

**Question
Set
7**

NAME THE FOLLOWING
(1 or 2 marks)

Chapter 1 : Reproduction in Lower and Higher Plants

(1) Condition in flower when androecium matures before that of gynoecium.

Ans. Protandry.

(2) Name a part of gynoecium that determines the compatibility of pollen grains. (March '22)

Ans. Stigma.

(3) The layer which supplies nourishment to the developing pollen grains.

Ans. Tapetum.

(4) Components necessary to induce germination of pollen in synthetic medium.

Ans. Sucrose and boric acid.

(5) The part of pistil which develops into fruit and seed.

Ans. Ovary develops into fruit and ovules into seed.

(6) Layers of seed coat.

Ans. Testa and tegmen.

Chapter 2 : Reproduction in Lower and Higher Animals

(1) Cell layer in the testis that produce sperms.

Ans. Germinal epithelium.

(2) The gland in females homologous to Cowper's gland.

Ans. Bartholin's glands or Vestibular glands.

(3) Type of cleavage in human zygote.

Ans. Holoblastic, radial and indeterminate.

(4) The enzyme secreted by prostate gland.

Ans. Acid phosphatase.

(5) The enzyme secreted by acrosome of sperm.

Ans. Hyaluronidase.

(6) Layers of Graafian follicles that enclose antrum.

Ans. (1) Theca externa (2) Theca interna (3) Membrana granulosa.

(7) Names of erectile tissues in penis.

Ans. (1) Corpora cavernosa (2) Corpus spongiosum

(8) Layers of uterine wall.

Ans. (1) Perimetrium (2) Myometrium (3) Endometrium

(9) Identify the trophoblast cells which are in contact with embryonal knob during blastulation. (March '22)

Ans. Cells of Rauber.

(10) Name the endocrine glands involved in maintaining the sexual characteristics of males.

Ans. Interstitial cells of Leydig which lie in between the seminiferous tubules.

Chapter 3 : Inheritance and Variation

(1) Types of chromosomes based on their shape.

Ans. Acrocentric, telocentric, submetacentric, metacentric.

(2) Mendelian disorders.

Ans. Thalassaemia, Sickle cell anaemia, Phenylketonuria.

(3) Autosomal disorder due to excess of chromosome.

Ans. Down's syndrome.

(4) Sex chromosomal disorders.

Ans. Klinefelter's syndrome and Turner's syndrome.

(5) X-linked disorder that causes problems in blood clotting.

Ans. Haemophilia.

Chapter 4 : Molecular Basis of Inheritance

(1) Enzyme involved in synthesis of hnRNA.

Ans. RNA polymerase II.

(2) Enzyme involved in peptide bond synthesis.

Ans. RNA polymerase III.

(3) Enzyme involved in unwinding of DNA.

Ans. Helicase.

(4) Different structural genes in sequence of Lac-operon.

Ans. lac-Z, lac-Y and lac-A.

(5) Name the initiator codon of protein synthesis.

Ans. AUG is the initiator codon of protein synthesis.

(6) Name three binding sites of ribosome.

Ans. Three binding sites for t-RNA on ribosomes are P-site (peptidyl t-RNA-site), A-site (aminoacyl – t-RNA-site) and E-site (exit site).

(7) Write the name of the small molecule required to initiate/start the process of synthesis of new complementary strand during replication of DNA. (July '22)

Ans. RNA primer.

Chapter 5 : Origin and Evolution of Life

(1) Name the country where industrial melanism was observed in moths due to industrialization. (July '22)

Ans. Great Britain (England).

(2) Five main postulates of Darwinism.

Ans. (1) Over production (2) Struggle for existence (3) Organic variations (4) Natural selection (5) Origin of new species.

(3) Examples of Analogous organs in plants and animals.

Ans. Plant – Sweet potato and Potato

Animal – Wing of bird and wing of insect.

(4) Pre-mating isolating mechanisms.

Ans. (1) Habitat or ecological isolating mechanism (2) Seasonal or temporal isolating mechanism (3) Ethological isolating mechanism (4) Mechanical isolating mechanism.

(5) Post-mating isolating mechanisms.

Ans. (1) Gamete mortality (2) Zygote mortality (3) Hybrid sterility

(6) Scientific name of handy man.

Ans. Homo habilis.

Chapter 6 : Plant Water Relation

(1) Water imbibed or adsorbed on soil particles.

Ans. Hygroscopic water.

(2) Give the other name for epidermal cells in roots of plants.

(July '22)

Ans. Epiblema.

(3) A waxy substance present in layer on outer surface of epidermis.

Ans. Cutin present in layer of cuticle.

(4) Anatomical structure through which guttation occurs.

Ans. Hydathode.

Chapter 7 : Plant Growth and Mineral Nutrition

(1) Name the hormone used for early rooting in propagation by cutting. (July '22)

Ans. Auxin.

(2) Give the name of deficiency symptoms caused due to sulphur in stem and root tips. (Sept. '21)

Ans. Chlorosis.

(3) What is the primary precursor of IAA in plants?

(March '22)

Ans. Tryptophan.

(4) Growth promoter hormones.

Ans. Auxins, gibberellins and cytokinins.

(5) Growth inhibitors of plants.

Ans. Ethylene and abscissic acid.

(6) A synthetic hormone that acts as selective herbicide.

Ans. 2, 4 - D (dichlorophenoxy acetic acid).

(7) A plant hormone also present in urine of person suffering from Pellagra.

Ans. Auxin.

(8) Most widely used source of ethylene for fruit ripening.

Ans. Ethephon - 2 chloroethyl phosphoric acid.

Chapter 8 : Respiration and Circulation

(1) In human pharynx, there is a set of lymphoid organs called (July '22)

Ans. Tonsils.

(2) Three regions of nasal chamber.

Ans. Vestibule, respiratory part and sensory part.

(3) Name the process of RBC formation in human. (Sept. '21)

Ans. Erythropoiesis.

(4) Respiratory centres which regulate the breathing.

Ans. Inspiratory centre, expiratory centre, pneumotaxic centre and apneustic centre.

(5) Name the cells that produce thrombocytes.

Ans. Megakaryocytes.

(6) The space in which human heart is located.

Ans. Mediastinum.

(7) Layers of peritoneum that surrounds the heart sequentially from outside to inside.

Ans. Fibrous pericardium, parietal layer of serous pericardium and visceral layer of serous pericardium.

(8) Name the organ which prevents the entry of food into trachea while eating.

Ans. Epiglottis.

Chapter 9 : Control and Coordination

(1) State the other name for Dentist's nerve. (July '22)

Ans. Trigeminal Cranial Nerve.

(2) Name the hormone involved in parturition. (Sept. '21)

Ans. Oxytocin.

(3) Name the three ossicles of the middle ear.

Ans. Malleus [hammer], incus [anvil] and stapes [stirrup].

(4) Name the type of hormones binding to DNA and alter gene expression.

Ans. Steroid hormones.

(5) Name the hormone secreted by the pineal gland.

Ans. Melatonin.

(6) Name the dual exocrine as well as endocrine gland. Name the hormones secreted by it.

Ans. Pancreas is the dual gland, exocrine as well as endocrine, it secretes hormones like insulin, glucagon and somatostatin.

(7) Name the hormone involved in prevention of abortion.

Ans. Progesterone.

(8) Write the names of hormones and the glands secreting them for the regulation of the following functions :

(i) Growth of thyroid and secretion of thyroxine.

Ans. TSH by adenohypophysis.

(ii) Helps in relaxing pubic ligaments to facilitate easy birth of young ones.

Ans. Relaxin by degenerating corpus luteum of the ovary.

(iii) Stimulate intestinal glands to secrete intestinal juice.

Ans. Secretin by duodenal mucosa.

(iv) Controls calcium level in the blood.

Ans. Calcitonin [hypocalcemic hormone] by thyroid and parathormone [hypercalcemic hormone] by parathyroid glands.

(v) Controls tubular absorption of water in kidneys.

Ans. ADH by hypothalamus.

(vi) Sodium and potassium ion metabolism.

Ans. Aldosterone by adrenal cortex.

(vii) Basal Metabolic rate.

Ans. T_3 and T_4 by thyroid gland.

(viii) Heartbeat and blood pressure.

Ans. Adrenaline, nor-adrenaline [stimulation] and acetylcholine [inhibition] by adrenal medulla.

(ix) Secretion of growth hormone.

Ans. GHRF by hypothalamus.

(x) Maturation of Graafian follicle.

Ans. FSH by anterior pituitary.

Chapter 10 : Human Health and Diseases

(1) Causative agent of ringworm.

Ans. Trichophyton.

(2) Name infective stage of Plasmodium.

Ans. Sporozoite.

(3) Vectors of Malaria and Filariasis.

Ans. (1) Malaria : Female Anopheles mosquito

(2) Filariasis : Female Culex mosquito.

(4) Therapies used for treatment of cancer.

Ans. (1) Chemotherapy (2) Radiotherapy

(3) Surgery (4) Immunotherapy (5) Supportive therapy.

(5) Parasites causing lymphatic filariasis.

Ans. (1) *Wuchereria bancrofti* (2) *Brugia malayi*

(3) *Brugia timori*.

(6) Name the fish that controls mosquito larvae. (Sept. '21)

Ans. *Gambusia*.

(7) Parasites causing Subcutaneous Filariasis.

Ans. (1) *Loa loa* (2) *Mansonella* spp.

Chapter 11 : Enhancement of Food Production

(1) Name the cell which is responsible for nitrogen fixation in cyanobacteria. (March '22)

Ans. Heterocysts.

(2) Asiatic poultry breeds.

Ans. Brahma, Cochin and Langshan.

(3) Scientific names of lac insect and silk moth.

Ans. Lac insect : *Trachardia lacca*

Silk moth : *Bombyx mori*

(4) Breeds of buffalo in India.

Ans. Jaffarabadi, Mehsana, Murrah, Nagpuri, Nilli, Surati.

(5) Cyanobacteria associated with lichens.

Ans. *Anabaena*, *Nostoc*, *Tolypothrix*.

(6) Symbiotic nitrogen fixing microorganisms.

Ans. Rhizobium, Anabaena, Frankia.

(7) Fungal disease of plants.

Ans. Brown rust of wheat, Red rot of sugar cane, Late blight of potato.

(8) Mutant variety of cabbage.

Ans. Regina-II.

Chapter 12 : Biotechnology

(1) Name the plant disease caused by *Agrobacterium tumefaciens*. (March '22)

Ans. Crown gall.

(2) Restriction endonucleases which produce fragments with sticky ends.

Ans. Bam HI and Eco RI.

(3) Restriction endonucleases which produce fragments with blunt ends.

Ans. Alu I, Hind III.

(4) Most commonly used vectors.

Ans. Plasmid vectors (pBR 322, pUC, Ti plasmid) and bacteriophages (lambda phage, M13 phage).

(5) Cloning organisms used in plant biotechnology.

Ans. *Agrobacterium tumefaciens*.

(6) Human protein produced by r-DNA technology to treat anemia.

Ans. Erythropoietin.

(7) Human protein produced by r-DNA technology to treat atherosclerosis.

Ans. Platelet derived growth factor.

(8) Human protein produced by r-DNA technology to treat cancer.

Ans. Interferons, tumour necrosis factor, interleukins, macrophage activating factor.

(9) Transgenic fish.

Ans. Atlantic salmon, catfish, goldfish, *Tilapia*, zebra-fish, common carp, rainbow trout.

(10) Name the expanded form of the following acronyms which are used in the field of biotechnology :

(i) YAC (ii) RE (iii) dNTP (iv) PCR (v) GMO (vi) MAC (vii) CCMB.

Ans.

- (i) YAC : Yeast Artificial Chromosome
- (ii) RE : Restriction Endonuclease
- (iii) dNTP : Deoxyribonucleoside triphosphates
- (iv) PCR : Polymerase Chain Reaction
- (v) GMO : Genetically Modified Organisms
- (vi) MAC : Mammalian Artificial Chromosome
- (vii) CCMB : Centre for Cellular and Molecular Biology

Chapter 13 : Organisms and Population

(1) Name the type of Mycorrhiza that is grown in between and within the cortical cells of root. (July '22)

Ans. Endomycorrhiza.

(2) Name the type of association between the given two organisms :

(i) Clown fish and sea anemone.

Ans. Commensalism.

(ii) Crow feeding the hatchling of Koel.

Ans. Brood parasitism.

(iii) Humming birds and host flowering plants.

Ans. Mutualism.

(iv) Cattle egret birds with buffalo.

Ans. Commensalism.

(v) Tiger and the deer.

Ans. Predator and prey relationship.

(vi) Visiting flamingos and fishes in the estuarine water.

Ans. Interspecific competition.

Chapter 14 : Ecosystems and Energy Flow

(1) Important steps in the process of decomposition.

Ans. Fragmentation, Leaching, Catabolism, Humification, Mineralization.

(2) Stratification seen in open seas.

Ans. Epipelagic, mesopelagic, bathy-pelagic and benthic zones.

(3) Three types of food chains.

Ans. Grazing, Detritus and Parasitic.

(4) Name the type of lichen responsible for weathering of rocks and soil formation. (Sept. '21)

Ans. Crustose Lichen.

Chapter 15 : Biodiversity, Conservation and Environmental Issues

(1) Levels of biodiversity :

Ans. (1) Genetic diversity

(2) Species diversity or community diversity

(3) Ecosystem diversity or ecological diversity.

(2) Two patterns of biodiversity :

Ans. (1) Latitudinal and Altitudinal gradient

(2) Species-area relationship.

(3) Three types of extinction :

Ans. (1) Natural extinction

(2) Mass extinction

(3) Manmade (anthropogenic) extinction.

(4) Modern methods of *ex-situ* conservation of species :

Ans. (1) Tissue culture

(2) *In vitro* fertilization of eggs

(3) Cryopreservation.

(5) Name the stretches of forest set aside and protected in the name of Almighty in India. (Sept. '21)

Ans. Sacred groves.

(6) Konha forest, a tiger reserve is an example of type of conservation. (Sept. '21)

Ans. *In-situ*.

(7) How many biodiversity hotspots have been identified around the world? (March '22)

Ans. 34.
