

**FINAL NEETUG-2019 EXAMINATION**

th

**BIOLOGY**

**91.** Which of the following statements is **incorrect** ?

- 1 Viroids lack a protein coat
- 2 Viruses are obligate parasites
- 3 Infective constituent in viruses is the protein coat
- 4 Prions consist of abnormally folded proteins

**Ans. 3**

**92.** Purines found both in DNA and RNA are :-

- 1 Adenine and thymine
- 2 Adenine and guanine
- 3 Guanine and cytosine
- 4 Cytosine and thymine

**Ans. 2**

**93.** Which of the following glucose transporters is insulin-dependent ?

- |            |           |
|------------|-----------|
| 1 GLUT I   | 2 GLUT II |
| 3 GLUT III | 4 GLUT IV |

**Ans. 4**

**94.** Identify the cells whose secretion protects the lining of gastro-intestinal tract from various enzymes :-

- 1 Chief Cells
- 2 Goblet Cells
- 3 Oxyntic Cells
- 4 Duodenal Cells

**Ans. 2**

**95.** Which one of the following equipments is essentially required for growing microbes on a large scale, for industrial production of enzymes ?

- |                   |                   |
|-------------------|-------------------|
| 1 BOD incubator   | 2 Sludge digester |
| 3 Industrial oven | 4 Bioreactor      |

**Ans. 4**

**96.** Which of the following is **true** for Golden rice ?

- 1 It is Vitamin A enriched, with a gene from daffodil
- 2 It is pest resistant, with a gene from *Bacillus thuringiensis*
- 3 It is drought tolerant, developed using *Agrobacterium* vector
- 4 It has yellow grains, because of a gene introduced from a primitive variety of rice

**Ans. 1**

**TEST PAPER WITH ANSWER**

**97.** Which one of the following is **not** a method of *in situ* conservation of biodiversity ?

- 1 Biosphere Reserve
- 2 Wildlife Sanctuary
- 3 Botanical Garden
- 4 Sacred Grove

**Ans. 3**

**98.** Under which of the following conditions will there be no change in the reading frame of following mRNA ?

5'AACAGCGGUGCUAAU3'

- 1 Insertion of G at 5<sup>th</sup> position
- 2 Deletion of G from 5<sup>th</sup> position
- 3 Insertion of A at G at 4<sup>th</sup> and 5<sup>th</sup> positions respectively
- 4 Deletion of GGU from 7<sup>th</sup>, 8<sup>th</sup> and 9<sup>th</sup> positions

**Ans. 4**

**99.** Which of these following methods is the most suitable for disposal of nuclear waste ?

- 1 Shoot the waste into space
- 2 Bury the waste under Antarctic ice-cover
- 3 Dump the waste within rocks under deep ocean
- 4 Bury the waste within rocks deep below the Earth's surface

**Ans. 4**

**100.** Match the following organisms with the products they produce :-

- |                                   |                 |
|-----------------------------------|-----------------|
| a <i>Lactobacillus</i>            | i Cheese        |
| b <i>Saccharomyces cerevisiae</i> | ii Curd         |
| c <i>Aspergillus niger</i>        | iii Citric Acid |
| d <i>Acetobacter aceti</i>        | iv Bread        |
|                                   | v Acetic Acid   |

Select the **correct** option.

- |   | a   | b  | c   | d   |
|---|-----|----|-----|-----|
| 1 | ii  | iv | v   | iii |
| 2 | ii  | iv | iii | v   |
| 3 | iii | iv | v   | i   |
| 4 | ii  | i  | iii | v   |

**Ans. 2**

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- 101.** What map unit Centimorgan is adopted in the construction of genetic maps ?
- 1 A unit of distance between two expressed genes, representing 10% cross over
  - 2 A unit of distance between two expressed genes, representing 100% cross over
  - 3 A unit of distance between genes on chromosomes, representing 1% cross over
  - 4 A unit of distance between genes on chromosomes, representing 50% cross over

**Ans. 3**

- 102.** Select the hormone-releasing Intra-Uterine Devices?
- 1 Vaults, LNG-20
  - 2 Multiload 375, Progestasert
  - 3 Progestasert, LNG-20
  - 4 Lippes Loop, Multiload 375

**Ans. 3**

- 103.** Which of the following can be used as a biocontrol agent in the treatment of plant disease ?
- 1 *Trichoderma*
  - 2 *Chlorella*
  - 3 *Anabaena*
  - 4 *Lactobacillus*

**Ans. 1**

- 104.** Expressed Sequence Tages ESTs refers to :-
- 1 Genes expressed as RNA
  - 2 Polypeptide expression
  - 3 DNA polymorphism
  - 4 Novel DNA sequences

**Ans. 1**

- 1.** Colostrum, the yellowish fluid, secreted by mother during the initial days of lactation is very essential to impart immunity to the newborn infants because it contains :-
- 1 Natural killer cells
  - 2 Monocytes
  - 3 Macrophages
  - 4 Immunoglobulin A

**Ans. 4**

- 106.** Select the **incorrect** statement :-
- 1 Inbreeding increases homozygosity
  - 2 Inbreeding is essential to evolve purelines in any animal
  - 3 Inbreeding selects harmful recessive genes that reduce fertility and productivity
  - 4 Inbreeding helps in accumulation of superior genes elimination of undesirable genes

**Ans. 3**

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- 107.** Select the **correct** sequence of transport of sperm cells in male reproductive system :-
- 1 Testis — Epididymis — Vasa efferentia — Rete testis — Inguinal canal — Urethra
  - 2 Seminiferous tubules — Rete testis — Vasa efferentia — Epididymis — Vas deferens — Ejaculatory duct — Urethra — Urethral meatus
  - 3 Seminiferous tubules — Vasa efferentia — Epididymis — Inguinal canal — Urethra
  - 4 Testis — Epididymis — Vasa efferentia — Vas deferens — Ejaculatory duct — Inguinal canal — Urethra — Urethral meatus

**Ans. 2**

- 108.** A gene locus has two alleles A, a. If the frequency of dominant allele A is 0.4 then what will be the frequency of homozygous dominant, heterozygous and homozygous recessive individuals in the population ?
- 1 0.36 AA; 0.48Aa; 0.16 aa
  - 2 0.16 AA; 0.24 Aa; 0.36 aa
  - 3 0.16 AA; 0.48 Aa; 0.36 aa
  - 4 0.16 AA; 0.36 Aa; 0.48 aa

**Ans. 3**

- 109.** Match the following organisms with their respective characteristics :-

a <i>Pila</i>	i Flame cells
b <i>Bombyx</i>	ii Comb plates
c <i>Pleurobrachia</i>	iii Radula
d <i>Taenia</i>	iv Malpighian tubules

Select the **correct** option from the following

	a	b	c	d
1	iii	ii	i	iv
2	iii	iv	ii	i
3	ii	iv	iii	i
4	iiii	ii	iv	i

**Ans. 2**

- 110.** The shorter and longer arms of a submetacentric chromosome are referred to as :-
- 1 s-arm and l-arm respectively
  - 2 p-arm and q-arm respectively
  - 3 q-arm and p-arm respectively
  - 4 m-arm and n-arm respectively

**Ans. 2**

- 111.** What is the site of perception of photoperiod necessary for induction of flowering in plants :-
- 1 Lateral buds
  - 2 Pulvinus
  - 3 Shoot apex
  - 4 Leaves

**Ans. 4**

**112.** Which part of the brain is responsible for thermoregulation ?

- |                   |                     |
|-------------------|---------------------|
| 1 Cerebrum        | 2 Hypothalamus      |
| 3 Corpus callosum | 4 Medulla oblongata |

**Ans. 2**

**113.** Which of the following pair of organelles does not contain DNA :-

- 1 Mitochondria and Lysosomes
- 2 Chloroplast and Vacuoles
- 3 Lysosomes and Vacuoles
- 4 Nuclear envelope and Mitochondria

**Ans. 3**

**114.** What is the genetic disorder in which an individual has an overall masculine development, gynaecomastia, and is sterile ?

- 1 Turner's syndrome
- 2 Klinefelter's syndrome
- 3 Edward syndrome
- 4 Down's syndrome

**Ans. 2**

**115.** Xylem translocates :-

- 1 Water only
- 2 Water and mineral salts only
- 3 Water, mineral salts and some organic nitrogen only
- 4 Water, mineral salts, some organic nitrogen and hormones

**Ans. 4**

**116.** Which of the following pairs of gases is mainly responsible for green house effect?

- 1 Ozone and Ammonia
- 2 Oxygen and Nitrogen
- 3 Nitrogen and Sulphur dioxide
- 4 Carbon dioxide and Methane

**Ans. 4**

**117.** Which of the following protocols did aim for reducing emission of chlorofluorocarbons into the atmosphere?

- 1 Montreal protocol
- 2 Kyoto protocol
- 3 Gothenburg Protocol
- 4 Geneva Protocol

**Ans. 1**

**118.** In some plants, the female gamete develops into embryo without fertilization. This phenomenon is known as :

- |            |                   |
|------------|-------------------|
| 1 Autogamy | 2 Parthenocarp    |
| 3 Syngamy  | 4 Parthenogenesis |

**Ans. 4**

**119.** Which of the following sexually transmitted diseases is **not** completely curable ?

- 1 Gonorrhoea
- 2 Genital warts
- 3 Genital herpes
- 4 Chlamydiasis

**Ans. 3**

**120.** Which of the following immune responses is responsible for rejection of kidney graft?

- 1 Auto- immune responses
- 2 Humoral immune response
- 3 Inflammatory immune response
- 4 Cell-mediated immune response

**Ans. 4**

**121.** Which of the following factors is responsible for the formation of concentrated urine?

- 1 Low levels of antidiuretic hormone.
- 2 Maintaining hyperosmolarity towards inner medullary interstitium in the kidneys.
- 3 Secretion of erythropoietin by juxtaglomerular complex.
- 4 Hydrostatic pressure during glomerular filtration.

**Ans. 2**

**122.** Which of the following features of genetic code does allow bacteria to produce human insulin by recombinant DNA technology?

- 1 Genetic code is not ambiguous
- 2 Genetic code is redundant
- 3 Genetic code is nearly universal
- 4 Genetic code is specific

**Ans. 3**

**123.** Which of the following statements is **not** correct?

- 1 Lysosomes have numerous hydrolytic enzymes.
- 2 The hydrolytic enzymes of lysosomes are active under acidic pH.
- 3 Lysosomes are membrane bound structures.
- 4 Lysosomes are formed by the process of packaging in the endoplasmic reticulum.

**Ans. 4**

**124.** The concept of "*Omnis cellula-e cellula*" regarding cell division was first proposed by:

- 1 Rudolf Virchow
- 2 Theodore Schwann
- 3 Schleiden
- 4 Aristotle

**Ans. 1**

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**125.** Use of an artificial kidney during hemodialysis may result in :

- a Nitrogenous waste build-up in the body
- b Non-elimination of excess potassium ions
- c Reduced absorption of calcium ions from gastrointestinal tract
- d Reduced RBC production

Which of the following options is the most **appropriate**?

- 1 a and b are correct
- 2 b and c are correct
- 3 c and d are correct
- 4 a and d are correct

**Ans. 3**

**126.** What is the direction of movement of sugars in phloem?

- 1 Non-multidirectional
- 2 Upward
- 3 Downward
- 4 Bi-directional

**Ans. 4**

**127.** Which of the following muscular disorders is inherited ?

- 1 Tetany
- 2 Muscular dystrophy
- 3 Myasthenia gravis
- 4 Botulism

**Ans. 2**

**128.** Consider following features:

- a Organ system level of organisation
  - b Bilateral symmetry
  - c True coelomates with segmentation of body
- Select the **correct** option of animal groups which possess all the above characteristics.

- 1 Annelida, Arthropoda and Chordata
- 2 Annelida, Arthropoda and Mollusca
- 3 Arthropoda, Mollusca and Chordata
- 4 Annelida, Mollusca and Chordata

**Ans. 1**

**129.** The frequency of recombination between gene pairs on the same chromosome as a measure of the distance between genes was explained by :

- 1 T.H. Morgan
- 2 Gregor J. Mendel
- 3 Alfred Sturtevant
- 4 Sutton Boveri

**Ans. 3**

**130.** Following statements describe the characteristics of the enzyme Restriction endonuclease. Identify the **incorrect** statement.

- 1 The enzyme cuts DNA molecule at identified position within the DNA
- 2 The enzyme binds DNA at specific sites and cuts only one of the two strands.
- 3 The enzyme cuts the sugar-phosphate backbone at specific sites on each strand.
- 4 The enzyme recognizes a specific palindromic nucleotide sequence in the DNA

**Ans. 2**

**131.** Which of the following statements is **incorrect**?

- 1 Morels and truffles are edible delicacies.
- 2 *Claviceps* is a source of many alkaloids and LSD.
- 3 Conidia are produced exogenously and ascospores endogenously.
- 4 Yeasts have filamentous bodies with long thread-like hyphae.

**Ans. 4**

**132.** Placentation, in which ovules develop on the inner wall of the ovary or in peripheral part, is :

- 1 Basal
- 2 Axile
- 3 Parietal
- 4 Free central

**Ans. 3**

**133.** Which of the following is the most important causes for animals and plants being driven to extinction?

- 1 Habitat loss and fragmentation
- 2 Drought and floods
- 3 Economic exploitation
- 4 Alien species invasion

**Ans. 1**

**134.** Variations caused by mutation, as proposed by Hugo de Vries, are

- 1 random and directional
- 2 random and directionless
- 3 small and directional
- 4 small and directionless

**Ans. 2**

**135.** Respiratory Quotient RQ value of tripalmitin is :

- |        |        |
|--------|--------|
| 1 0.9  | 2 0.7  |
| 3 0.07 | 4 0.09 |

**Ans. 2**

**136.** In *Antirrhinum* Snapdragon, a red flower was crossed with a white flower and in  $F_1$  generation, pink flowers were obtained. When pink flowers were selfed, the  $F_2$  generation showed white, red and pink flowers. Choose the incorrect statement from the following :

- 1 This experiment does not follow the Principle of Dominance
- 2 Pink colour in  $F_1$  is due to incomplete dominance.
- 3 Ratio of  $F_2$  is 4 Red :  $\frac{2}{4}$  Pink:  $\frac{1}{4}$  White
- 4 Law of Segregation does not apply in this experiment.

**Ans. 4**

**137.** Select the **incorrect** statement.

- 1 Male fruit fly is heterogametic.
- 2 In male grasshoppers, 50% of sperms have no sex-chromosome.
- 3 In domesticated fowls sex of progeny depends on the type of sperm rather than egg.
- 4 Human males have one of their sex-chromosome much shorter than the other.

**Ans. 3**

**138.** The **correct** sequence of phases of cell cycle is :

- 1  $M \rightarrow G_1 \rightarrow G_2 \rightarrow S$
- 2  $G_1 \rightarrow G_2 \rightarrow S \rightarrow M$
- 3  $S \rightarrow G_1 \rightarrow G_2 \rightarrow M$
- 4  $G_1 \rightarrow S \rightarrow G_2 \rightarrow M$

**Ans. 4**

**139.** *Thiobacillus* is a group of bacteria helpful in carrying out :

- 1 Nitrogen fixation
- 2 Chemoautotrophic fixation
- 3 Nitrification
- 4 Denitrification

**Ans. 4**

**140.** Polyblend, a fine powder of recycled modified plastic, has proved to be a good material for:

- 1 making plastic sacks
- 2 use as a fertilizer
- 3 construction of roads
- 4 making tubes and pipes

**Ans. 3**

**141.** From evolutionary point of view, retention of the female gametophyte with developing young embryo on the parent sporophyte for some time, is first observed in :

- 1 Liverworts
- 2 Mosses
- 3 Pteridophytes
- 4 Gymnosperms

**Ans. 3**

**142.** Select the **correct** option .

- 1 8<sup>th</sup>, 9<sup>th</sup> and 10<sup>th</sup> pairs of ribs articulate directly with the sternum.
- 2 11<sup>th</sup> and 12<sup>th</sup> pairs of ribs are connected to the sternum with the help of hyaline cartilage.
- 3 Each rib is a flat thin bone and all the ribs are connected dorsally to the thoracic vertebrae and ventrally to the sternum.
- 4 There are seven pairs of vertebrosteral, three pairs of vertebrochondral and two pairs of vertebral ribs.

**Ans. 4**

**143.** Concanavalin A is :

- 1 an alkaloid
- 2 an essential oil
- 3 a lectin
- 4 a pigment

**Ans. 3**

**144.** Extrusion of second polar body from egg nucleus occurs :

- 1 after entry of sperm but before fertilization
- 2 after fertilization
- 3 before entry of sperm into ovum
- 4 simultaneously with first cleavage

**Ans. 1**

**145.** Pinus seed **cannot** germinate and establish without fungal association. This is because :

- 1 its embryo is immature
- 2 it has obligate association with mycorrhizae.
- 3 it has very hard seed coat.
- 4 its seeds contain inhibitors that prevent germination .

**Ans. 2**

**146.** The Earth Summit held in Rio de Janeiro in 1992 was called :

- 1 to reduce CO<sub>2</sub> emissions and global warming.
- 2 for conservation of biodiversity and sustainable utilization of its benefits.
- 3 to assess threat posed to native species by invasive weed species.
- 4 for immediate steps to discontinue use of CFCs that were damaging the ozone layer.

**Ans. 2**

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- 147.** DNA precipitation out of a mixture of biomolecules can be achieved by treatment with :
- 1 Isopropanol
  - 2 Chilled ethanol
  - 3 Methanol at room temperature
  - 4 Chilled chloroform

**Ans. 2**

- 148.** Grass leaves curl inwards during very dry weather. Select the most appropriate reason from the following :
- 1 Closure of stomata
  - 2 Flaccidity of bulliform cells
  - 3 Shrinkage of air spaces in spongy mesophyll
  - 4 Tyloses in vessels

**Ans. 2**

- 149.** Match the following structures with their respective location in organs :
- |                        |                     |
|------------------------|---------------------|
| a Crypts of Lieberkuhn | i Pancreas          |
| b Glisson's Capsule    | ii Duodenum         |
| c Islets of Langerhans | iii Small intestine |
| d Brunner's Glands     | iv Liver            |

Select the **correct** option from the following :

- |   | a   | b  | c  | d   |
|---|-----|----|----|-----|
| 1 | iii | i  | ii | iv  |
| 2 | ii  | iv | i  | iii |
| 3 | iii | iv | i  | ii  |
| 4 | iii | ii | i  | iv  |

**Ans. 3**

- 150.** Match the following hormones with the respective disease :
- |                  |                       |
|------------------|-----------------------|
| a Insulin        | i Addison's disease   |
| b Thyroxin       | ii Diabetes insipidus |
| c Corticoids     | iii Arcomegaly        |
| d Growth Hormone | iv Goitre             |
|                  | v Diabetes mellitus   |

Select the **correct** option.

- |   | a  | b  | c   | d   |
|---|----|----|-----|-----|
| 1 | v  | i  | ii  | iii |
| 2 | ii | iv | iii | i   |
| 3 | v  | iv | i   | iii |
| 4 | ii | iv | i   | iii |

**Ans. 3**

- 151.** Which of the following contraceptive methods do involve a role of hormone ?
- 1 Lactational amenorrhea, Pills, Emergency contraceptives
  - 2 Barrier method, Lactational amenorrhea, Pills
  - 3 CuT, Pills, Emergency contraceptives
  - 4 Pills, Emergency contraceptives, Barrier methods

**Ans. 1**

- 152.** Drug called 'Heroin' is synthesized by :
- 1 methylation of morphine
  - 2 acetylation of morphine
  - 3 glycosylation of morphine
  - 4 nitration of morphine

**Ans. 2**

- 153.** In a species, the weight of newborn ranges from 2 to 5 kg. 97% of the newborn with an average weight between 3 to 3.3kg survive whereas 99% of the infants born with weights from 2 to 2.5 kg or 4.5 to 5 kg die. Which type of selection process is taking place ?
- 1 Directional Selection
  - 2 Stabilizing Selection
  - 3 Disruptive Selection
  - 4 Cyclical Selection

**Ans. 2**

- 154.** Conversion of glucose to glucose-6-phosphate, the first irreversible reaction of glycolysis, is catalyzed by :
- |            |                       |
|------------|-----------------------|
| 1 Aldolase | 2 Hexokinase          |
| 3 Enolase  | 4 Phosphofructokinase |

**Ans. 2**

- 155.** Which of the following statements is **correct** ?
- 1 Cornea is an external, transparent and protective proteinacious covering of the eye-ball.
  - 2 Cornea consists of dense connective tissue of elastin and can repair itself.
  - 3 Cornea is convex, transparent layer which is highly vascularised.
  - 4 Cornea consists of dense matrix of collagen and is the most sensitive portion of the eye.

**Ans. 1**

- 156.** Which of the following ecological pyramids is generally inverted ?
- 1 Pyramid of numbers in grassland
  - 2 Pyramid of energy
  - 3 Pyramid of biomass in a forest
  - 4 Pyramid of biomass in a sea

**Ans. 4**

- 157.** Consider the following statements :
- A Coenzyme or metal ion that is tightly bound to enzyme protein is called prosthetic group.
- B A complete catalytic active enzyme with its bound prosthetic group is called apoenzyme.
- Select the **correct** option.
- Both **A** and **B** are true.
  - A** is true and **B** is false.
  - Both **A** and **B** are false.
  - A** is false and **B** is true.

**Ans. 3**

- 158.** Due to increasing air-borne allergens and pollutants, many people in urban areas are suffering from respiratory disorder causing wheezing due to :
- benign growth on mucous lining of nasal cavity.
  - inflammation of bronchi and bronchioles.
  - proliferation of fibrous tissues and damage of the alveolar walls.
  - reduction in the secretion of surfactants by pneumocytes.

**Ans. 2**

- 159.** Which one of the following statements regarding post-fertilization development in flowering plants is **incorrect** ?
- Ovary develops into fruit
  - Zygote develops into embryo
  - Central cell develops into endosperm
  - Ovules develop into embryo sac

**Ans. 4**

- 160.** Phloem in gymnosperms lacks :
- Albuminous cells and sieve cells
  - Sieve tubes only
  - Companion cells only
  - Both sieve tubes and companion cells

**Ans. 4**

- 161.** It takes very long time for pineapple plants to produce flowers. Which combination of hormones can be applied to artificially induce flowering in pineapple plants throughout the year to increase yield?
- Auxin and Ethylene
  - Gibberellin and Cytokinin
  - Gibberellin and Abscisic acid
  - Cytokinin and Abscisic acid

**Ans. 1**

- 162.** Persistent nucellus in the seed is known as :
- Chalaza
  - Perisperm
  - Hilum
  - Tegmen

**Ans. 2**

- 163.** Cells in G<sub>0</sub> phase:
- exit the cell cycle
  - enter the cell cycle
  - suspend the cell cycle
  - terminate the cell cycle

**Ans. 1**

- 164.** Match **Column - I** with **Column - II**.

<b>Column - I</b>	<b>Column - II</b>
a Saprophyte	i Symbiotic association of fungi with plant roots
b Parasite	ii Decomposition of dead organic materials
c Lichens	iii Living on living plants or animals
d Mycorrhiza	iv Symbiotic association of algae and fungi

Choose the **correct** answer from the options given below :

<b>a</b>	<b>b</b>	<b>c</b>	<b>d</b>
1 i	ii	iii	iv
2 iii	ii	i	iv
3 ii	i	iii	iv
4 ii	iii	iv	i

**Ans. 4**

- 165.** Which would be the heart rate of a person if the cardiac output is 5L, blood volume in the ventricles at the end of diastole is 100 mL and at the end of ventricular systole is 50 mL?
- 50 beats per minute
  - 75 beats per minute
  - 100 beats per minute
  - 125 beats per minute

**Ans. 3**

- 166.** What triggers activation of protoxin to active Bt toxin of *Bacillus thuringiensis* in boll worm?
- Body temperature
  - Moist surface of midgut
  - Alkaline pH of gut
  - Acidic pH of stomach

**Ans. 3**

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**167.** The ciliated epithelial cells are required to move particles or mucus in a specific direction. In humans, these cells are mainly present in :

- 1 Bile duct and Bronchioles
- 2 Fallopian tubes and Pancreatic duct
- 3 Eustachian tube and Salivary duct
- 4 Bronchioles and Fallopian tubes

**Ans. 4**

**168.** Which of the statements given below is **not** true about formation of Annual Rings in trees?

- 1 Annual ring is a combination of spring wood and autumn wood produced in a year.
- 2 Differential activity of cambium causes light and dark bands of tissue - early and late wood respectively
- 3 Activity of cambium depends upon variation in climate.
- 4 Annual rings are not prominent in trees of temperate region.

**Ans. 4**

**169.** What is the fate of the male gametes discharged in the synergid?

- 1 One fuses with the egg, others degenerates in the synergid.
- 2 All fuse with the egg.
- 3 One fuses with the egg, others fuses with synergid nucleus.
- 4 One fuses with the egg and other fuses with central cell nuclei.

**Ans. 4**

**170.** Match the following genes of the Lac operon with their respective products.

- |   |        |     |                |
|---|--------|-----|----------------|
| a | i gene | i   | -galactosidase |
| b | z gene | ii  | Permease       |
| c | a gene | iii | Repressor      |
| d | y gene | iv  | Transacetylase |

Select the **correct** option.

- |   | a   | b   | c  | d  |
|---|-----|-----|----|----|
| 1 | i   | iii | ii | iv |
| 2 | iii | i   | ii | iv |
| 3 | iii | i   | iv | ii |
| 4 | iii | iv  | i  | ii |

**Ans. 3**

**171.** Select the correct sequence of organs in the alimentary canal of cockroach starting from mouth:

- 1 Pharynx — Oesophagus — Crop — Gizzard — Ileum — Colon — Rectum
- 2 Pharynx — Oesophagus — Gizzard — Crop — Ileum — Colon — Rectum
- 3 Pharynx — Oesophagus — Gizzard — Ileum — Crop — Colon — Rectum
- 4 Pharynx — Oesophagus — Ileum — Crop — Gizzard — Colon — Rectum

**Ans. 1**

**172.** Match the hominids with their correct brain size :

- |   |                              |     |            |
|---|------------------------------|-----|------------|
| a | <i>Homo habilis</i>          | i   | 900 cc     |
| b | <i>Homo neanderthalensis</i> | ii  | 1350 cc    |
| c | <i>Homo erectus</i>          | iii | 650-800 cc |
| d | <i>Homo sapiens</i>          | iv  | 1400 cc    |

Select the **correct** option.

- |   | a   | b   | c  | d  |
|---|-----|-----|----|----|
| 1 | iii | i   | iv | ii |
| 2 | iii | ii  | i  | iv |
| 3 | iii | iv  | i  | ii |
| 4 | iv  | iii | i  | ii |

**Ans. 3**

**173.** Identify the **correct** pair representing the causative agent of typhoid fever and the confirmatory test for typhoid.

- 1 *Plasmodium vivax*/UTI test.
- 2 *Streptococcus pneumoniae*/Widal test
- 3 *Salmonella typhi*/Anthrone test
- 4 *Salmonella typhi*/Widal test

**Ans. 4**

**174.** How does steroid hormone influence the cellular activities?

- 1 Changing the permeability of the cell membrane.
- 2 Binding to DNA and forming a gene-hormone complex.
- 3 Activating cyclic AMP located on the cell membrane.
- 4 Using aquaporin channels as second messenger.

**Ans. 2**

**175.** Tidal Volume and Expiratory Reserve Volume of an athlete is 500 mL and 1000 mL respectively. What will be his Expiratory Capacity if the Residual Volume is 1200 mL?

- |   |         |   |         |
|---|---------|---|---------|
| 1 | 1500 mL | 2 | 1700 mL |
| 3 | 2200 mL | 4 | 2700 mL |

**Ans. 1**

- 176.** Which of the following is a commercial blood cholesterol lowering agent?  
 1 Cyclosporin A                      2 statin  
 3 Streptokinase                      4 Lipases

**Ans. 2**

- 177.** Which of the following statements regarding mitochondria is **incorrect**?  
 1 Outer membrane is permeable to monomers of carbohydrates fats and proteins.  
 2 Enzymes of electron transport are embedded in outer membrane.  
 3 Inner membrane is convoluted with infoldings.  
 4 Mitochondrial matrix contains single circular DNA molecule and ribosomes.

**Ans. 2**

- 178.** Match the **Column - I** with **Column -II**

<b>Column - I</b>	<b>Column - II</b>
a P-wave	i Depolarisation of ventricles
b QRS complex	ii Repolarisation of ventricles
c T-wave	iii Coronary ischemia
d Reduction in the size of T-wave	iv Depolarisation of atria
	v Repolarisation of atria

Select the **correct** option-

<b>a</b>	<b>b</b>	<b>c</b>	<b>d</b>
1 iv	i	ii	iii
2 iv	i	ii	v
3 ii	i	v	iii
4 ii	iii	v	iv

**Ans. 1**

- 179.** Select the **correct** group of biocontrol agents.  
 1 *Bacillus thuringiensis*, Tobacco mosaic virus, Aphids  
 2 *Trichoderma*, *Baculovirus*, *Bacillus thuringiensis*  
 3 *Oscillatoria*, *Rhizobium*, *Trichoderma*  
 4 *Nostoc*, *Azospirillum*, *Nucleopolyhedrovirus*

**Ans. 2**

- 180.** Select **correctly** written scientific name of Mango which was first described by Carolus Linnaeus:  
 1 *Mangifera indica* Car. Linn.  
 2 *Mangifera indica* Linn.  
 3 *Mangifera indica*  
 4 *Mangifera Indica*

**Ans. 2**

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