of energy |
| (iv) Piglet anemia | (D) HCN toxicity |
| (v) Polyneuritis | (E) Haemagglutinin |

153. Match the following:

- | | |
|----------------|--|
| (i) Iodine | (A) Major anion of Extra Cellular Fluid |
| (ii) Cobalt | (B) Major cation of ECF |
| (iii) Chlorine | (C) Highest concentration is found in muscle |
| (iv) Sodium | (D) Hairless piglets |
| (v) Potassium | (E) Coast disease |

154. Match the following:

- | Institution | Head Quarters |
|--|---------------|
| (i) NDR | (A) Magdood |
| (ii) IVRI | (B) Rani |
| (iii) CIRG | (C) Karnal |
| (iv) Pig research centre | (D) Hissar |
| (v) National research centre on horses | (E) Bareilly |

155. Match the following:

- | Name of the breed | Character |
|-------------------|-------------------------|
| (i) Murrah | (A) Prominent fore head |
| (ii) Jafferbadi | (B) Strong horns |
| (iii) surti | (C) Jet black |
| (iv) Gir | (D) Sickle shaped horn |
| (v) kankrej | (E) Leafy ears |

156. Match the following:

- (i) Neem seed cake
- (ii) Mahua seed cake
- (iii) Linseed cake
- (iv) Mustard seed cake
- (v) Castor bean meal

- (A) Ricin
- (B) Glucosinolates
- (C) Nimbidin
- (D) Mowrin
- (E) Linamarin

157. Match the following:

- (i) Jersind
- (ii) Karan swiss
- (iii) Karan Fries
- (iv) Sunandini
- (v) Avivastra

- (A) Non descript cow X BS Bull
- (B) Rambouillet, Merino X Chokla, Nali
- (C) Sahiwal X BS
- (D) Red sindhi X Jersey
- (E) Tharparkar X HF

158. Match the following:

- (i) Night blindness
- (ii) Right anemia
- (iii) Alkali disease
- (iv) Parakeratosis
- (v) Grass Tetany

- (A) Selenium
- (B) zinc
- (C) Magnesium
- (D) Iron
- (E) Vita A

159. Match the following:

- (i) Degradation of Glucose
- (ii) Synthesis of Glucose
- (iii) Synthesis of Glycogen
- (iv) Degradation of Glycogen
- (v) Key molecule in CHO metabolism

- (A) Glycogenesis
- (B) Glycogenolysis
- (C) Glucose
- (D) Glycolysis
- (E) Glucogenesis

160. Match the following:

- (i) Anthrax
- (ii) Black quarter
- (iii) HS
- (iv) Brucellosis
- (v) Hog cholera

- (A) Crystal violet vaccine
- (B) Cotton Strain 19
- (C) Oil adjuvant vaccine
- (D) Formol killed vaccine
- (E) Spore vaccine