

118

QUESTION PAPER
SERIES CODE

A

Registration No. :

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Centre of Exam. : _____

Name of Candidate : _____

Signature of Invigilator

COMBINED ENTRANCE EXAMINATION, 2016

M.V.Sc. ANIMAL BIOTECHNOLOGY

[Field of Study Code : MVS]

Time Allowed : 3 hours

Maximum Marks : 240

INSTRUCTIONS FOR CANDIDATES

Candidates must read carefully the following instructions before attempting the Question Paper :

- (i) Write your Name and Registration Number in the space provided for the purpose on the top of this Question Paper and in the Answer Sheet.
 - (ii) **Please darken the appropriate Circle of Question Paper Series Code on the Answer Sheet.**
 - (iii) The Question Paper is divided into two Parts : Part—A and Part—B. Both Parts have multiple-choice questions. All answers are to be entered in the Answer Sheet provided with the Question Paper for the purpose.
 - (iv) Part—A consists of 60 questions and all are compulsory. Answer all the questions in the Answer Sheet provided for the purpose by darkening the correct choice, i.e., (a) or (b) or (c) or (d) with BALLPOINT PEN only against each question in the corresponding circle. Each correct answer carries 1 mark. **There will be negative marking and $\frac{1}{2}$ mark will be deducted for each wrong answer.**
 - (v) Part—B consists of 100 questions. **Answer any 60 questions** in the Answer Sheet by darkening the correct choice, i.e., (a) or (b) or (c) or (d) with BALLPOINT PEN only against the corresponding circle. Each correct answer carries 3 marks. **There will be negative marking and 1 mark will be deducted for each wrong answer.**
- In case any candidate answers more than the required 60 questions, the first 60 questions attempted will be evaluated.
- (vi) Answer written by the candidates inside the Question Paper will not be evaluated.
 - (vii) Calculators and Log Tables may be used.
 - (viii) Pages at the end have been provided for Rough Work.
 - (ix) Return the Question Paper and Answer Sheet to the Invigilator at the end of the Entrance Examination. **DO NOT FOLD THE ANSWER SHEET.**

INSTRUCTIONS FOR MARKING ANSWERS

1. Use only Blue/Black Ballpoint Pen (do not use Pencil) to darken the appropriate Circle.
2. Please darken the whole Circle.
3. Darken ONLY ONE CIRCLE for each question as shown in example below :

Wrong	Wrong	Wrong	Wrong	Correct
<input type="radio"/> (b) <input type="radio"/> (c) <input type="radio"/> (d)	<input checked="" type="radio"/> (b) <input type="radio"/> (c) <input type="radio"/> (d)	<input checked="" type="radio"/> (b) <input type="radio"/> (c) <input checked="" type="radio"/> (d)	<input type="radio"/> (b) <input type="radio"/> (c) <input type="radio"/> (d)	<input type="radio"/> (a) <input type="radio"/> (b) <input type="radio"/> (c) <input checked="" type="radio"/> (d)

4. Once marked, no change in the answer is allowed.
5. Please do not make any stray marks on the Answer Sheet.
6. Please do not do any rough work on the Answer Sheet.
7. Mark your answer only in the appropriate space against the number corresponding to the question.
8. **Ensure that you have darkened the appropriate Circle of Question Paper Series Code on the Answer Sheet.**

PART—A

Answer **all** questions

1. Necrosis is a symptom which is recognized by
 - (a) pattern coloration of leaves
 - (b) little leaves
 - (c) outgrowth
 - (d) death of tissues

2. The phenomenon of maturation of gynoecium earlier than the anthers of same flower is known as
 - (a) protandry
 - (b) protogyny
 - (c) herkogamy
 - (d) dichogamy

3. A bioreactor is
 - (a) culture for synthesis of new chemicals
 - (b) hybridoma
 - (c) culture-containing radioactive isotopes
 - (d) fermentation tank

4. Red Data Book deals with
 - (a) endangered organisms
 - (b) animals on verge of extinction
 - (c) plants showing photoperiodism
 - (d) plants that are extinct

5. Blastopore is the opening of
 - (a) gastrocoel
 - (b) archenteron
 - (c) coelenteron
 - (d) blastocoele

6. Substrate for photorespiration is/are
- (a) malic acid
 - (b) glycolic acid
 - (c) PGA and malic acid
 - (d) malic acid and glycolic acid
7. In garden pea, yellow seed colour is dominant over green and round seed is dominant over wrinkled seed. A cross between pure dominant plant for these two characters and pure recessive plant for the same yields yellow and round seeds in F₁ progeny. When the F₁ plants are selfed, F₂ generation will show which of the following ratios?
- (a) 15 yellow and round seeds : 1 green and wrinkled seed
 - (b) 9 yellow and round seeds : 3 yellow wrinkled seeds : 3 green and round seeds : 1 green and wrinkled seed
 - (c) 9 yellow and round seeds : 7 green and wrinkled seeds
 - (d) None of the above
8. Which plant stores food in its leaves?
- (a) Potato
 - (b) Onion
 - (c) Banyan
 - (d) Maize
9. When parasympathetic nerve supply to heart is cut off
- (a) heart beats will stop
 - (b) heart beats will slow down
 - (c) heart beats will increase
 - (d) there will be no immediate change on heart beat rate
10. Ciliary muscles are found in which of the following organs?
- (a) Mammalian stomach
 - (b) Mammalian diaphragm
 - (c) Ciliary epithelium
 - (d) Vertebrate eye

11. If there is deficiency of ADH (antidiuretic hormone), its effect would be
- (a) the volume of urine will increase
 - (b) the volume of urine will decrease
 - (c) the pH of urine will change from 4.8 to 8.0
 - (d) secretion of urochrome will take place
12. Select the correct sequence for coagulation of blood.
- (a) Fibrin—thrombin—thromboplastin—clot
 - (b) Prothrombin—thrombin—thromboplastin—clot
 - (c) Thromboplastin—prothrombin—thrombin—fibrin—clot
 - (d) Fibrinogen—fibrin—prothrombin—thrombin—clot
13. A husband and wife have normal vision but father of both of them were colour-blind. The probability of their first daughter to be colour-blind is
- (a) 25%
 - (b) 50%
 - (c) 75%
 - (d) 0%
14. The process of engulfing other cells is called as
- (a) phagocytosis
 - (b) endocytosis
 - (c) pinocytosis
 - (d) exocytosis
15. The part of cell that is involved in lipid synthesis is
- (a) mitochondria
 - (b) Golgi complex
 - (c) nucleus
 - (d) vacuole

16. The structure of PCl_5 is of which of the following shapes?
- (a) Pentagonal planar
 - (b) Octahedral
 - (c) Tetrahedral
 - (d) Trigonal bipyramidal
17. The most abundant cations in seawater are those of
- (a) sodium and copper
 - (b) potassium and lead
 - (c) sodium and magnesium
 - (d) sodium and lithium
18. Which has the highest ionization potential?
- (a) Carbon
 - (b) Nitrogen
 - (c) Boron
 - (d) Oxygen
19. What is the oxidation number of manganese in KMnO_4 ?
- (a) 5
 - (b) 6
 - (c) 7
 - (d) 1
20. Which of the four bonds B—C, C—N, B—Si and B—F would you expect to be least polar?
- (a) B—C
 - (b) C—N
 - (c) B—Si
 - (d) B—F

21. Which of the following elements can form the greater number of covalent bonds?
- (a) Carbon
 - (b) Nitrogen
 - (c) Oxygen
 - (d) Sulphur
22. Using the molecular orbital theory, the bond order and unpaired electrons in O_2 are respectively
- (a) 2 and 2
 - (b) 2 and 1
 - (c) 1.5 and 1
 - (d) 2.5 and 1
23. There should be hydrogen bonding in
- (a) ethyl alcohol
 - (b) dimethyl ether
 - (c) acetone
 - (d) diethyl ether
24. Treatment of ores of gold with sodium cyanide solution gives
- (a) $AuCN$
 - (b) $Na[Au(CN)_2]$
 - (c) $Na[Au(CN)_3]$
 - (d) $Na_2[Au(CN)_2]$
25. White phosphorous is readily soluble in
- (a) water
 - (b) methanol
 - (c) carbon tetrachloride
 - (d) ethanol

26. The number of oxygen per silicon in silicates is

- (a) 3
- (b) 2
- (c) 5
- (d) 4

27. 3-methyl-3-pentanol is

- (a) primary alcohol
- (b) secondary alcohol
- (c) tertiary alcohol
- (d) aldehyde

28. Aldehydes are isomeric with

- (a) ketones
- (b) ethers
- (c) alcohols
- (d) fatty acids

29. Which one is the strongest acid?

- (a) CH_3COOH
- (b) CH_2FCOOH
- (c) CHF_2COOH
- (d) CF_3COOH

30. The Zn(II) compounds are generally

- (a) green
- (b) red
- (c) white
- (d) yellow

31. If $\cos \theta + \sec \theta = 2$, then the value of $\cos^n \theta + \sec^n \theta$ is

- (a) 3
- (b) 4
- (c) 2
- (d) 5

32. The cube roots of ' a ' where a is a non-zero negative real number, are

- (a) $-(-a)^{1/3}, -\omega(-a)^{1/3}, -\omega^2(-a)^{1/3}$
- (b) $-a^{1/3}, \omega a^{1/3}, \omega^2 a^{1/3}$
- (c) $a^{2/3}, \omega a^{1/3}, -\omega^2(-a)^{2/3}$
- (d) $a^{3/2}, \omega a^{2/3}, -\omega^3(-a)^{2/3}$

where $1, \omega, \omega^2$ are cube roots of unity.

33. Let x be a rational number and y be an irrational number. Then

- (a) $x + y + \sqrt{3}$ is an irrational number
- (b) $x + y + 2$ is a rational number
- (c) $xy + 2$ is a rational number, if $x \neq 0$
- (d) $x - y$ is a rational number

34. The function f given by $f(x) = |x - 2|$, $x \in \mathbb{R}$ is

- (a) differentiable at $x = 2$
- (b) not differentiable at $x = 2$
- (c) everywhere differentiable
- (d) nowhere differentiable

35. For what value of a the function f defined by

$$f(x) = \begin{cases} 5 & , \text{ if } x \leq 2 \\ 15ax & , \text{ if } 2 < x < 10 \\ 21x^4 & , \text{ if } x \geq 10 \end{cases}$$

is continuous at $x = 2$?

- (a) 0
- (b) 1
- (c) 3
- (d) $1/6$

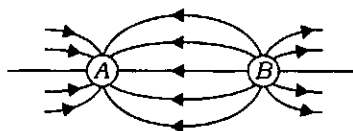
36. For what value of x , the expression $\frac{1+x+x^2}{1-x+x^2}$ has minimum value?
- (a) 0
 - (b) -1
 - (c) 3
 - (d) $1/3$
37. The slope of the tangent to the curve $y = x^3 - x$ at $x = 2$ is
- (a) 12
 - (b) 13
 - (c) 11
 - (d) 10
38. The equation of line having slope 2 and being tangent to the curve $y + x^2 = 0$ is
- (a) $y - 2x = 1$
 - (b) $y + 2x + 1 = 0$
 - (c) $y + 2x + 2 = 0$
 - (d) $2x - y + 2 = 0$
39. The slope of the tangent to the curve $x = t^2 + 3t - 8$, $y = 2t^2 - 2t - 5$ at the point $(1, -1)$ is
- (a) $22/7$
 - (b) $6/7$
 - (c) $7/6$
 - (d) $10/13$
40. The normal at the point $(-1, 1)$ on the curve $2y + x^2 = 3$ is
- (a) $x + y = 0$
 - (b) $xy = 0$
 - (c) $x + y + 1 = 0$
 - (d) $xy = 1$

41. The greatest integer function defined by $f(x) = [x]$, $0 < x < 3$ is
- (a) not differentiable at $x = 1$ and $x = 2$
 - (b) nowhere differentiable
 - (c) differentiable at $x = 1$ but not at $x = 2$
 - (d) differentiable at $x = 2$ but not at $x = 1$
42. The function $f(x) = \cos x$ is
- (a) odd
 - (b) even
 - (c) even and odd
 - (d) Neither odd nor even
43. The interval for which the expression $|x + 7| < 10$ is satisfied, is
- (a) $(-17, 3)$
 - (b) $(-17/2, 1/2)$
 - (c) $(17/2, 3/2)$
 - (d) $(-17/3, 3/2)$
44. A die is thrown twice. The probability that the sum of points obtained is 7, is
- (a) $7/36$
 - (b) $4/36$
 - (c) $1/6$
 - (d) $11/36$
45. Let $A = \begin{bmatrix} 2 & 3 \\ 4 & 6 \end{bmatrix}$ and $B = \begin{bmatrix} -1 & -2 \\ 4 & 6 \end{bmatrix}$. Then $A - B$ is
- (a) $\begin{bmatrix} 3 & 5 \\ 0 & 0 \end{bmatrix}$
 - (b) $\begin{bmatrix} 1 & 1 \\ 8 & 8 \end{bmatrix}$
 - (c) $\begin{bmatrix} 1 & 9 \\ 8 & 4 \end{bmatrix}$
 - (d) $\begin{bmatrix} 10 & 1 \\ 8 & 4 \end{bmatrix}$

46. The work done in moving a charge q around a full circle of radius r in electrostatic field is
- (a) $2\pi r q$
 - (b) zero
 - (c) $4\pi r q$
 - (d) $\pi r q$
47. For the photoreceptor cells in human eye, viz., rods and cones, which one is **not** correct?
- (a) Rod cells are responsible for twilight vision and cone cells for daylight vision
 - (b) Rod cells are usually located at the periphery of the retina
 - (c) Cone cells are of three types, blue, green and red
 - (d) Cone cells are much more in numbers than the rod cells
48. In an atom bomb, the reaction which occurs is
- (a) thermonuclear
 - (b) uncontrolled fission
 - (c) controlled fission
 - (d) fusion
49. The lens used to rectify long sight is
- (a) convex lens
 - (b) concave lens
 - (c) planoconcave lens
 - (d) tinted plane glass
50. Calculate the work done by a 2.0 N force (directed at a 30° angle to the vertical) to move a box a horizontal distance of 400 cm across a rough floor.
- (a) 4 J
 - (b) 4000 J
 - (c) 0.4 J
 - (d) 1 J

51. The temperature readings of Celsius and Fahrenheit scales are equal at
- (a) -40
 - (b) 40
 - (c) 16
 - (d) -16

52. Consider the electric field lines shown in the diagram below :



From the diagram, it is apparent that object A is — and object B is —.

- (a) $+, +$
 - (b) $-, -$
 - (c) $+, -$
 - (d) $-, +$
53. If $x_1 = a \sin\left(\omega t + \frac{\pi}{6}\right)$ and $x_2 = a \cos \omega t$, then what is the phase difference between the two waves?
- (a) $\frac{\pi}{3}$
 - (b) $\frac{\pi}{6}$
 - (c) $\frac{\pi}{2}$
 - (d) π
54. Two waves having the intensities in the ratio of $9 : 1$ produce interference. The ratio of maximum to minimum intensity is equal to
- (a) $10 : 8$
 - (b) $9 : 1$
 - (c) $4 : 1$
 - (d) $2 : 1$
55. If a hole is bored along the diameter of the earth and a stone is dropped into the hole, then
- (a) the stone reaches the centre of the earth and stops there
 - (b) the stone reaches the other side of the earth and stops there
 - (c) the stone executes simple harmonic motion about the centre of the earth
 - (d) the stone reaches the other side of the earth and escapes into space

56. According to Einstein's photoelectric equation, the graph of maximum kinetic energy of photoelectrons emitted versus the frequency of the incident radiation gives a straight line graph, whose slope
- (a) is same for all metals and independent of the intensity of the incident radiation
 - (b) depends on the nature of the metal
 - (c) depends on the intensity of the incident radiation
 - (d) depends on the nature of the metal and also on the intensity of incident radiation
57. In which process the internal energy of the system remains constant?
- (a) Adiabatic
 - (b) Isochoric
 - (c) Isobaric
 - (d) Isothermal
58. Initial mass of a radioactive substance is 400 mg. Its half-life is 100 hours. How much of the substance will be left after 300 hours?
- (a) 20.7 mg
 - (b) 33.3 mg
 - (c) 50 mg
 - (d) 95.7 mg
59. Continuous spectra of X-rays is produced
- (a) when electrons of the target move from outer to inner orbits
 - (b) when electrons are accelerated towards the target
 - (c) when electrons of the target move from inner to outer orbits
 - (d) when the nucleus of the target is excited
60. In a standing wave, the separation between two consecutive nodes is
- (a) λ
 - (b) $\lambda/2$
 - (c) $\lambda/3$
 - (d) $\lambda/4$

PART—B

Answer *any sixty* questions

61. Which of the following glands has both an endocrine and an exocrine function?
- (a) Mammary
 - (b) Pancreas
 - (c) Pituitary
 - (d) Adrenal
62. Conversion of galactose to glucose occurs to the greatest extent in which one of the following?
- (a) Small intestine
 - (b) Liver
 - (c) Skeletal muscle
 - (d) Brain
63. The most abundant protein in the mammalian organism is
- (a) myosin
 - (b) albumin
 - (c) actin
 - (d) collagen
64. Peptide bonds in proteins join the
- (a) R group of one amino acid with the α -carboxyl group of another
 - (b) α -carboxyl group of one amino acid with the α -amino group of another
 - (c) sulfide group of one amino acid with the amide group of another
 - (d) side chains of two adjacent amino acids
65. Which one of the following is the best known adhesion protein of the extracellular matrix?
- (a) Integrin
 - (b) Elastin
 - (c) Fibronectin
 - (d) Myoglobin

66. Mitochondrial DNA is
- (a) circular double-stranded
 - (b) circular single-stranded
 - (c) linear double-helix
 - (d) linear single-stranded
67. Which of the following will be the best choice to study the plasma membrane?
- (a) RBC
 - (b) Fat cell
 - (c) Neurons
 - (d) Nephrons
68. Blood grouping is an example of
- (a) incomplete dominance
 - (b) codominance
 - (c) recessive character
 - (d) overdominance
69. Colchicine is added in cell cultures because it
- (a) stops the growth of bacteria
 - (b) maintains the temperature of RNA ligase
 - (c) acts as spindle poison
 - (d) helps in nutrition
70. Which of the following proteins **cannot** be digested?
- (a) Elastin
 - (b) Globulin
 - (c) Rennin
 - (d) Histone

71. Hassall's corpuscles are present in
- (a) thyroid
 - (b) parathyroid
 - (c) thymus
 - (d) pancreas
72. The largest cranial nerve is
- (a) vagus
 - (b) trigeminal
 - (c) trochlear
 - (d) facial
73. The ovulation fossa is present in the ovary of
- (a) cow
 - (b) ewe
 - (c) mare
 - (d) sow
74. The serous fold that attaches intestine to dorsal wall of abdomen is known as
- (a) fascia
 - (b) omentum
 - (c) ligament
 - (d) mesentery
75. Heart is extended in the abdomen and lies between lobes of liver in
- (a) horse
 - (b) ox
 - (c) pig
 - (d) fowl

76. The parafollicular cells of thyroid follicle produce
- (a) monoiodotyrosine (MIT)
 - (b) diiodotyrosine (DIT)
 - (c) calcitonin
 - (d) thyroxine
77. Which of the following is **not** a GIT hormone?
- (a) Gastrin
 - (b) Vasoactive intestinal polypeptide (VIP)
 - (c) Gastric inhibitory polypeptide (GIP)
 - (d) Rennin
78. 90% of the blood enters into ventricles from auricles during
- (a) atrial systole
 - (b) atrial diastole
 - (c) ventricular systole
 - (d) ventricular diastole
79. Endocrine cells secreting the gastrin hormone are located in which region of stomach?
- (a) Cardiac
 - (b) Fundus
 - (c) Corpus
 - (d) Pyloric
80. Hair cells are the sensory cells located in
- (a) skin
 - (b) tongue
 - (c) ears
 - (d) eyes

81. Which of the following segments of the nephron is virtually impermeable to water?
- (a) Proximal convoluted tubule
 - (b) Thick segment of ascending loop
 - (c) Thin segment of descending loop
 - (d) Distal convoluted tubule
82. Which of the following is the best test to detect rabies virus in the brain of a dog?
- (a) Agglutination
 - (b) Hemagglutination inhibition
 - (c) Virus neutralization
 - (d) Direct immunofluorescence
83. Cork screw motility is shown by
- (a) *Corynebacterium* spp.
 - (b) *Campylobacter* spp.
 - (c) *Clostridium* spp.
 - (d) *Mycoplasma* spp.
84. Most potent aflatoxin is
- (a) B1
 - (b) B2
 - (c) G1
 - (d) G2
85. Which of the following is an asexual spore?
- (a) Basidiospore
 - (b) Zygosporangium
 - (c) Arthrospore
 - (d) Ascospore

86. Mink encephalopathy is a
- (a) metabolic disease
 - (b) prion disease
 - (c) bacterial disease
 - (d) viral disease
87. Which cell most effectively eliminates transplanted cells?
- (a) Macrophage
 - (b) Neutrophil
 - (c) T lymphocyte
 - (d) Plasma cell
88. Mismatched blood transfusion leads to which of the following types of hypersensitivity?
- (a) Type I
 - (b) Type II
 - (c) Type III
 - (d) Type IV
89. Mucosal immunity is preferentially stimulated if the immunogen is administered
- (a) intravenously
 - (b) intramuscularly
 - (c) intradermally
 - (d) orally
90. Diffuse rapidly spreading suppurative inflammation of subcutaneous tissues is known as
- (a) abscess
 - (b) carbuncle
 - (c) furuncle
 - (d) phlegmon

91. Failure of tissue to receive an adequate supply of oxygen, occurring due to failure of tissue oxidation system is called as
- (a) anoxic anoxia
 - (b) histotoxic anoxia
 - (c) anemic anoxia
 - (d) stagnant anoxia
92. Hypoxic injury of cells in all tissues produces coagulative necrosis, **except** in
- (a) liver
 - (b) pancreas
 - (c) brain
 - (d) lungs
93. Sago spleen is synonym for
- (a) splenic infarct
 - (b) focal splenitis
 - (c) amyloidosis of spleen
 - (d) hemosiderosis of spleen
94. Prussian blue reaction is used to demonstrate
- (a) melanin
 - (b) lead
 - (c) hemosiderin
 - (d) iron
95. Which of the following uroliths is most commonly seen in dogs?
- (a) Magnesium ammonium phosphate
 - (b) Calcium oxalate
 - (c) Urate
 - (d) Silica

96. Cooked rice grain-type of segments in the faeces of sheep indicate the infection of
- (a) *Avitellina centripunctata*
 - (b) *Moniezia expansa*
 - (c) *Stilesia globipunctata*
 - (d) *Thysaniezia giardia*
97. Potassium dichromate is used for
- (a) preservation of helminths
 - (b) sporulation of coccidian oocyst
 - (c) fixation of the tissues
 - (d) sedimentation of eggs
98. The most pathogenic tapeworm of poultry is
- (a) *Davainea proglottina*
 - (b) *Raillietina cesticillus*
 - (c) *Cotugnia cuneata*
 - (d) *Amoebotaenia sphenoides*
99. Triangular dorsal spines are the characteristic of
- (a) *Sarcoptes*
 - (b) *Psoroptes*
 - (c) *Demodex*
 - (d) *Cnemidocoptes*
100. Cyst of *Entamoeba coli* is
- (a) binucleated
 - (b) quadrinucleated
 - (c) hexanucleated
 - (d) octanucleated

101. Which of the following domestic animals frequently suffers from hepatic and renal diseases?
- (a) Cattle and horse
 - (b) Horse, sheep and goat
 - (c) Dog and cat
 - (d) Dog and horse
102. The fluid of choice in acute gastritis in dogs is
- (a) 1.1% potassium chloride solution
 - (b) dextrose normal saline
 - (c) 1.3% sodium bicarbonate solution
 - (d) Ringer's lactated solution
103. The normal pH of rumen liquor is
- (a) 6.5 to 8.5
 - (b) 4.5 to 5.0
 - (c) 6.0 to 7.0
 - (d) 2.0 to 3.0
104. Lyme disease is due to
- (a) *Borrelia burgdorferi*
 - (b) *Bacillus piliformis*
 - (c) *Citrobacter freundii*
 - (d) *Borrelia anserine*
105. Bleeding from nose is called
- (a) haemoptysis
 - (b) epistaxis
 - (c) haematemesis
 - (d) apoplexy

- 106.** Casoni's test is done for
- (a) fascioliasis
 - (b) echinococcosis
 - (c) ascariasis
 - (d) babesiosis
- 107.** A dog has been diagnosed as a case of glaucoma. It indicates that the dog has
- (a) increased intracranial pressure
 - (b) increased intra-abdominal pressure
 - (c) increased intraocular pressure
 - (d) increased intra-synovial pressure
- 108.** Intramedullary pinning is the technique of choice for fixation of transverse fracture of
- (a) femur
 - (b) fibula
 - (c) tibiotarsal bone
 - (d) radiocarpal bone
- 109.** Nerve block used to desensitize horn is
- (a) Peterson block
 - (b) auriculopalpebral block
 - (c) cornual block
 - (d) frontal block
- 110.** Fracture in which the fracture site communicates with the exterior is called
- (a) simple fracture
 - (b) compound fracture
 - (c) complex fracture
 - (d) composite fracture

111. Which of the following is synthetic non-absorbable suture?
- (a) Silk
 - (b) Nylon
 - (c) Catgut
 - (d) Linen
112. The healing of surgically sutured wound occurs by
- (a) first intention healing
 - (b) secondary union
 - (c) granulation
 - (d) second intention healing
113. An ideal complete fetotomy involves which of the following numbers of cut?
- (a) 12
 - (b) 6
 - (c) 9
 - (d) 8
114. During caesarean section in a cow, the incision is made on
- (a) body of uterus
 - (b) lesser curvature of uterus
 - (c) greater curvature of uterus
 - (d) cervix
115. Fertile life of spermatozoa in cattle is
- (a) 30-48 hours
 - (b) 12 hours
 - (c) 71-120 hours
 - (d) 15 hours

116. Which of the following is the site of fertilization of ovum in cattle?
- (a) Infundibulum
 - (b) Utero-tubal junction
 - (c) Ampullary-isthmus junction
 - (d) Uterine horn
117. Which cells of the ovary synthesize estrogen?
- (a) Theca cells
 - (b) Granulosa cells
 - (c) Luteal cells
 - (d) Interstitial cells
118. Post-service pyometra in cows is caused by
- (a) *Campylobacter fetus*
 - (b) *Brucella abortus*
 - (c) *E. coli*
 - (d) *Trichomonas fetus*
119. Transformation of secondary spermatocytes to spermatids is known as
- (a) spermatocytogenesis
 - (b) spermateliosis
 - (c) spermiogenesis
 - (d) spermiation
120. Duration of heat in cow is
- (a) 54 hours
 - (b) 18 hours
 - (c) 36 hours
 - (d) 5 hours

121. Cold shock in semen can be prevented by addition of
- (a) ethanol
 - (b) methanol
 - (c) glyceraldehyde
 - (d) glycerol
122. Anton's test is used in the diagnosis of
- (a) leptospirosis
 - (b) listeriosis
 - (c) leishmaniasis
 - (d) histoplasmosis
123. Fascioliasis if detected in bovine carcass at postmortem, requires condemnation of
- (a) only liver
 - (b) whole carcass
 - (c) only lungs
 - (d) only spleen
124. Which test is used for diagnosis of Q fever?
- (a) Casoni test
 - (b) Luoto capillary agglutination test
 - (c) Sabin-Feldman dye test
 - (d) Rothera's test
125. Which of the following vectors is responsible for transmission of Lyme disease?
- (a) *Ixodes* spp.
 - (b) *Tabanus* fly
 - (c) *Aedes aegypti*
 - (d) *Culex* spp.

126. Which of the following food-borne pathogens can survive at refrigeration temperature?
- (a) *Staphylococcus aureus*
 - (b) *Listeria monocytogenes*
 - (c) *Salmonella typhimurium*
 - (d) *E. coli*
127. Which one of the following parasites is **not** transmitted through meat in humans?
- (a) *Taenia solium*
 - (b) *Taenia saginata*
 - (c) *Echinococcus granulosus*
 - (d) *Trichinella spiralis*
128. Which among the following is the binding site of organophosphate insecticides?
- (a) Na^+ -ions channel
 - (b) Cl^- -ions channel
 - (c) Esteratic site of AChE
 - (d) Anionic site of AChE
129. Which of the following antibiotics inhibits nucleic acid synthesis?
- (a) Actinomycin
 - (b) Chloramphenicol
 - (c) Erythromycin
 - (d) Tetracycline
130. In cyanide poisoning, the colour of venous blood becomes
- (a) bright cherry red
 - (b) brown
 - (c) chocolate
 - (d) green

131. 'Drug efficacy' refers to
- (a) effectiveness of drug in life-threatening conditions
 - (b) the maximal effect or response produced by the drug
 - (c) the dose of the drug needed to produce half-maximal effect
 - (d) the minimum dose of the drug needed to produce toxic effect
132. Which of the following anti-hypertensive drugs is a mixed adrenergic antagonist?
- (a) Labetalol
 - (b) Methyldopa
 - (c) Guanadrel
 - (d) Atenolol
133. Which of the following is a centrally acting anti-emetic drug?
- (a) Benzocaine
 - (b) Betazole
 - (c) Neostigmine
 - (d) Ondansetron
134. Which one of the following is a systemic antacid?
- (a) Sodium acetate
 - (b) Aluminium hydroxide
 - (c) Magnesium oxide
 - (d) Calcium carbonate
135. Extreme type of outbreeding is observed between
- (a) breeds
 - (b) strains
 - (c) species
 - (d) lines

136. If the environmental variance is low, the heritability would be
- (a) low
 - (b) high
 - (c) zero
 - (d) Not change
137. The frequency of a recessive allele is 0.40 in a large random mating population. What is the frequency of a heterozygote?
- (a) 0.42
 - (b) 0.48
 - (c) 0.60
 - (d) 0.24
138. During which stage of meiosis there is formation of the bivalent dyads?
- (a) Leptotene
 - (b) Zygotene
 - (c) Diplotene
 - (d) Pachytene
139. Chromosome number of river and swamp buffalo is
- (a) 50 and 48 respectively
 - (b) 40 and 38 respectively
 - (c) 60 and 58 respectively
 - (d) 48 and 50 respectively
140. If an animal consumes 5 kg DM and excretes 5 kg faeces with 50% moisture, the digestibility coefficient will be
- (a) 40%
 - (b) 50%
 - (c) 60%
 - (d) 10%

141. Which of the following anti-nutritional substances **does not** affect utilization of protein?
- (a) Protease inhibitor
 - (b) Saponin
 - (c) Oxalic acid
 - (d) Tannin
142. Which of the following vitamins is required during conversion of tryptophan into niacin?
- (a) Thiamine
 - (b) Riboflavin
 - (c) Pyridoxine
 - (d) Biotin
143. Which of the following feed ingredients is **not** a protein supplement?
- (a) Groundnut cake
 - (b) Mustard cake
 - (c) Soyabean meal
 - (d) Maize grain
144. Restricted level of molasses used in ruminants is
- (a) 10% to 15%
 - (b) 5% to 10%
 - (c) 3% to 5%
 - (d) 1% to 2%
145. Time required to remove 90% of the organisms from food commodities is known as
- (a) D-value
 - (b) Z-value
 - (c) F-value
 - (d) thermal death time

146. Casein protein is exclusive to milk and exists in
- (a) colloidal state
 - (b) emulsion state
 - (c) particle state
 - (d) solution state
147. Venison is a meat of
- (a) cattle
 - (b) monkey
 - (c) horse
 - (d) deer
148. The process of tanning sheep skin with fish oil is popularly known as
- (a) shammoying
 - (b) dying
 - (c) bating
 - (d) desliming
149. Nitrite is added in meat to inhibit growth of which of the following organisms?
- (a) *Clostridium perfringens*
 - (b) *Escherichia coli*
 - (c) *Salmonella gallinarum*
 - (d) *Clostridium botulinum*
150. The bright pink colour characteristic of cured meat is due to
- (a) oxymyoglobin
 - (b) deoxymyoglobin
 - (c) nitrosyl haemochromogen
 - (d) myoglobin

151. Recovery of fat from the dead carcasses is called
- (a) rendering
 - (b) simmering
 - (c) braising
 - (d) pasteurization
152. Maximum milk producing country in the world is
- (a) USA
 - (b) Russia
 - (c) Canada
 - (d) India
153. 'Peak yield' in cattle is attained after
- (a) 1-2 weeks after parturition
 - (b) 3-4 weeks after parturition
 - (c) 6-7 weeks after parturition
 - (d) 9-10 weeks after parturition
154. Gestation period of 'ewe' is about
- (a) 140 days
 - (b) 150 days
 - (c) 160 days
 - (d) 170 days
155. For optimization of species specific 'inter-calving period' one of the most efficient management traits is to be manipulated is
- (a) service period
 - (b) gestation period
 - (c) lactation period
 - (d) dry period

156. The long (10–25 cm) lustrous goat fibre with small ringlets is called
- (a) hair
 - (b) wool
 - (c) mohair
 - (d) pashmina
157. Socialization is a process involving
- (a) setting up the social norms
 - (b) training to adopt to society
 - (c) gradual changing of organism
 - (d) declaring everything to society
158. Which of the following is a second tier of Panchayati Raj institution?
- (a) Village Panchayat
 - (b) Block Samiti (Block Panchayat)
 - (c) Zila Panchayat
 - (d) Vidhan Sabha
159. Which of the following is a non-projected visual aid?
- (a) Overhead projector
 - (b) Epidiascope
 - (c) Banner
 - (d) Slide projector
160. Mass media participation is generally more in which type of society?
- (a) Urban
 - (b) Rural
 - (c) Semi-rural
 - (d) Cooperative

SPACE FOR ROUGH WORK

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