

PU-CET-2009

B

Code No.: 209101

Important : Please consult your Admit Card / Roll No. Slip before filling your Roll Number on the Test Booklet and Answer Sheet

Roll No.

In Figures

In Words

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O.M.R. Answer Sheet Serial No.

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Signature of the Candidate : _____

Paper : IV

Subject : Biology

Time : 70 minutes

Number of Questions : 60

Maximum Marks : 120

DO NOT OPEN THE SEAL ON THE BOOKLET UNTIL ASKED TO DO SO

INSTRUCTIONS

1. Write your Roll No. on the Question Booklet and also on the OMR Answer Sheet in the space provided and nowhere else.
2. Enter the Subject and Code No. of Question Booklet on the OMR Answer Sheet. Darken the corresponding bubbles with **Black Ball Point / Black Gel pen.**
3. Do not make any identification mark on the Answer Sheet or Question Booklet.
4. To open the Question Booklet remove the paper seal (s) gently when asked to do so.
5. Please check that this Question Booklet contains **60** questions. In case of any discrepancy, inform the Assistant Superintendent within 10 minutes of the start of test.
6. Each question has four alternative answers (A, B, C, D) of which only one is correct. For each question, darken only one bubble (A or B or C or D), whichever you think is the correct answer, on the Answer Sheet with **Black Ball Point / Black Gel pen.**
7. If you do not want to answer a question, leave all the bubbles corresponding to that question blank in the Answer Sheet. No marks will be deducted in such cases.
8. Darken the bubbles in the OMR Answer Sheet according to the Serial No. of the questions given in the Question Booklet.
9. Negative marking will be adopted for evaluation i.e., 1/4th of the marks of the question will be deducted for each wrong answer. A wrong answer means incorrect answer or wrong filling of bubble.
10. For calculations, use of simple log tables is permitted. Borrowing of log tables and any other material is not allowed.
11. For rough work only the sheets marked "Rough Work" at the end of the Question Booklet be used.
12. The Answer Sheet is designed for **computer evaluation**. Therefore, if you do not follow the instructions given on the Answer Sheet, it may make evaluation by the computer difficult. **Any resultant loss to the candidate on the above account, i.e., not following the instructions completely, shall be of the candidate only.**
13. After the test, hand over the Question Booklet and the Answer Sheet to the Assistant Superintendent on duty.
14. In no case the Answer Sheet, the Question Booklet, or its part or any material copied/ noted from this Booklet is to be taken out of the examination hall. Any candidate found doing so would be expelled from the examination.
15. A candidate who creates disturbance of any kind or changes his/her seat or is found in possession of any paper possibly of any assistance or found giving or receiving assistance or found using any other unfair means during the examination will be expelled from the examination by the Centre Superintendent / Observer whose decision shall be final.
16. **Telecommunication equipment such as pager, cellular phone, wireless, scanner, etc., is not permitted inside the examination hall. Use of calculators is not allowed.**

1. **Who is regarded as father of Taxonomy ?**
(A) Hutchinson (B) Engler
(C) Linnaeus (D) Theophrastus
2. **The system of classification of Angiosperms that is based on a few number of characters is referred to as :**
(A) Natural system (B) Artificial system
(C) Phylo-genetic system (D) Genetic system
3. **The species inhabiting the same geographical areas are :**
(A) Sibling (B) Sympatric
(C) Allopatric (D) Taxonomic
4. **Binomial nomenclature refers to :**
(A) One Latin name and one vernacular name
(B) One scientific name and one Latin name
(C) One scientific name and one vernacular name
(D) One generic name and one specific name
5. **Phylogeny refers to :**
(A) A group of phyla (B) Life history of plants
(C) Genetics of animals (D) Evolutionary history of species from its ancestors.
6. **Which of the phyla has the highest number of species ?**
(A) Arthropoda (B) Annelida
(C) Mollusca (D) Echinodermata
7. **Cyanobacteria refer to :**
(A) Autotrophic prokaryotes with characteristic bluegreen pigments
(B) Bacteria infecting the cyanophycean algae
(C) Viruses infecting bluegreen algae
(D) Cyanophycean members infecting bacteria
8. **Marchantia is a bryophyte since it does not have :**
(A) Vascular tissue (B) Roots
(C) Independent sporophyte (D) Seeds
9. **The fern leaves are known as :**
(A) Blades (B) Sporophylls
(C) Lamina (D) Fronds
10. **Young leaves of Cycas show :**
(A) Simple venation (B) Circinate venation
(C) Alternate arrangement (D) Opposite arrangement
11. **The seed of Pinus is :**
(A) Covered and non-endospermic
(B) Naked and non-endospermic
(C) Abaxially placed and covered
(D) Adaxially placed naked and endospermic

- 12. The petiole modified into leaf like structure is known as :**
- (A) Phylloclade (B) Phyllode
(C) Cladode (D) Cladophyll
- 13. Scutellum is the first leaf of :**
- (A) Gymnosperms (B) Monocots
(C) Dicots (D) Pteridophytes
- 14. Nucleus is absent in :**
- (A) Xylem parenchyma (B) Phloem parenchyma
(C) Mature sieve cells (D) Companion cells
- 15. The dead cells that have a mechanical function are called as :**
- (A) Parenchyma (B) Collenchyma
(C) Sclerenchyma (D) Companion cells
- 16. The water potential increases due to :**
- (A) Addition of solutes (B) Pressure
(C) Evaporation (D) Afforestation
- 17. Which of the following elements is required for Photolysis of water :**
- (A) Magnesium (B) Manganese
(C) Calcium (D) Zinc
- 18. The translocation of sugars in angiosperms occurs in the form of :**
- (A) Glucose (B) Fructose
(C) Sucrose (D) Lactose
- 19. Which element is essential as electron carrier :**
- (A) Potassium (B) Iron
(C) Zinc (D) Calcium
- 20. The plants bend towards light because :**
- (A) The roots send the message to the stem to do so
(B) The stems like sunlight
(C) The food material is translocated from leaves to stem causing bending
(D) Due to secretion of growth promoting substances at the tip
- 21. Pollenkit helps in the :**
- (A) Nutrition of pollen (B) Nutrition of insects
(C) Formation of pollen (D) Sticking to the body of insects
- 22. What is the function of tapetum in a developing anther ?**
- (A) To obtain food material from the microspores
(B) To digest the microspores
(C) To provide food material to the developing microsporocytes
(D) To give protection to the inner tissues

- 23. In a plant growing under dark condition, the leaves turn light colored, internodes become much elongated and it is termed as :**
- (A) Chlorosis (B) Vernalisation
(C) Etiolation (D) Phyllotaxy
- 24. The term Homeostasis in an ecosystem refers to :**
- (A) Feed back mechanism (B) Self regulatory mechanism
(C) Influence of production (D) State of equilibrium
- 25. The plants constitute the :**
- (A) First trophic level (B) Second trophic level
(C) Third trophic level (D) Fourth trophic level
- 26. Biome refers to :**
- (A) That part of earth and its atmosphere which inhabits living organisms
(B) A community of organisms interacting with one another
(C) The flora on land
(D) The flora in an ocean
- 27. Maximum energy amongst ecosystems is contributed by :**
- (A) Crops (B) Forests
(C) Coral (D) Fuel gas
- 28. The restriction enzymes are also called :**
- (A) Molecular markers (B) Molecular scissors
(C) Vectors (D) Carriers
- 29. Polymerase chain reaction employs :**
- (A) Primers and DNA ligase (B) Primers and DNA polymerase
(C) DNA polymerase only (D) DNA ligase only
- 30. Bt toxin is coded by a gene named as :**
- (A) *cry*
(B) *bt_y*
(C) *tby*
(D) *dt_y*
- 31. Which of the following is not a gastrointestinal hormone ?**
- (A) Gastrin (B) Secretin
(C) Cholecystokinin (D) Cortisol
- 32. All enzymes are proteins except :**
- (A) Ribozymes (B) Kinase
(C) Dehydrogenase (D) Transaminase
- 33. Enzymes that catalyse removal of groups from substances by mechanism other than hydrolysis leaving double bond are called :**
- (A) Oxidoreductases (B) Transferases
(C) Lyases (D) Ligases

- 34. Klinefelter's syndrome has a sex chromosome complement of :**
- (A) XY (B) XYY
(C) XXY (D) XO
- 35. In which region of the interphase chromosome does transcription take place ?**
- (A) Heterochromatin (B) Euchromatin
(C) The telomere (D) The centromere
- 36. The progesterone is secreted by :**
- (A) Graffian follicles (B) Corpus luteum
(C) Interstitial cells (D) Corpus albicans
- 37. Which of the following is the connective tissue ?**
- (A) Neurons (B) Nephrons
(C) Blood (D) Islets of Langerhans
- 38. Which of the following is an example of highly repetitive DNA ?**
- (A) Alu element (B) Histone gene cluster
(C) DNA minisatellite (D) Dispersed repetitive DNA
- 39. 'Saheli' an oral contraceptive for females was developed by :**
- (A) AIIMS, Delhi (B) IICB, Kolkata
(C) CDRI, Lucknow (D) SGPGI, Lucknow
- 40. A pair of male genital pores in earthworm are present on the ventro-lateral sides of the :**
- (A) 14th segment (B) 18th segment
(C) 10th segment (D) 15th segment
- 41. Pseudocoelom is a characteristic feature of :**
- (A) Annelids
(B) Arthropods
(C) Platyhelminthes
(D) Aschelminthes
- 42. Example of a marine dinosaur is :**
- (A) Pelycosaur (B) Tyrannosaurus
(C) Ichthyosaur (D) Pterosaur
- 43. Sharks and Rays belong to class :**
- (A) Osteichthyes (B) Chondrichthyes
(C) Cyclostomata (D) Amphibian
- 44. The capacity to differentiate colours lies in :**
- (A) Cones (B) Rods
(C) Pigment epithelium (D) Ganglion cell layer
- 45. A parasitic disease which is not transmitted through the bite of insect vector :**
- (A) Filariasis (B) Malaria
(C) Leishmaniasis (D) Ascariasis

- 46. Recombination between homologous chromosomes is completed by the end of :**
- (A) Zygotene (B) Leptotene
(C) Pachytene (D) Diplotene
- 47. The antibodies which are present in abundance in colostrum are :**
- (A) IgG (B) IgM
(C) IgA (D) IgD
- 48. Organs of excretion and osmoregulation in Platyhelminthes are :**
- (A) Contractile vacuoles (B) Flame cells
(C) Nephridia (D) Hepatic caecae
- 49. The maturation and development of T-lymphocytes takes place in :**
- (A) Thymus (B) Spleen
(C) Lymph nodes (D) MALT
- 50. Enzyme which is responsible for replication of HIV in the macrophages of the host is :**
- (A) Reverse transcriptase (B) RNA Polymerase
(C) DNA Polymerase (D) DNA Ligase
- 51. Which of the following traits was not studied by Mendel ?**
- (A) Flower position (B) Seed colour
(C) Flower colour (D) Seed size
- 52. The body cavity of coelomates is lined by :**
- (A) Mesoderm (B) Ectoderm
(C) Endoderm (D) Protoplasm
- 53. In ear, the membranous labyrinth is filled with fluid called :**
- (A) Endolymph (B) Perilymph
(C) Plasma (D) Haemolymph
- 54. Most of the fats absorbed in the small intestine enters the :**
- (A) Lacteals (B) Arterioles
(C) Venules (D) Microvilli
- 55. The wall of the internal organs such as blood vessels, stomach and intestine contains this type of muscle tissue :**
- (A) Smooth muscle fibre (B) Cardiac muscle fibre
(C) Skeletal muscle fibre (D) Neural tissue
- 56. Testosterone, the male sex hormone is synthesised in the :**
- (A) Seminiferous tubules (B) Interstitial cells
(C) Vas deferens (D) Prostate gland
- 57. In humans, the right atrioventricular aperture of the heart is guarded by :**
- (A) Monocuspid valve (B) Bicuspid valve
(C) Tricuspid valve (D) Tetracuspid valve

58. In which part of the nephron the reabsorption of filtrate is minimum ?

- (A) Proximal convoluted tubule
- (B) Glomerulus
- (C) Distal convoluted tubule
- (D) Henle's loop

59. The chronic use of alcohol may lead to :

- (A) Hepatitis B
- (B) Cirrhosis
- (C) AIDS
- (D) Pneumonia

60. Which organ is called as the graveyard of RBC's ?

- (A) Spleen
- (B) Liver
- (C) Pancreas
- (D) Kidneys