

BIOLOGY

Q.46 What is the site of perception of photoperiod necessary for induction of flowering in plants ?

- (1) Shoot apex
- (2) Leaves
- (3) Lateral buds
- (4) Pulvinus

Ans. (2)

Q.47 Match the following hormones with the respective disease :

- | | |
|--------------------|-------------------------|
| (a) Insulin | (i) Addison's disease |
| (b) Thyroxin | (ii) Diabetes insipidus |
| (c) Corticoids | (iii) Acromegaly |
| (d) Growth Hormone | (iv) Goitre |
| | (v) Diabetes mellitus |

Select the **correct** option.

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

Ans. (1)

Q.48 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 gastro-intestinal tract
- (d) Reduced RBC production

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

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

Ans. (1)

Q.49 Which of the following ecological pyramids is generally inverted ?

- (1) Pyramid of biomass in a forest
- (2) Pyramid of biomass in a sea
- (3) Pyramid of numbers in grassland
- (4) Pyramid of energy

Ans. (2)

Q.50 Select the hormone-releasing Intra-Uterine Devices.

- (1) Progestasert, LNG-20
- (2) Lippes Loop, Multiload 375
- (3) Vaults, LNG-20
- (4) Multiload 375, Progestasert

Ans. (1)

Q.51 Respiratory Quotient (RQ) value of tripalmitin is :

- (1) 0.07
- (2) 0.09
- (3) 0.9
- (4) 0.7

Ans. (4)

Q.52 Which of the following statements regarding mitochondria is **incorrect** ?

- (1) Inner membrane is convoluted with infoldings.
- (2) Mitochondrial matrix contains single circular DNA molecule and ribosomes
- (3) Outer membrane is permeable to monomers of carbohydrates fats and proteins
- (4) Enzymes of electron transport are embedded in outer membrane

Ans. (4)

Q.53 Which of the following can be used as a biocontrol agent in the treatment of plant disease ?

- (1) *Anabaena*
- (2) *Lactobacillus*
- (3) *Trichoderma*
- (4) *Chlorella*

Ans. (3)

Q.54 Xylem translocates :

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

Ans. (2)

Q.55 Which one of the following equipments is essentially required for growing microbes on a large scale, for industrial production of enzymes ?

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

Ans. (2)

Q.56 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) 0.16(AA); 0.48 (Aa); 0.36 (aa)
- (2) 0.16(AA); 0.36(Aa); 0.48 (aa)
- (3) 0.36(AA); 0.48(Aa); 0.16 (aa)
- (4) 0.16(AA); 0.24(Aa); 0.36 (aa)

Ans. (1)

Q.57 Expressed Sequence Tags (ESTs) refers to :

- (1) DNA polymorphism
- (2) Novel DNA sequences
- (3) Genes expressed as RNA
- (4) Polypeptide expression

Ans. (3)

Q.58 Which of the following sexually transmitted diseases is **not** completely curable ?

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

Ans. (1)

Q.59 DNA precipitation out of a mixture of biomolecules can be achieved by treatment with :

- (1) Methanol at room temperature
- (2) Chilled chloroform
- (3) Isopropanol
- (4) Chilled ethanol

Ans. (4)

Q.60 Which of the following immune responses is responsible for rejection of kidney graft ?

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

Ans. (2)

Q.61 Variations caused by mutation, as proposed by Hugo de Vries, are :

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

Ans. (4)

Q.62 Which of the following statements is **not** correct ?

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

Ans. (2)

Q.63 Which of the following statements is **incorrect** ?

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

Ans. (2)

Q.64 Identify the **correct** pair representing the causative agent of typhoid fever and the confirmatory test for typhoid.

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

Ans. (2)

Q.65 What is the genetic disorder in which an individual has an overall masculine development, gynaecomastia, and is sterile ?

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

Ans. (4)

Q.66 Match the **Column-I** with **Column-II** :

Column – I	Column – II
(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.

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

Ans. (3)

Q.67 Which of the following glucose transporters is insulin-dependent ?

- (1) GLUT III
- (2) GLUT IV
- (3) GLUT I
- (4) GLUT II

Ans. (2)

Q.68 Identify the cells whose secretion protects the lining of gastro-intestinal tract from various enzymes.

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

Ans. (4)

Q.69 Which one of the following statements regarding post-fertilization development in flowering plant is **incorrect** ?

- (1) Central cell develops into endosperm
- (2) Ovules develop into embryo sac
- (3) Ovary develops into fruit
- (4) Zygote develops into embryo

Ans. (2)

Q.70 The **correct** sequence of phases cell cycle is :

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

Ans. (2)

Q.71 The concept of "*Omnis cellula-e cellula*" regarding cell division was first proposed by :

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

Ans. (3)

Q.72 What triggers activation of protoxin to active Bt toxin of *Bacillus thuringiensis* in boll worm ?

- (1) Alkaline pH of gut
- (2) Acidic pH of stomach
- (3) Body temperature
- (4) Moist surface of midgut

Ans. (1)

Q.73 Concanavalin A is :

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

Ans. (1)

Q.74 Select the **correct** sequence for transport of sperm cells in male reproductive system.

- (1) Seminiferous tubules \rightarrow Vasa efferentia \rightarrow Epididymis \rightarrow Inguinal canal \rightarrow Urethra
- (2) Testis \rightarrow Epididymis \rightarrow Vasa efferentia \rightarrow Vas deferens \rightarrow Ejaculatory duct \rightarrow Inguinal canal \rightarrow Urethra \rightarrow Urethral meatus
- (3) Testis \rightarrow Epididymis \rightarrow Vasa efferentia \rightarrow Rete testis \rightarrow Inguinal canal \rightarrow Urethra
- (4) Seminiferous tubules \rightarrow Rete testis \rightarrow Vasa efferentia \rightarrow Epididymis \rightarrow Vas deferens \rightarrow Ejaculatory duct \rightarrow Urethra \rightarrow Urethral meatus

Ans. (4)

Q.75 Which of the following statements is **correct** ?

- (1) Cornea is convex, transparent layer which is highly vascularised.
- (2) Cornea consists of dense matrix of collagen and is the most sensitive portion of the eye.
- (3) Cornea is an external, transparent and protective proteinaceous covering of the eye-ball.
- (4) Cornea consists of dense connective tissue of elastin and can repair itself.

Ans. (3)

Q.76 Drug called 'Heroin' is synthesized by :

- (1) glycosylation of morphine
- (2) nitration of morphine
- (3) Methylation of morphine
- (4) Acetylation of morphine

Ans. (4)

Q.77 Under which of the following conditions will there be no change in the reading frame of following mRNA ?

5' AACAGCGGUGCUAUU 3'

- (1) Insertion of A and G at 4th and 5th positions respectively.
- (2) Deletion of GGU from 7th, 8th and 9th positions
- (3) Insertion of G at 5th position
- (4) Deletion of G from 5th position

Ans. (2)

Q.78 Which of the following is **true** for Golden rice ?

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

Ans. (3)

Q.79 The ciliated epithelial cells are required to move particles or mucus in a specific direction. In humans, these cells are mainly present in :

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

Ans. (2)

Q.80 Phloem in gymnosperms lacks :

- (1) Companion cells only
- (2) Both sieve tubes and companion cells
- (3) Albuminous cells and sieve cells
- (4) Sieve tubes only

Ans. (2)

Q.81 Grass leaves curl inwards during very dry weather. Select the most appropriate reason from the following :

- (1) Shrinkage of air spaces in spongy mesophyll
- (2) Tyloses in vessels
- (3) Closure of stomata
- (4) Flaccidity of bulliform cells

Ans. (4)

Q.82 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) 2200 mL
- (2) 2700 mL
- (3) 1500 mL
- (4) 1700 mL

Ans. (3)

Q.83 Select the **correct** sequence of organs in the alimentary canal of cockroach starting from mouth :

- (1) Pharynx → Oesophagus → Gizzard → Ileum → Crop → Colon → Rectum
- (2) Pharynx → Oesophagus → Ileum → Crop → Gizzard → Colon → Rectum
- (3) Pharynx → Oesophagus → Crop → Gizzard → Ileum → Colon → Rectum
- (4) Pharynx → Oesophagus → Gizzard → Crop → Ileum → Colon → Rectum

Ans. (3)

Q.84 Select the **incorrect** statement.

- (1) Inbreeding selects harmful recessive genes that reduce fertility and productivity.
- (2) Inbreeding helps in accumulation of superior genes and elimination of undesirable genes.
- (3) Inbreeding increases homozygosity.
- (4) Inbreeding is essential to evolve purelines in any animal.

Ans. (1)

Q.85 Select the **correct** group of biocontrol agents.

- (1) *Oscillatoria*, *Rhizobium*, *Trichoderma*
- (2) *Nostoc*, *Azospirillum*, *Nucleopolyhedrovirus*
- (3) *Bacillus thuringiensis*, Tobacco mosaic virus, Aphids
- (4) *Trichoderma*, *Baculovirus*, *Bacillus thuringiensis*

Ans. (4)

Q.86 *Thiobacillus* is a group of bacteria helpful in carrying out :

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

Ans. (2)

Q.87 Which of the statements given below is **not** true about formation of Annual Rings in trees ?

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

Ans. (2)

Q.88 It takes 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 ?

- (1) Gibberellin and Abscisic acid
- (2) Cytokinin and Abscisic acid
- (3) Auxin and Ethylene
- (4) Gibberellin and Cytokinin

Ans. (3)

Q.89 Polyblend, a fine powder of recycled modified plastic, has proved to be a good material for :

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

Ans. (1)

Q.90 The shorter and longer arms of a submetacentric chromosome are referred to as :

- (1) q-arm and p-arm respectively
- (2) m-arm and n-arm respectively
- (3) s-arm and l-arm respectively
- (4) p-arm and q-arm respectively

Ans. (4)

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

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

Ans. (1)

Q.92 Conversion of glucose to glucose-6-phosphate, the first irreversible reaction of glycolysis, is catalyzed by :

- (1) Enolase
- (2) Phosphofructokinase
- (3) Aldolase
- (4) Hexokinase

Ans. (4)

Q.93 Select the **correctly** written scientific name of Mango which was first described by Carolus Linnaeus :

- (1) *Mangifera indica*
- (2) *Mangifera Indica*
- (3) *Mangifera indica* Car. Linn.
- (4) *Mangifera indica* Linn.

Ans. (4)

Q.94 Persistent nucellus in the seed is known as :

- (1) Hilum
- (2) Tegmen
- (3) Chalaza
- (4) Perisperm

Ans. (4)

Q.95 Placentation, in which ovules develop on the inner wall of the ovary or in peripheral part, is :

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

Ans. (1)

Q.96 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) | (ii) | (iv) | (iii) | (i) |
| (2) | (iii) | (ii) | (iv) | (i) |
| (3) | (iii) | (ii) | (i) | (iv) |
| (4) | (iii) | (iv) | (ii) | (i) |

Ans. (4)

Q.97 Which of these following methods is the most suitable for disposal of nuclear waste ?

- (1) Dump the waste within rocks under deep ocean

(2) Bury the waste within rocks deep below the Earth's surface.

(3) Shoot the waste into space.

(4) Bury the waste under Antarctic ice-cover

Ans. (2)

Q.98 In some plants, the female gamete develops into embryo without fertilization. This phenomenon is known as :

- (1) Syngamy
- (2) Parthenogenesis
- (3) Autogamy
- (4) Parthenocarpy

Ans. (2)

Q.99 Cells in G₀ phase :

- (1) suspend the cell cycle
- (2) terminate the cell cycle
- (3) exit cell cycle
- (4) enter the cell cycle

Ans. (3)

Q.100 Select the **correct** option.

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

Ans. (2)

Q.101 Match the hominids with their correct brain size :

- | | |
|----------------------------------|------------------|
| (1) <i>Homo habilis</i> | (i) 900 cc |
| (2) <i>Homo neanderthalensis</i> | (ii) 1350 cc |
| (3) <i>Homo erectus</i> | (iii) 650-800 cc |
| (4) <i>Homo sapiens</i> | (iv) 1400 cc |

Select the correct option.

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

Ans. (1)

Q.102 The frequency of recombination between gene pairs on the same chromosome as a measure of the distance between genes was explained by :

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

Ans. (1)

Q.103 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) Macrophages
- (2) Immunoglobulin A
- (3) Natural killer cells
- (4) Monocytes

Ans. (2)

Q.104 Which of the following factors is responsible for the formation of concentrated urine ?

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

Ans. (4)

Q.105 Which of the following protocols did aim for reducing emission of chlorofluorocarbons into the atmosphere ?

- (1) Gothenburg Protocol
- (2) Geneva Protocol
- (3) Montreal Protocol
- (4) Kyoto Protocol

Ans. (3)

Q.106 Match the following genes of the Lac operon with their respective products :

- | | |
|------------|----------------------------|
| (a) i gene | (i) β -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) | (iii) | (i) | (iv) | (ii) |
| (2) | (iii) | (iv) | (i) | (ii) |
| (3) | (i) | (iii) | (ii) | (iv) |
| (4) | (iii) | (i) | (ii) | (iv) |

Ans. (1)

Q.107 Purines found both in DNA and RNA are :

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

Ans. (4)

Q.108 What 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 ?

- (1) 100 beats per minute
- (2) 125 beats per minute
- (3) 50 beats per minute
- (4) 75 beats per minute

Ans. (1)

Q.109 Following statement describe the characteristics of the enzyme Restriction Endonuclease. Identify the **incorrect** statement.

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

Ans. (4)

Q.110 Which of the following features of genetic code does allow bacteria to produce human insulin by recombinant DNA technology ?

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

Ans. (1)

Q.111 Match the following structures with their respective location in organs :

- | | |
|--------------------------|-----------------------|
| (1) Crypts of Lieberkuhn | (i) Pancreas |
| (2) Glisson's Capsule | (ii) Duodenum |
| (3) Islets of Langerhans | (iii) Small intestine |
| (4) Brunner's glands | (iv) Liver |

Ans. (1)

Q.112 Which of the following pairs of gases is mainly responsible for green house effect ?

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

Ans. (2)

Q.113 What is the direction of movement of sugars in phloem ?

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

Ans. (2)

Q.114 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, F_2 generation showed white, red and pink flowers. Choose the **incorrect** statement from the following :

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

Ans. (2)

Q.115 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.

- (1) Both (A) and (B) are false.
- (2) (A) is false but (B) is true.
- (3) Both (A) and (B) are true.
- (4) (A) is true but (B) is false.

Ans. (1)

Q.116 Extrusion of second polar body from egg nucleus occurs :

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

Ans. (3)

Q.117 Which of the following contraceptive methods do involve a role of hormone ?

- (1) CuT, Pills, Emergency contraceptives
- (2) Pills, Emergency contraceptives, Barrier methods
- (3) Lactational amenorrhea, Pills, Emergency contraceptives
- (4) Barrier method, Lactational amenorrhea Pills

Ans. (3)

Q.118 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) Arthropoda, Mollusca and Chordata
- (2) Annelida, Mollusca and Chordata
- (3) Annelida, Arthropoda and Chordata
- (4) Annelida, Arthropoda and Mollusca

Ans. (3)

Q.119 Which one of the following is **not** a method of *in situ* conservation of biodiversity ?

- (1) Botanical Garden
- (2) Sacred Grove
- (3) Biosphere Reserve
- (4) Wildlife' Sancturay

Ans. (1)

Q.120 What map unit (Centimorgan) is adopted in the construction of genetic maps ?

- (1) A unit of distance between genes on chromosomes, representing 1% cross over.
- (2) A unit of distance between genes on chromosomes, representing 50% cross over.
- (3) A unit of distance between two expressed genes, representing 10% cross over.
- (4) A unit of distance between two expressed genes, representing 100% cross over.

Ans. (1)

Q.121 What is the fate of the male gametes discharged in the synergid?

- (1) One fuses with the egg, other(s) fuse(s) with synergid nucleus.
- (2) One fuses with the egg and other fuses with central cell nuclei.
- (3) One fuses with the egg, other(s) degenerate(s) in the synergid.
- (4) All fuse with the egg.

Ans. (2)

Q.122 Which of the following muscular disorders is inherited ?

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

Ans. (4)

Q.123 Which of the following is a commercial blood cholesterol lowering agent?

- (1) Streptokinase
- (2) Lipases
- (3) Cyclosporin A
- (4) Statin

Ans. (4)

Q.124 Which of the following is the most important cause for animals and plants being driven to extinction ?

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

Ans. (3)

Q.125 The Earth Summit held in Rio de Janeiro in 1992 was called :

- (1) to assess threat posed to native species by invasive weed species.
- (2) for immediate steps to discontinue use of CFCs that were damaging the ozone layer.
- (3) to reduce CO₂ emissions and global warming.
- (4) for conservation of biodiversity and sustainable utilization of its benefits.

Ans. (4)

Q.126 How does steroid hormone influence the cellular activities ?

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

Ans. (4)

Q.127 Which part of the brain is responsible for thermoregulation ?

- (1) Corpus callosum
- (2) Medulla oblongata
- (3) Cerebrum
- (4) Hypothalamus

Ans. (4)

Q.128 Select the **incorrect** statement.

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

Ans. (1)

Q.129 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) | (iii) | (iv) | (v) | (i) |
| (2) | (ii) | (i) | (iii) | (v) |
| (3) | (ii) | (iv) | (v) | (iii) |
| (4) | (ii) | (iv) | (ii) | (v) |

Ans. (4)

Q.130 Match **Column-I** with **Column-II**.

	Column-I		Column-II
(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.

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

Ans. (2)

Q.131 Pinus seed **cannot** germinate and establish without fungal association. This is because.

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

Ans. (4)

Q.132 Which of the following pair of organelles **does not** contain DNA ?

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

Ans. (1)

Q.133 In a species, the weight of newborn ranges from 2 to 5 kg. 97% of the newborn with an average weight between 3 to 3.3 kg 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) Disruptive Selection
- (2) Cyclical Selection
- (3) Directional Selection
- (4) Stabilizing Selection

Ans. (4)

Q.134 Due to increasing air-borne allergens and pollutants, many people in urban areas are suffering from respiratory disorder causing wheezing due to :

- (1) proliferation of fibrous tissues and damage of the alveolar walls.
- (2) reduction in the secretion of surfactants by pneumocytes.
- (3) benign growth on mucous lining of nasal cavity.
- (4) inflammation of bronchi and bronchioles.

Ans. (4)

Q.135 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) Pteridophytes
- (2) Gymnosperms
- (3) Liverworts
- (4) Mosses

Ans. (1)