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BIOLOGY QUESTION PAPER WITH SOLUTION (CODE – X6)



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- 46.** In some plants thalamus contributes to fruit formation. Such fruits are termed as :
(1) False fruits (2) Aggregate fruits
(3) True fruits (4) Parthenocarpic fruit
Ans. (1)
- 47.** First discovered restriction endonuclease that always cuts DNA molecule at a particular point by recognising a specific sequence of six base pairs is:
(1) EcoR1 (2) Adenosine deaminase
(3) Thermostable DNA polymerase (4) Hind II
Ans. (4)
- 48.** Which of the following statements is incorrect?
(1) Biomass decreases from first to fourth trophic level
(2) Energy content gradually increases from first to fourth trophic level
(3) Number of individuals decreases from first trophic level to fourth trophic level
(4) Energy content gradually decreases from first to fourth trophic level.
Ans. (2)
- 49.** The term 'Nuclein' for the genetic material was used by :
(1) Franklin (2) Meischer (3) Chargaff (4) Mendel
Ans. (2)
- 50.** Chromosomal theory of inheritance was proposed by :
(1) Sutton and Boveri
(2) Bateson and Punnet
(3) T. H. Morgan
(4) Watson and Crick
Ans. (1)
- 51.** Phycoerythrin is the major pigment in :
(1) Red algae
(2) Blue green algae
(3) Green algae
(4) Brown algae
Ans. (1)
- 52.** Identify the statement which is incorrect.
(1) Sulphur is an integral part of cysteine.
(2) Glycine is an example of lipids.
(3) Lecithin contains phosphorus atom in its structure.
(4) Tyrosine possesses aromatic ring in its structure.
Ans. (2)

53. Which of the following statements is incorrect about gymnosperms ?

- (1) They are heterosporous
- (2) Male and female gametophytes are free living
- (3) Most of them have narrow leaves with thick cuticle
- (4) Their seeds are not covered

Ans. (2)

54. A species which was introduced for ornamentation but has become a trouble-some weed in India :

- (1) *Parthenium hysterophorus*
- (2) *Eichhornia crassipes*
- (3) *Prosopis juliflora*
- (4) *Trapa spinosa*

Ans. (2)

55. Correct position of floral parts over thalamus in mustard plant is :

- (1) Gynoecium occupies the highest position, while the other parts are situated below it.
- (2) Margin of the thalamus grows upward, enclosing the ovary completely, and other parts arise below the ovary.
- (3) Gynoecium is present in the centre and other parts cover it partially.
- (4) Gynoecium is situated in the centre, and other parts of the flower are located at the rim of the thalamus, at the same level.

Ans. (1)

56. In Recombinant DNA technology antibiotics are used :

- (1) to keep medium bacteria-free
- (2) to detect alien DNA
- (3) to impart disease-resistance to the host plant
- (4) as selectable markers

Ans. (2)/(4)

57. According to Alexander von Humboldt :

- (1) Species richness decreases with increasing area of exploration
- (2) Species richness increases with increasing area, but only up to limit
- (3) There is no relationship between species richness and area explored.
- (4) Species richness goes on increasing with increasing area of exploration

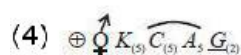
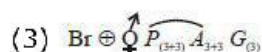
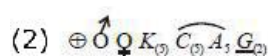
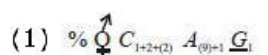
Ans. (2)

58. Which of the following is incorrect for wind-pollinated plants ?

- (1) Well exposed stamens and stigma
- (2) Many ovules in each ovary
- (3) Flowers are small and not brightly coloured
- (4) Pollen grains are light and non-sticky

Ans. (2)

59. Which of the following is the correct floral formula of Liliaceae ?



Ans. (3)

60. In the polynucleotide chain of DNA, a nitrogenous base is linked to the -OH of :

- (A) 2'C pentose sugar (B) 3'C pentose sugar (C) 5'C pentose sugar (D) 1'C pentose sugar

Ans. (4)

61. In Glycine max, the product of biological nitrogen fixation is transported from the root nodules to other parts as :

- (1) Ammonia (2) Glutamate (3) Nitrates (4) Ureides

Ans. (4)

62. The number of contrasting characters studied by Mendel for his experiments was :

- (1) 14 (2) 2 (3) 4 (4) 7

Ans. (4)

63. Attachment of spindle fibers to kinetochores of chromosomes becomes evident in :

- (1) Anaphase (2) Telophase (3) Prophase (4) Metaphase

Ans. (4)

64. Match the items in Column-I with those in Column-II :

Column I

- (a) Herbivores-Plants
- (b) Mycorrhiza-Plants
- (c) Sheep-Cattle
- (d) Orchid-Tree

Column II

- (i) Commensalism
- (ii) Mutualism
- (iii) Predation
- (iv) Competition

Select the correct option from following :

- (1) (a)-(iv), (b)-(ii), (c)-(i), (d)-(iii)
- (2) (a)-(iii), (b)-(ii), (c)-(iv), (d)-(i)
- (3) (a)-(ii), (b)-(i), (c)-(iii), (d)-(iv)
- (4) (a)-(i), (b)-(iii), (c)-(iv), (d)-(ii)

Ans. (2)

65. Vegetative propagule in Agave is as :

- (1) Rhizome (2) Bulbil (3) Offset (4) Eye

Ans. (2)

66. Match the following :

- | | |
|--------------------|---------------------|
| (a) Aquaporin | (i) Amide |
| (b) Asparagine | (ii) Polysaccharide |
| (c) Absciscic acid | (iii) Polypeptide |
| (d) Chitin | (iv) Carotenoids |

- (1) (a)-(iii), (b)-(i), (c)-(iv), (d)-(ii)
- (2) (a)-(ii), (b)-(iii), (c)-(iv), (d)-(i)
- (3) (a)-(ii), (b)-(i), (c)-(iv), (d)-(iii)
- (4) (a)-(iii), (b)-(i), (c) -(ii), (d)-(iv)

Ans. (1)

67. Which of the following elements helps in maintaining the structure of ribosomes ?

- (1) Magnesium (2) Zinc (3) Copper (4) Molybdenum

Ans. (1)

68. Who coined the term 'Kinetin' ?

- (1) Skoog and Miller (2) Darwin (3) Went (4) Kurosawa

Ans. (1)

69. In the following in each set a conservation approach and an example of method of conservation are given

- (a) In situ conservation - Biosphere Reserve
- (b) Ex situ conservation - Sacred groves
- (c) In situ conservation - Seed bank
- (d) Ex situ conservation - Cryopreservation

- (1) (a) and (c) (2) (a) and (d) (3) (b) and (d) (4) (a) and (b)

Ans. (2)

70. Embryological support for evolution was proposed by :

- (1) Ernst Heckel
- (2) Karl Ernst von Baer
- (3) Charles Darwin
- (4) Alfred Wallace

Ans. (1)

71. During non-cyclic photophosphorylation, when electrons are lost from the reaction centre at PS II, what is the source which replaces these electrons?

- (1) Oxygen (2) Water (3) Carbon dioxide (4) Light

Ans. (2)

72. In a mitotic cycle, the correct sequence of phases is

- (1) S, G₁, G₂, M (2) G₁, S, G₂, M (3) M, G₁, G₂, S (4) G₁, G₂, S, M

Ans. (2)

73. Inclusion bodies of blue- green, purple and green photosynthetic bacteria are :

- (1) Contractile vacuoles (2) Gas vacuoles
- (3) Centrioles (4) Microtubules

Ans. (2)

74. Large, empty colourless cells of the adaxial epidermis along the veins of grass leaves are

- (1) Lenticels (2) Guard cells (3) Bundle sheath cells (4) Bulliform cells

Ans. (4)

75. The biosynthesis of ribosomal RNA occurs in :

- (1) Ribosomes (2) Golgi apparatus (3) Microbodies (4) Nucleolus

Ans. (4)

76. Which of the following is incorrect about Cyanobacteria ?

- (1) They are photoautotrophs
- (2) They lack heterocysts
- (3) They often form blooms in polluted water bodies
- (4) They have chlorophyll A similar to green plants

Ans. (2)

77. Which of the following statements about cork cambium is incorrect?

- (1) It forms secondary cortex on its outside
- (2) It forms a part of periderm
- (3) It is responsible for the formation of lenticels
- (4) It is a couple of layers thick

Ans. (1)

78. Select the incorrect statement.

- (1) Transport of molecules in phloem can be bidirectional.
- (2) Movement of minerals in xylem is unidirectional.
- (3) Unloading of sucrose at sink does not involve the utilization of ATP.
- (4) Elements most easily mobilized in plants from one region to another are: phosphorus, sulphur, nitrogen and potassium.

Ans. (3)

79. Air (Prevention and Control of Pollution) Act was amended in 1987 to include among pollutants

- (1) Vehicular exhaust (2) Allergy causing pollen
- (3) Noise (4) Particulates of size 2.5 micrometer or below

Ans. (3)

80. Inhibitory substances in dormant seeds cannot be removed by subjecting seeds to :

- (1) Gibberellic acid (2) Nitrate (3) Ascorbic acid (4) Chilling conditions

Ans. (3)

81. Match the following techniques or instruments with their usage :

- | | |
|---------------------|---|
| (a) Bioreactor | (i) Separation of DNA fragments |
| (b) Electrophoresis | (ii) Production of large quantities of products |
| (c) PCR | (iii) Detection of pathogen, based on antigen - antibody reaction |
| (d) ELISA | (iv) Amplification of nucleic acids |

(1) (a)-(iii), (b)-(ii), (c)-(iv), (d)-(i)

(2) (a)-(ii), (b)-(i), (c)-(iv), (d)-(iii)

(3) (a)-(iv), (b)-(iii), (c)-(ii), (d)-(i)

(4) (a)-(ii), (b)-(i), (c)-(iii), (d)-(iv)

Ans. (2)

82. Which of the following statements is incorrect?

- (1) RuBisCO is a bifunctional enzyme
- (2) In C_4 plants, the site of RuBisCO activity is in mesophyll cell
- (3) The substrate molecule for RuBisCO activity is a 5-carbon compound
- (4) RuBisCO action requires ATP and NADPH

Ans. (2)

83. Which of the following statements is incorrect regarding the phosphorus cycle?
(1) Phosphates are the major form of phosphorus reservoir
(2) Phosphorus solubilising bacteria facilitate the release of phosphorus from organic remains
(3) There is appreciable respiratory release of phosphorus into atmosphere
(4) It is sedimentary cycle

Ans. (3)

84. After about how many years of formation of earth, life appeared on this planet ?
(1) 500 billion years (2) 50 million years
(3) 500 million years (4) 50 billion years

Ans. (3)

85. In a mixture, DNA fragments are separated by :-
(1) Bioprocess engineering
(2) Restriction digestion
(3) Electrophoresis
(4) Polymerase chain reaction

Ans. (3)

86. Identify the correct features of Mango and Coconut fruits.
(i) In both fruit is a drupe
(ii) Endocarp is edible in both
(iii) Mesocarp in Coconut is fibrous, and in Mango it is fleshy
(iv) In both, fruit develops from monocarpellary ovary
Select the correct option from below :
(1) (i), (iii) and (iv) only
(2) (i), (ii) and (iii) only
(3) (i) and (iv) only
(4) (i) and (ii) only

Ans. (1)

87. The impact of immigration on population density is :-
(1) Negative
(2) Both positive and negative
(3) Neutralized by natality
(4) Positive

Ans. (4)

88. Male and female gametophytes do not have an independent free living existence in :-
(1) Pteridophytes (2) Algae
(3) Angiosperms (4) Bryophytes

Ans. (3)

89. Match the following concerning the activity/function and the phytohormone involved :-

- | | |
|--------------------|----------------------|
| (a) Fruit ripener | (i) Absciscic acid |
| (b) Herbicide | (ii) GA ₃ |
| (c) Bolting agent | (iii) 2, 4-D |
| (d) Stress hormone | (iv) Ethephon |

- (1) (a)-(ii), (b)-(iii), (c)-(iv), (d)-(i)
(2) (a)-(iii), (b)-(iv), (c)-(ii), (d)-(i)
(3) (a)-(iv), (b)-(iii), (c)-(ii), (d)-(i)
(4) (a)-(iv), (b)-(ii), (c)-(i), (d)-(iii)

Ans. (3)

90. Pyruvate dehydrogenase activity during aerobic respiration requires :-

- (1) Calcium (2) Iron (3) Cobalt (4) Magnesium

Ans. (4)

91. The rate of decomposition is faster in the ecosystem due to following factors EXCEPT :-

- (1) Detritus rich in sugars
(2) Warm and moist environment
(3) Presence of aerobic soil microbes
(4) Detritus richer in lignin and chitin

Ans. (4)

92. For the commercial and industrial production of Citric Acid, which of the following microbes is used ?

- | | |
|------------------------------|---------------------------|
| (1) Aspergillus niger | (2) Lactobacillus sp |
| (3) Saccharomyces cerevisiae | (4) Clostridium butylicum |

Ans. (1)

93. Which of the following STDs are not curable ?

- (1) Genital herpes, Hepatitis B, HIV infection
(2) Chlamydiasis, Syphilis, Genital warts
(3) HIV, Gonorrhoea, Trichomoniasis
(4) Gonorrhoea, Trichomoniasis, Hepatitis B

Ans. (1)

94. Spooling is :-

- (1) Amplification of DNA
- (2) Cutting of separated DNA bands from the agarose gel
- (3) Transfer of separated DNA fragments to synthetic membranes
- (4) Collection of isolated DNA

Ans. (4)

95. The phenomenon of evolution of different species in a given geographical area starting from a point and spreading to other habitats is called :-

- (1) Saltation
- (2) Co-evolution
- (3) Natural selection
- (4) Adaptive radiation

Ans. (4)

96. The best example for pleiotropy is :-

- (1) Skin colour
- (2) Phenylketoneuria
- (3) Colour Blindness
- (4) ABO Blood group

Ans. (2)

97. In cockroach, identify the parts of the foregut in correct sequence :-

- (1) Mouth Oesophagus Pharynx Crop Gizzard
- (2) Mouth Crop Pharynx Oesophagus Gizzard
- (3) Mouth Gizzard Crop Pharynx Oesophagus
- (4) Mouth Pharynx Oesophagus Crop Gizzard

Ans. (4)

98. Match the following columns and select the correct option :-

Column-I

- (a) Pituitary hormone
- (b) Epinephrine
- (c) Endorphins
- (d) Cortisol

Column-II

- (i) Steroid
- (ii) Neuropeptides
- (iii) Peptides, proteins
- (iv) Biogenic amines

- (1) (a)-(iv), (b)-(i), (c)-(ii), (d)-(iii)
- (2) (a)-(iii), (b)-(iv), (c)-(ii), (d)-(i)
- (3) (a)-(iv), (b)-(iii), (c)-(i), (d)-(ii)
- (4) (a)-(iii), (b)-(iv), (c)-(i), (d)-(ii)

Ans. (2)

99. Which of the following options does correctly represent the characteristic features of phylum Annelida ?

- (1) Triploblastic, unsegmented body and bilaterally symmetrical.
- (2) Triploblastic, segmented body and bilaterally symmetrical.
- (3) Triploblastic, flattened body and acoelomate condition.
- (4) Diploblastic, mostly marine and radially symmetrical.

Ans. (2)

100. Match the following columns and select the correct option :-

Column-I

- (a) Dragonflies
- (b) *Bacillus thuringiensis*
- (c) *Glomus*
- (d) Baculoviruses

Column-II

- (i) Biocontrol agents of several plant pathogens
- (ii) Get rid of Aphids and mosquitoes
- (iii) Narrow spectrum insecticidal applications
- (iv) Biocontrol agents of lepidopteran plant pests
- (v) Absorb phosphorus from soil

- (1) (a)-(iii), (b)-(v), (c)-(iv), (d)-(i)
- (2) (a)-(ii), (b)-(i), (c)-(iii), (d)-(iv)
- (3) (a)-(ii), (b)-(iii), (c)-(iv), (d)-(v)
- (4) (a)-(ii), (b)-(iv), (c)-(v), (d)-(iii)

Ans. (4)

101. Intrinsic factor that helps in the absorption of vitamin B₁₂ is secreted by :-

- (1) Goblet cells (2) Hepatic cells (3) Oxyntic cells (4) Chief cells

Ans. (3)

102. Hormones stored and released from neurohypophysis are :-

- (1) Thyroid stimulating hormone and Oxytocin
- (2) Oxytocin and Vasopressin
- (3) Follicle stimulating hormone and Leutinizing hormone
- (4) Prolactin and Vasopressin

Ans. (2)

103. Match the following columns and select the correct option :

Column - I

- (i) Typhoid
- (ii) Malaria
- (iii) Pneumonia
- (iv) Filariasis

Column - II

- (a) *Haemophilus influenzae*
- (b) *Wuchereria bancrofti*
- (c) *Plasmodium vivax*
- (d) *Salmonella typhi*

- (1) (i)-(d), (ii)-(c), (iii)-(a), (iv)-(b)
- (2) (i)-(c), (ii)-(d), (iii)-(b), (iv)-(a)
- (3) (i)-(a), (ii)-(c), (iii)-(b), (iv)-(d)
- (4) (i)-(a), (ii)-(b), (iii)-(d), (iv)-(c)

Ans. (1)

104. In human beings, at the end of 12 weeks (first trimester) of pregnancy, the following is observed:

- (1) Eyelids and eyelashes are formed
- (2) Most of the major organ systems are formed
- (3) The head is covered with fine hair
- (4) Movement of the foetus

Ans. (2)

105. Match the following columns and select the correct option :

Column - I

- (a) Rods and
- (b) Blind Spot
- (c) Fovea
- (d) Iris

Column - II

- (i) Absence of Cones photoreceptor cells
- (ii) Cones are densely packed
- (iii) Photoreceptor cells
- (iv) Visible coloured portion of the eye

- (1) (a)-(iii), (b)-(i), (c)-(ii), (d)-(iv)
- (2) (a)-(ii), (b)-(iii), (c)-(i), (d)-(iv)
- (3) (a)-(iii), (b)-(iv), (c)-(ii), (d)-(i)
- (4) (a)-(ii), (b)-(iv), (c)-(iii), (d)-(i)

Ans. (1)

106. The size of Pleuropneumonia - like Organism (PPLo) is :

- (1) 0.02 m (2) 1-2 m (3) 10-20 m (4) 0.1 m

Ans. (4)

107. The proteolytic enzyme rennin is found in :

- (1) Intestinal juice (2) Bile juice (3) Gastric juice (4) Pancreatic juice

Ans. (3)

108. Match the following group of organisms with their respective distinctive characteristics and select the correct option :

Organisms

Characteristics

- (a) Platyhelminthes (i) Cylindrical body with no segmentation
- (b) Echinoderms (ii) Warm blooded animals with direct development
- (c) Hemichordates (iii) Bilateral symmetry with incomplete digestive system
- (d) Aves (iv) Radial symmetry with indirect development

- (1) (a)-(iii), (b)-(iv), (c)-(i), (d)-(ii)
- (2) (a)-(ii), (b)-(iii), (c)-(iv), (d)-(i)
- (3) (a)-(iv), (b)-(i), (c)-(ii), (d)-(iii)
- (4) (a)-(i), (b)-(ii), (c)-(iii), (d)-(iv)

Ans. (1)

109. Cyclosporin A, used as immuno suppression agent, is produced from :

- (1) Monascus purpureus (2) Saccharomyces cerevisiae
- (3) Penicillium notatum (4) Trichoderma polysporum

Ans. (4)

- 110.** Select the correct statement from the following :
- (1) Gel electrophoresis is used for amplification of a DNA segment.
 - (2) The polymerase enzyme joins the gene of interest and the vector DNA.
 - (3) Restriction enzyme digestions are performed by incubating purified DNA molecules with the restriction enzymes of optimum conditions.
 - (4) PCR is used for isolation and separation of gene of interest.

Ans. (3)

- 111.** The increase in osmolarity from outer to inner medullary interstitium is maintained due to
- (i) Close proximity between Henle's loop and vasa recta
 - (ii) Counter current mechanism
 - (iii) Selective secretion of HCO_3^- and hydrogen ions in PCT
 - (iv) Higher blood pressure in glomerular capillaries
- (1) Only(ii) (2) (iii) and (iv) (3) (i), (ii) and (iii) (4) (i) and (ii)

Ans. (4)

- 112.** The yellowish fluid "colostrum" secreted by mammary glands of mother during the initial days of lactation has abundant antibodies (IgA) to protect the infant. This type of immunity is called as :
- (1) Passive immunity (2) Active immunity
 - (3) Acquired immunity (4) Autoimmunity

Ans. (1)

- 113.** Match the following columns with reference to cockroach and select the correct option :

Column - I

- (a) Grinding of
- (b) Secrete gastric
- (c) 10 pairs

Column - II

- (i) Hepatic caecal the food particles
- (ii) 10th segment juice
- (iii) Proventriculus (d) Anal cerci (iv) Spiracles
- (v) Alary muscles

- (1) (a)-(iii), (b)-(i), (c)-(iv), (d)-(ii)
- (2) (a)-(iv), (b)-(iii), (c)-(v), (d)-(ii)
- (3) (a)-(i), (b)-(iv), (c)-(iii), (d)-(ii)
- (4) (a)-(ii), (b)-(iii), (c)-(i), (d)-(iv)

Ans. (1)

- 114.** RNA interference is used for which of the following purposes in the field of biotechnology ?
- (1) to develop a plant tolerant to abiotic stresses
 - (2) to develop a pest resistant plant against infestation by nematode
 - (3) to enhance the mineral usage by the plant
 - (4) to reduce post harvest losses

Ans. (2)

115. E.coli has only 4.6×10^6 base pairs and completes the process of replication within 18 minutes; then the average rate of polymerisation is approximately-

- (1) 2000 base pairs/second (2) 3000 base pairs/second
(3) 4000 base pairs/second (4) 1000 base pairs/second

Ans. (1)

116. Progestogens alone or in combination with estrogens can be used as a contraceptive in the form of -

- (1) Implants only (2) Injections only
(3) Pills, injections and implants (4) Pills only

Ans. (3)

117. According to Central Pollution Control Board [CPCB] what size (in diameter) of particulate is responsible for causing greater harm to human health ?

- (1) 3.5 micrometers (2) 2.5 micrometers (3) 4.0 micrometers (4) 3.0 micrometers

Ans. (2)

118. The Total Lung Capacity (TLC) is the total volume of air accommodated in the lungs at the end of a forced inspiration. This includes :

- (1) RV; IC (Inspiratory Capacity); EC (Expiratory Capacity); and ERV
(2) RV; ERV; IC and EC
(3) RV; ERV; VC (Vital Capacity) and FRC (Functional Residual Capacity)
(4) RV (Residual Volume); ERV (Expiratory Reserve Volume); TV (Tidal Volume); and IRV (Inspiratory Reserve Volume)

Ans. (4)

119. Select the correct option of haploid cells from the following groups :

- (1) Primary oocyte, Secondary oocyte, Spermatid
(2) Secondary spermatocyte, First polar body, Ovum
(3) Spermatogonia, Primary spermatocyte, Spermatid
(4) Primary spermatocyte, Secondary spermatocyte, Second polar body

Ans. (2)

120. During Meiosis 1, in which stage synapsis takes place ?

- (1) Pachytene (2) Zygotene (3) Diplotene (4) Leptotene

Ans. (2)

121. Match the following columns and select the correct option :

Column - I

- (a) Smooth endoplasmic reticulum
- (b) Rough endoplasmic reticulum
- (c) Golgi complex
- (d) Centriole

Column - II

- (i) Protein synthesis
- (ii) Lipid synthesis
- (iii) Glycosylation
- (iv) Spindle formation

- (1) (a)-(ii), (b)-(i), (c)-(iii), (d)-(iv)
- (2) (a)-(iii), (b)-(i), (c)-(ii), (d)-(iv)
- (3) (a)-(iv), (b)-(ii), (c)-(i), (d)-(iii)
- (4) (a)-(i), (b)-(ii), (c)-(iii), (d)-(iv)

Ans. (1)

122. Select the correct statement :

- (1) Atrial Natriuretic Factor increases the blood pressure.
- (2) Angiotensin II is a powerful vasodilator.
- (3) Counter current pattern of blood flow is not observed in vasa recta.
- (4) Reduction in Glomerular Filtration Rate activates JG cells to release renin.

Ans. (4)

123. Which of the following is associated with decrease in cardiac output ?

- (1) Sympathetic nerves
- (2) Parasympathetic neural signals
- (3) Pneumotaxic centre
- (4) Adrenal medullary hormones

Ans. (2)

124. Inbreeding depression is -

- (1) Reduced motility and immunity due to close inbreeding
- (2) Decreased productivity due to mating of superior male and inferior female
- (3) Decrease in body mass of progeny due to continued close inbreeding
- (4) Reduced fertility and productivity due to continued close inbreeding

Ans. (4)

125. Select the incorrectly matched pair from following:

- (1) Chondrocytes - Smooth muscle cells
- (2) Neurons - Nerve cells
- (3) Fibroblast - Areolar tissue
- (4) Osteocytes - Bone cells

Ans. (1)

126. The laws and rules to prevent unauthorised exploitation of bio-resources are termed as -

- (1) Biopatenting
- (2) Bioethics
- (3) Bioengineering
- (4) Biopiracy

Ans. (1)

127. Match the following columns and select the correct option :

Column - I

- (a) Ovary
- (b) Placenta
- (c) Corpus luteum
- (d) Leydig cells

Column - II

- (i) Human chorionic Gonadotropin
- (ii) Estrogen & Progesterone
- (iii) Androgens
- (iv) Progesterone only

- (1) (a)-(iv), (b)-(iii), (c)-(ii), (d)-(i)
- (2) (a)-(i), (b)-(ii), (c)-(iii), (d)-(iv)
- (3) (a)-(i), (b)-(iii), (c)-(ii), (d)-(iv)
- (4) (a)-(ii), (b)-(i), (c)-(iv), (d)-(iii)

Ans. (4)

128. Match the following columns and select the correct option :

Column - I Column - II (a) Aptenodytes (i) Flying fox

- (b) Pteropus (ii) Angel fish (c) Pterophyllum
- (iii) Lamprey (d) Petromyzon (iv) Penguin

- (1) (a)-(iii), (b)-(iv), (c)-(ii), (d)-(i)
- (2) (a)-(iii), (b)-(iv), (c)-(i), (d)-(ii)
- (3) (a)-(iv), (b)-(i), (c)-(ii), (d)-(iii)
- (4) (a)-(ii), (b)-(i), (c)-(iv), (d)-(iii)

Ans. (3)

129. A Hominid fossil discovered in Java in 1891, now extinct, having cranial capacity of about 900 cc was:

- (1) Homo erectus (2) Neanderthal man (3) Homo sapiens (4) Australopithecus **Ans.**

(1)

130. Match the following events that occur in their respective phases of cell cycle and select the correct option :

(a) G₁ phase

(b) S phase

(c) G₂ phase

(d) Metaphase in M-phase

(i) Cell grows and organelle duplication

(ii) DNA replication and chromosome duplication

(iii) Cytoplasmic growth

(iv) Alignment of chromosomes

- (1) (a)-(ii), (b)-(iii), (c)-(iv), (d)-(i)
- (2) (a)-(iii), (b)-(iv), (c)-(i), (d)-(ii)
- (3) (a)-(iv), (b)-(i), (c)-(ii), (d)-(iii)
- (4) (a)-(i), (b)-(ii), (c)-(iii), (d)-(iv)

Ans. (4)

131. Match the following columns and select the correct option :

Column - I

- (a) Pneumotaxic
- (b) O₂ Dissociation
- (c) Carbonic
- (d) Primary site
- (1) (a)-(i), (b)-(iii), (c)-(ii), (d)-(iv)
- (3) (a)-(iii), (b)-(ii), (c)-(iv), (d)-(i)

Column - II

- (i) Alveoli Centre
- (ii) Pons region of curve brain
- (iii) Haemoglobin Anhydrase
- (iv) R.B.C. of exchange of gases
- (2) (a)-(ii), (b)-(iii), (c)-(iv), (d)-(i)
- (4) (a)-(iv), (b)-(i), (c)-(iii), (d)-(ii)

Ans. (2)

132. Which is the basis of genetic mapping of human genome as well as DNA finger printing ?

- (1) Polymorphism in DNA sequence
- (2) Single nucleotide polymorphism
- (3) Polymorphism in hnRNA sequence
- (4) Polymorphism in RNA sequence

Ans. (1)

133. Which of the following conditions cause erythroblastosis foetalis ?

- (1) Mother Rh^{+ve} and foetus Rh^{-ve}
- (2) Mother Rh^{-ve} and foetus Rh^{+ve}
- (3) Both mother and foetus Rh^{-ve}
- (4) Both mother and foetus Rh^{+ve}

Ans. (2)

134. All vertebrates are chordates but all chordates are not vertebrates, why ?

- (1) Notochord is replaced by vertebral column in adult of some chordates.
- (2) Ventral hollow nerve cord remains throughout life in some chordates.
- (3) All chordates possess vertebral column.
- (4) All chordates possess notochord throughout their life.

Ans. (1)

135. Match the following columns and select the correct option

Column - I

- (a) Gout
- (b) Osteoporosis
- (c) Tetany
- (d) Muscular

Column - II

- (i) Decreased levels of estrogen
- (ii) Low Ca⁺⁺ ions in the blood
- (iii) Accumulation of uric acid crystals
- (iv) Auto immune dystrophy disorder
- (v) Genetic disorder

- (1) (a)-(ii), (b)-(i), (c)-(iii), (d)-(iv)
- (2) (a)-(iii), (b)-(i), (c)-(ii), (d)-(v)
- (3) (a)-(iv), (b)-(v), (c)-(i), (d)-(ii)
- (4) (a)-(i), (b)-(ii), (c)-(iii), (d)-(iv)

Ans. (2)



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