



# CAREER POINT

## PRE FOUNDATION DIVISION

### FACULTY SELECTION TEST

#### BIOLOGY

[Time : 2 Hr.]

[Max. Marks : 100]

#### INSTRUCTIONS :

1. Attempt all questions.
2. Indicate your answer on the question paper itself.
3. Each question has four options. Out of these only one is the correct answer.
4. Each correct answer carries +1 marks. for each wrong answer 0.25 marks will be deducted.

- Q.1** A hybrid is generally more vigorous than either of the parents, this is due to -  
(A) Homozygosity (B) Heterozygosity  
(C) Superior genes in hybrid (D) Mixing of cytoplasm
- Q.2** Who rediscovered the results of Mendel's experiments -  
(A) De Vries, Tschermak, Correns (B) DeVries, Tschermak, Morgan  
(C) Tschermak, Morgan, Correns (D) Tschermak, Bateson, Punnett
- Q.3** An individual with two identical alleles of a pair of genetic factors is called -  
(A) Heteromorphic (B) Heterozygote (C) Homomorphic (D) Homozygote
- Q.4** How many characters of pea were chosen by Mendel -  
(A) Three (B) Two (C) One (D) Seven
- Q.5** An organism with two identical alleles is called -  
(A) Dominant (B) Hybrid (C) Heterozygous (D) Homozygous
- Q.6** Genetic constitution of an individual is represented by -  
(A) Genome (B) Genotype (C) Phenotype (D) Karyotype
- Q.7** Genes do not occur in pairs in -  
(A) Zygote (B) Somatic cell (C) Endosperm cell (D) Gametes
- Q.8** Embryo of a seed is made up of -  
(A) Meristematic tissue (B) Parenchyma (C) Collenchyma (D) Sclerenchyma
- Q.9** Bamboo, grass and mint stem elongate by the activity of -  
(A) Primary meristem (B) Secondary meristem (C) Intercalary meristems (D) Apical meristems
- Q.10** Root cap is not found in -  
(A) Hollyhock (B) Pistia (C) Sunflower (D) China rose

- Q.11** Monocot leaves grow by -  
 (A) Apical meristem (B) Lateral meristem (C) Intercalary meristem (D) Dermatogen
- Q.12** Which of the following is a primary meristem -  
 (A) Intra fascicular cambium (B) Cork cambium  
 (C) Vascular cambium in roots (D) None of the above
- Q.13** Which of the following plants grow by a single "apical cell" -  
 (A) Monocots (B) Dicots (C) Gymnosperms (D) Bryophyta
- Q.14** The function of root cap is -  
 (A) Protection of root tip and control of geotropic movement  
 (B) Storage of food products  
 (C) Absorption of nutrients  
 (D) None of the above
- Q.15** Respiratory organ of terrestrial vertebrates are -  
 (A) Gills (B) Lungs (C) Skin (D) None of these
- Q.16** Leaf primordium grows by -  
 (A) Apical meristem (B) Intercalary meristem (C) Mass meristem (D) Both (A) & (B)
- Q.17** Organism show anaerobic respiration -  
 (A) Earthworm (B) Tapeworm (C) Lizard (D) Bat
- Q.18** Which one of these statements is correct?  
 (A) all animals require a medium for cellular respiration  
 (B) in all animals oxygen is transported by blood  
 (C) all animals take oxygen from water or air through gills or lungs  
 (D) all animals need oxygen for respiration
- Q.19** In frog, cutaneous respiration takes place -  
 (A) only on land  
 (B) only in water with pulmonary respiration  
 (C) only in water when pulmonary respiration is not occurring  
 (D) always
- Q.20** Inflorescence is -  
 (A) Group of flowers  
 (B) Occurrence of flowers  
 (C) Arrangement of flowers  
 (D) Arrangement of flowers on the floral axis

- Q.21** Trypsinogen is an inactive enzyme secreted by the pancreas. It is activated by -  
 (A) Pepsin of stomach (B) Chymotrypsin (C) Bile (D) Enterokinase
- Q.22** If pancreas is removed, the compound which remain undigested is -  
 (A) Carbohydrates (B) Fats (C) Proteins (D) All of these
- Q.23** Which of the following is not necessarily a property of all hormones -  
 (A) Information carrying (B) Secreted in low amounts  
 (C) Short half-life (D) Proteinaceous
- Q.24** The process by which digested food of the alimentary canal passes through its mucous membrane into circulatory system -  
 (A) Absorption (B) Assimilation  
 (C) Hydrolysis (D) Defecation
- Q.25** Trypsin is a digestive enzyme which occurs in mammals and digests -  
 (A) Starch in buccal cavity in an alkaline medium  
 (B) Protein in stomach in an acidic medium  
 (C) Protein in duodenum in an acidic medium  
 (D) Protein in duodenum in an alkaline medium
- Q.26** Which one of the following statements about glycogen is correct -  
 (A) It is a disaccharide stored in the liver and takes part in the formation of bile and lipase, besides being a source of energy  
 (B) It is synthesised in the liver and takes part in the formation of bile and lipase, besides being a source of energy  
 (C) It is a polysaccharide which is synthesised and stored in liver cells  
 (D) It is synthesised in blood and stored in liver and muscles to provide glucose in times of need
- Q.27** During digestion the lymphatics of the intestine become filled with fat globules which give white colour to the lymph. This lymph is known as -  
 (A) Chyle (B) Haemoconia (C) Fluids plasma (D) Bilirubin
- Q.28** Digestion is -  
 (A) Absorption of water  
 (B) Absorption of food  
 (C) Conversion of non-diffusible food particle in diffusible food particle  
 (D) None of these
- Q.29** Most digestion and absorption of food takes place in -  
 (A) Stomach (B) Small intestine (C) Large intestine (D) Caecum

- Q.30** Synapses store -  
 (A) Stimulating chemicals (B) Inhibitory chemicals  
 (C) Conducting chemicals (D) All of these
- Q.31** Schwann cells and Node of Ranvier are found in -  
 (A) Nervous tissue (B) Osteoblast (C) Chondrioblast (D) Gland cells
- Q.32** Branched ends of nerve cells are called telodendria which establish the functional contact with other nerve cell. This connection is called -  
 (A) Sinongium (B) Synapse  
 (C) synaptonemal complex (D) Synapta
- Q.33** Largest number of cell bodies of neuron in our body are found in -  
 (A) Retina (B) Spinal cord (C) Brain (D) Tongue
- Q.34** Nerve cell originated from embryonic -  
 (A) Ectoderm (B) Mesoderm (C) Both of these (D) Endoderm
- Q.35** Longest cell in human body may be -  
 (A) Nerve cell (B) Leg muscle cell (C) Bone cell (D) Heart muscle cell
- Q.36** Nerve fibre is different from the muscle fibre due to the presence of -  
 (A) Myofibrils (B) Lines (C) Sarcolemma (D) Dendrites
- Q.37** The neurons arise from the embryonic cell is called -  
 (A) Neuroblast (B) Cytoblast (C) Dendrocyte (D) All of the above
- Q.38** Centromere is required for -  
 (A) Crossing over (B) Transcription  
 (C) Cytoplasmic cleavage (D) Movement of chromosomes towards poles
- Q.39** At what stage does the number of chromosomes become half -  
 (A) Prophase I (B) Metaphase I (C) Anaphase I (D) Telophase I
- Q.40** 70 S type of ribosomes are found in -  
 (A) Chloroplast (B) Mitochondria (C) Prokaryotic cells (D) All of these
- Q.41** In meiosis, chromosomes separate at -  
 (A) Anaphase-I (B) Anaphase-II (C) Diakinesis (D) Diplotene
- Q.42** In plant cells, division of cytoplasm occurs by -  
 (A) Cell plate (B) Cleavage (C) Furrowing (D) Invagination
- Q.43** The strength and rigidity of a cell wall is due to the substance known as -  
 (A) Suberin (B) Cellulose (C) Lignin (D) Pectin

- Q.44** Scion is a term in relation to -  
 (A) Layering (B) Cutting (C) Grafting (D) Micropropagation
- Q.45** Podocytes are exclusively located in -  
 (A) liver (B) Kidney (C) Heart (D) Spleen
- Q.46** Which of the following fibres is not a plant product ?  
 (A) Hemp (B) Cotton (C) Flax (D) Silk
- Q.47** Acrosome reaction in sperm is triggered by -  
 (A) capacitation (B) release of lysin (C) influx of Na<sup>+</sup> (D) release of fertilizin
- Q.48** How many sperms are formed from a secondary spermatocyte?  
 (A) 4 (B) 8 (C) 2 (D) 1
- Q.49** Grey crescent is the area -  
 (A) at the point of entry of sperm into ovum  
 (B) just opposite to the site of entry of sperm into ovum  
 (C) at the animal pole  
 (D) at the vegetal pole
- Q.50** In humans at the end of first meiotic division, the male germ cells differentiate into the -  
 (A) primary spermatocytes (B) secondary spermatocytes  
 (C) spermatids (D) spermatogonia
- Q.51** Contraceptive oral pills help in birth control by -  
 (A) killing the sperms in uterus (B) preventing implantation  
 (C) preventing ovulation (D) both (B) and (C)
- Q.52** Mendel was not able to say anything about recombination and crossing over because -  
 (A) He did not have a large strong microscope  
 (B) He chose only pure types  
 (C) Traits he chose were not linked and present on different chromosomes or were far apart  
 (D) traits he chose had no genes
- Q.53** During breeding the removal of anthers from a flower is called -  
 (A) Anthesis (B) Pollination (C) Emasculation (D) Vasectomy
- Q.54** Pea plants were more suitable than cattle for Mendel's experiment because -  
 (A) There were no breeding records of cattles  
 (B) pea plants can be self-fertilised  
 (C) Cattles are not easy to maintain  
 (D) All pea plants have 2X chromosomes and fewer genetic traits

- Q.55** Vasopressin is concerned with -  
 (A) General metabolism (B) Regulation of heart beat  
 (C) Urine formation (D) Child birth
- Q.56** Inadequate production of STH in early life may result in -  
 (A) Gigantism (B) Acromegaly (C) Sterility (D) Dwarfism
- Q.57** Growth hormone is produced in -  
 (A) Pituitary (B) Adrenal (C) Thyroid (D) Gonad
- Q.58** Hormones of pituitary gland are -  
 (A) All proteins  
 (B) All steroids  
 (C) Some steroids and some proteins  
 (D) Complex substances formed from proteins, steroids and carbohydrates
- Q.59** ADH is secreted by -  
 (A) Adrenal (B) Anterior pituitary  
 (C) Posterior pituitary (D) Thyroid
- Q.60** Midgets are due to the deficiency of -  
 (A) Pituitary hormone (B) Thyroid hormone (C) Pancreatic hormone (D) Adrenal hormone
- Q.61** The posterior lobe of the pituitary is -  
 (A) Glandular (B) Neural (C) Ganglionic (D) Vascular
- Q.62** In albinism, the absence of following pigment makes the skin and hair very light-coloured -  
 (A) Melanin (B) Chlorophyll  
 (C) Carotene (D) Haemoglobin
- Q.63** The dermis of the skin of the mammal is a structure produced by -  
 (A) The dermal cells (B) The Malpighian layer  
 (C) The regenerative cells of the skin (D) None of the above
- Q.64** In human skin which of the following prevents evaporation of water from its surface -  
 (A) Sweat glands and their secretion (B) Thick subcutaneous fat  
 (C) Black pigment, the melanin (D) Dry dead cells of stratum corneum
- Q.65** The following vertebrate respire by skin -  
 (A) Fish (B) Frog  
 (C) Crocodile (D) Whale
- Q.66** During hibernation the body temperature of the warm blooded animals remains -  
 (A) Same as that of surroundings  
 (B) Normal because of the accumulated fat under the skin prior to hibernation  
 (C) Normal because skin can regulate it  
 (D) Slightly higher than that of the surroundings due to the combined action by skin and the deposited fat beneath it

- Q.67** Which of the following lack blood supply -  
 (A) Bone (B) Connective (C) Cartilage (D) vessels
- Q.68** Percentage of protein is more in -  
 (A) Lymph (B) Blood (C) Plasma (D) W.B.C
- Q.69** Which statement about lichens is true ?  
 (A) A network of algal filaments protects the fungus  
 (B) Algal cells supply food to the fungal component  
 (C) The algal component is parasitic on fungus  
 (D) Lichens always need organic substratum
- Q.70** Which of the following statement's is/are true about ATP molecules ?  
 (i) A molecule with a high energy phosphate bond.  
 (ii) A protein which brings about oxidation.  
 (iii) A higher nucleotide.  
 (A) (i) and (ii) are correct (B) (ii) and (iii) are correct  
 (C) (i) and (iii) are correct (D) only (i) is correct
- Q.71** Sum of constructive processes in body cells is called -  
 (A) catabolism (B) anabolism (C) BMR (D) metabolism
- Q.72** In a cell, number of chromosomes is 44 after first meiosis. The number of chromosomes in its daughter cells after completion of meiosis is -  
 (A) 44 (B) 22 (C) 11 (D) 66
- Q.73** Match the following & mark the correct option -  
 a Jelly fish (i) Mammals  
 b Water vascular system (ii) Porifera  
 c Diaphragm (iii) Coelentrata  
 d Osculum (iv) Echinoder-mata  
 (A) a- iii, b- ii, c- iv, d- i (B) a- ii, b- iv, c- i, d- iii  
 (C) a- iii, b- iv, c- i, d- ii (D) a- iv, b- ii, c- i, d- iii
- Q.74** Which step in blood clotting will not occur in absence of vitamin K ?  
 (A) Conversion of fibrinogen to fibrin (B) Conversion of prothrombin to thrombin  
 (C) Synthesis of thromboplastin (D) Synthesis of prothrombin
- Q.75** If a person lives exclusively on a diet of milk, egg and bread, he is likely to suffer from ?  
 (A) scurvy (B) night blindness  
 (C) rickets (D) beri beri
- Q.76** A blood vessels which takes the digested food materials to the liver, after their absorption is -  
 (A) hepatic portal vein (B) pulmonary artery  
 (C) renal vein (D) any vein

- Q.77** Rods and cones are the structure found in -  
 (A) bile juice (B) RBCs (C) eyes (D) ears
- Q.78** Mitochondria of a sperm occur in its -  
 (A) middle piece (B) head (C) acrosome (D) tail
- Q.79** An organism that shows sexual reproduction but lacks a proper nucleus in its cells. It can obtain nutrition in autotrophic as well as heterotrophic mode and possesses a distinct cell wall is -  
 (A) mycoplasma (B) blue green algae  
 (C) bacteria (D) protozoa
- Q.80** Endocrine glands produce or Action of endocrine glands is mediated through -  
 (A) Hormones (B) Enzymes (C) Minerals (D) Vitamins
- Q.81** The other name of anterior pituitary is -  
 (A) Neurohypophysis (B) Pars tuberalis  
 (C) Pars intermedia (D) Adenohypophysis
- Q.82** Neurohypophysis secretes the -  
 (A) Vasopressin and ACTH (B) ADH and pitocin  
 (C) Pitressin and ACTH (D) Oxytocin and LTH
- Q.83** Secretion of the androgen by Leydig cells of testis is under the regulatory influence of -  
 (A) LTH (B) FSH (C) STH (D) ICSH
- Q.84** The process of spermatogenesis and sperm formation is under the regulatory influence of -  
 (A) FSH (B) ADH (C) LH (D) LTH
- Q.85** Quantosomes are found on the following surface -  
 (A) Thylakoids (B) Cristae  
 (C) Plasmalemma (D) Nuclear envelope
- Q.86** Which of the following colour of light is maximum used in photosynthesis -  
 (A) Violet (B) Red (C) Green (D) Yellow
- Q.87** Match List I with List II and select the correct answer using the codes given below the lists.
- | <b>List-I</b>         |                | <b>List-II</b>         |  |
|-----------------------|----------------|------------------------|--|
| <b>(Plant tissue)</b> |                | <b>(Function)</b>      |  |
| A. Sclerenchyma       |                | 1. Conduction of water |  |
| B. Xylem              |                | 2. Transport of food   |  |
| C. Phloem             |                | 3. Mechanical strength |  |
| D. Meristem           |                | 4. Cell Division       |  |
|                       | <b>A B C D</b> |                        |  |
| (A)                   | 4 2 1 3        |                        |  |
| (B)                   | 1 4 3 2        |                        |  |
| (C)                   | 3 1 2 4        |                        |  |
| (D)                   | 2 3 4 1        |                        |  |

- Q.88** Blood is formed of -  
 (A) Plasma & bone marrow cells (B) Plasma, white & red blood cells and blood platelets.  
 (C) Plasma & WBC (D) Plasma & RBC
- Q.89** Highest taxon of taxonomic hierarchy is -  
 (A) Phylum (B) Species (C) Class (D) Kingdom
- Q.90** Deficiency diseases are -  
 (A) communicable diseases (B) non Communicable diseases  
 (C) allergies (D) none of these
- Q.91** Which one of the following plant can fix nitrogen from air ?  
 (A) Pea (B) Wheat (C) Rice (D) Maize
- Q.92** Transplantation is mainly concerned with -  
 (A) wheat (B) rice (C) mango (D) cotton
- Q.93** Soil is composed of -  
 (A) mineral + water + air (B) mineral + organic matter + air  
 (C) mineral + organic matter + air + water (D) organic matter + water
- Q.94** Which among the following is a connecting link between living and non living ?  
 (A) Euglena (B) Virus (C) Fungi (D) Protozoa
- Q.95** Which of the following statement is / are true for an animal cell -  
 (i) It contains a single large vacuole  
 (ii) Outer most boundary is plasma membrane  
 (iii) Nucleus is well developed and lies in center.  
 (A) (i) and (ii) (B) (ii) and (iii)  
 (C) none of these (D) all are true
- Q.96** Pulp cavity of teeth is lined by -  
 (A) Odontoblast (B) Chondroblast  
 (C) Osteoblast (D) Amyloblast
- Q.97** In the wall of alimentary canal which are/is true sequence from outer to inner -  
 (A) Serosa, longitudinal muscle, mucosa, sub mucosa  
 (B) Mucosa, serosa, long muscle  
 (C) Serosa, long muscle, circular muscle, sub-mucosa, mucosa  
 (D) Serosa, long muscle, sub-mucosa, mucosa

- Q.98** HCl is secreted by -  
(A) Zymogen cells (B) Oxyntic cells  
(C) Kupffer cells (D) Mucous cells
- Q.99** Chief cells. or .Zymogen cells. secrete the enzymes of the gastric juice, are found in the -  
(A) Isthmus of the gland (B) Neck of the tubular gland  
(C) Base of the tubular region (D) All the above
- Q.100** The thylakoid in chloroplast are arranged as -  
(A) interconnected disc (B) interconnected sacs  
(C) stacked discs (D) none of these