



Biology
ENTRANCE EXAM - NEET-UG

Time Allowed: 1 hour and 30 minutes

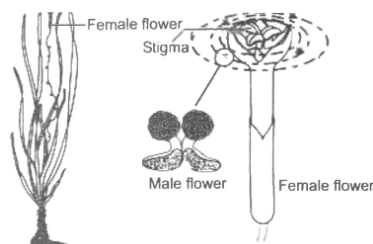
Maximum Marks : 360

General Instructions:

- The test is of 1 hours and 30 minutes and it contains 100 questions. Internal choice is given within the sections.
- For each correct response, the candidate will get 4 marks.
- For each incorrect response, one mark will be deducted from the total scores.

ZOOLOGY (Section-A)

- Phylogenetic system of classification is based on [4]
 - Floral characters.
 - Chemical constituents.
 - Morphological features.
 - Evolutionary relationships.
- When generic name is repeated in specific name then it is called: [4]
 - Differential
 - Antonyms
 - Synonyms
 - Tautonyms
- What is true for cyanobacteria? [4]
 - Oxygenic with nitrogenase
 - Non - oxygenic without nitrogenase
 - Oxygen without nitrogenase
 - Non - oxygenic with nitrogenase
- Which of the following is obligate parasite? [4]
 - All of these
 - Lichens
 - Viruses
 - Fungus
- Polyembryony in mango is due to development of embryos from [4]
 - Fertilised egg
 - Polyembryony
 - Nucellar cells
 - Egg of unreduced embryo sac.
- Select the correct statement: [4]
 - Sequoia is one of the tallest trees
 - Gymnosperms are both homosporous and heterosporous
 - Salvinia, Ginkgo and Pinus all are gymnosperms
 - The leaves of gymnosperms are not well adapted to extremes of climate
- Popular dry fruit chilgoza is produced by: [4]
 - Pinus sylvestris
 - Pinus roxburghii
 - Pinus monophylla
 - Pinus girardiana
- Mature Polygonum type embryo sac has got: [4]
 - Eight cells and eight nuclei
 - Seven nuclei and eight cells
 - Seven cells and seven nuclei
 - Seven cells and eight nuclei
- The figure is given below showing hydrophily in:



- Lotus
 - Zostera
 - Vallisneria
 - All of these
- In which type of inflorescences the main axis continues to grow: [4]
 - Cymose
 - Information is not correct
 - Racemose
 - Both Racemose and Cymose
 - Roots play insignificant role in absorption of water in [4]
 - Pea
 - Wheat
 - Sunflower
 - Pistia
 - Which of the following are true statements for the monocotyledonous leaf?
 - Stomata are present on both the surfaces of the epidermis.
 - The mesophyll is not differentiated into palisade and spongy parenchyma.
 - In grasses, certain abaxial epidermal cells along the veins modify themselves into bulliform cells.
 - When the bulliform cells in the leaves have loss water, the leaf surface is exposed but when they absorbed water make the leaves curl inwards to minimise water loss.
 - The size of the vascular bundles are dependent on the size of the veins.
- [4]
- (i), (ii) and (iii)
 - (i) and (ii)
 - (i), (ii), (iii) and (iv)
 - (i), (ii), (vi) and (v)
- Exact multiple of haploid number is: [4]
 - Euploidy
 - Heteroploidy
 - Hyperploidy
 - Aneuploidy
 - In sickle - cell anaemia, shape of RBCs under oxygen tension becomes [4]
 - Spherical
 - Biconcave disc like
 - Circular
 - Elongated and curved
 - The DNA molecule is composed of: [4]

- a) Gibberellins b) Auxins
c) Ethylene d) Cytokinins

ZOOLOGY (Section-B)

Attempt any 10 questions

- 36) A person who studies about the origin, evolution and variations in plants and also about the classification of plants, is called as : [4]
a) α - taxonomist b) Herbal taxonomist
c) Classical taxonomist d) β - taxonomist
- 37) Paramecium is: [4]
a) Ciliated protozoans
b) Sporozoan
c) Both Ciliated protozoans and Filter feeder
d) Filter feeder
- 38) Archegoniate plants belong to: [4]
a) Bryophyta, pteridophyta, gymnosperms, angiosperms
b) Algae, bryophyta, pteridophyta
c) Bryophyta, pteridophyta, gymnosperm
d) Bryophyta, pteridophyta, angiosperm
- 39) In water hyacinth and water lily, pollination takes place by: [4]
a) Insects or wind b) Wind and water
c) Water currents only d) Insects and water
- 40) Which of the following statement is correct? [4]
a) In the Perigynous flower, the gynoecium occupies the highest position
b) The actinomorphic flower have radial symmetry
c) In Perigynous flower, the margin of thalamus grows upward enclosing the ovary completely and getting fused it
d) Zygomorphic occurs in china rose
- 41) Which one in man is a wholly genetic trait? [4]
a) Leucoderma b) Tuberculosis
c) Diphtheria d) Albinism
- 42) The average weight of 20 amino acids is 128. What is the approximate weight of a protein with 100 amino acids? [4]
a) 640 b) 12,800
c) 60,000 d) 1,28,000
- 43) It is a type of specialised peroxisomes which is extracted from endosperm of germinating castor beans. Identify the organelle from the given option. [4]
a) Golgi apparatus b) Lysosomes
c) Glyoxysomes d) Ribosome
- 44) Which of the following is not used as a biopesticide? [4]
a) Nucleopolyhedrovirus
b) Xanthomonas campestris
c) Trichoderma harzianum
d) Bacillus thuringiensis
- 45) Krebs' cycle is termed as the aerobic phase of respiration because: [4]
a) Oxygen acts as a catalyst
b) It consumes oxygen
c) Aerobic conditions are essential for the continued operation of the electron transport system
d) All of these
- 46) Rotenone is: [4]

- a) An insect hormone
b) A bio herbicide
c) A natural herbicide
d) A natural insecticide

- 47) When the two ecosystems overlap each other the area is called? [4]
a) Niche b) Ecotypes
c) Ecotone d) Edge effect
- 48) Formation of meristems - interfascicular cambium and cork cambium from fully differentiated parenchyma cells is an example of: [4]
a) Redifferentiation b) All of these
c) Differentiation d) Dedifferentiation
- 49) The movement of auxin is largely [4]
a) Centripetal
b) Both (centripetal) and (acropetal)
c) Acropetal
d) Basipetal
- 50) LHC (Light Harvesting Complex) consists: [4]
a) Light reaction and dark reaction
b) All of these
c) Cyclic and non - cyclic photophosphorylation
d) Photosystem I and II

BOTANY (Section-A)

- 51) Organ of Jacobson in amphibians is for: [4]
a) Sound b) Pressure
c) Smell d) Temperature
- 52) What is the function of cnidoblasts cells? [4]
a) All of these b) Anchorage
c) Capture of prey d) Defence
- 53) What is common between parrot, platypus and kangaroo? [4]
a) Homoeothermy b) Oviparity
c) Monocytes d) Toothless jaws
- 54) The muscular tissue, which functions throughout the life continuously without fatigue, is [4]
a) Cardiac muscle b) Skeletal muscle
c) Voluntary muscle d) Smooth muscle
- 55) Plantulae are found in cockroach upon: [4]
a) Tarsus b) Trochanter
c) Coxa d) Femur
- 56) Basic respiratory rhythm is generated by: [4]
a) Pneumotaxic center of medulla oblongata
b) Pneumotaxic center of pons varolli
c) Dorsal respiratory group of neurons
d) Ventral respiratory group of neurons
- 57) Residual air is present in: [4]
a) Trachea and Bronchi and bronchioles
b) Lungs
c) Bronchi and bronchioles
d) Trachea
- 58) Which respiratory disease is characterised as inflammation of the bronchi and the bronchial tubes due to infections, smoking or pollutants? [4]
a) Chronic bronchitis b) Emphysema
c) Asthma d) COPD
- 59) Given below are few respiratory disorders. Identify occupational respiratory disorders amongst these.

- i. Coryza
- ii. SARS
- iii. Silicosis
- iv. Asbestosis
- v. Emphysema

[4]

- a) (i) and (ii)
- b) (i) and (v)
- c) (iii) and (iv)
- d) (i), (ii), and (v)

60) The covering of the lung is called: [4]

- a) Pericardium
- b) Peritoneum
- c) Pleural membrane
- d) Capsule

61) The menstrual cycle in normal adult woman is of: [4]

- a) 34 days
- b) 28 days
- c) 14 days
- d) 18 days

62) Which of the following statements is false for uterus?

- i. It opens into oviducts through cervix whose cavity is called cervical canal.
- ii. Its wall has three layers, outer perimetrium, middle myometrium, and inner endometrium.
- iii. It is also called womb and its shape is like an inverted pear.
- iv. It is supported by ligaments attached to the pelvic wall.

[4]

- a) Statement (b) is false.
- b) Statement (c) is false.
- c) Statement (d) is false.
- d) Statement (a) is false.

63) What happens during fertilisation in humans after many sperms reach close to the ovum? [4]

- a) Only two sperms nearest the ovum penetrate zona pellucida
- b) Cells of corona radiata trap all the sperms except one
- c) All sperms except the one nearest to the ovum lose their tails
- d) Secretions of acrosome helps one sperm enter cytoplasm of ovum through zona pellucida

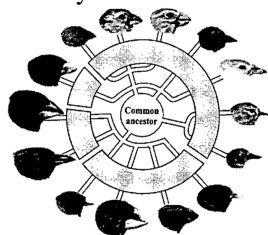
64) The diaphragm, cervical cap, and vaults are: [4]

- a) Implants
- b) Reusable contraceptives
- c) IUDs
- d) Disposable contraceptive device

65) An ideal contraceptive should not be [4]

- a) Effective with least side effects.
- b) User - friendly
- c) Irreversible
- d) Easily available

66) Identify what is indicated in the given diagram?



- i. Natural selection
- ii. Adaptive radiation
- iii. Ecological succession
- iv. Different species of finches by mutation

[4]

- a) (i) and (iii)
- b) (i) and (ii)
- c) (iii) and (iv)
- d) (ii) and (iv)

67) What is common between Parrot, Platypus and Kangaroo? [4]

- a) Toothless jaws
- b) Homoeothermic
- c) Functional postanal tail
- d) Oviparity

68) Nitrogenous wastes which excreted in the form of pellet or paste with a minimum loss of water: [4]

- a) All of these
- b) Urea
- c) Ammonia
- d) Uric acid

69) The end - product of Ornithine cycle is [4]

- a) Urea
- b) Uric acid
- c) Carbon dioxide
- d) Ammonia

70) Read the statements given below.

- i. Reabsorption in this region is minimum.
- ii. This region plays a significant role in the maintenance of high osmolarity of intestinal fluid.
- iii. Its descending limb is permeable to water, but almost impermeable to electrolytes.
- iv. Its ascending limb is impermeable to water but allows transport of electrolyte actively or passively.
- v. In descending limb filtrate is hypertonic, while in ascending limb filtrate is hypotonic.

The above characteristics are associated with: [4]

- a) DCT
- b) Loop of Henle's
- c) Bowman's capsule
- d) PCT

71) The membranous areas between the cranial bones of the foetal skull are called [4]

- a) Fontanelle
- b) Areolas
- c) Foramina
- d) Sutures

72) The contractile protein of skeletal muscle involving ATPase activity is [4]

- a) Tropomyosin
- b) Myosin
- c) Troponin
- d) A - actinin

73) An acromion process is characteristically found in the [4]

- a) Pelvic girdle of mammals.
- b) Skull of frog
- c) Pectoral girdle of mammals.
- d) Sperm of mammals

74) Synaptic knob is bulb - like structure which is present [4]

- a) In the cell body.
- b) At the end of axon terminal.
- c) At the end of dendrites.
- d) At the node of Ranvier.

75) Which one of the following is sensory nerve? [4]

- a) Trigeminal nerve
- b) Pathetic nerve
- c) Vagus nerve
- d) Auditory nerve

76) The shape of eye lens is changed by [4]

- a) Iris
- b) Optic nerve
- c) Ciliary muscle
- d) Pupil

77) Which hormone acts on the exocrine part of pancreas and stimulates secretion of water and bicarbonate ions? [4]

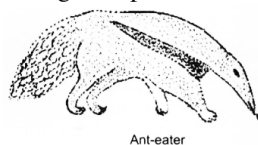
- a) Secretin
- b) GIF
- c) CCK
- d) Gastrin

- 78) In fish culture, which pair of hormones are most important? [4]
- Vasopressin and oxytocin
 - FSH and LH
 - Oestrogen and progesterone
 - TSH and ACTH
- 79) Which of the following sequences is truly a systemic circulation pathway? [4]
- Left auricle → Left ventricle → Pulmonary aorta → Tissues → Right auricle
 - Left auricle → Left ventricle → Aorta → Arteries → Tissues → Veins → Right atrium
 - Right ventricle → Pulmonary aorta → Tissues → Pulmonary veins → Left auricle
 - Right auricle → Left ventricle → Aorta → Tissues → Veins → Right auricle
- 80) The coagulation of blood occurs due to : [4]
- Formation of serum
 - Change of fibrinogen in the network of fibrin
 - Destruction of leucocytes
 - Destruction of erythrocytes
- 81) The second heart sound (dubb) is associated with the closure of: [4]
- Tricuspid and bicuspid valves
 - Semilunar valves
 - Tricuspid valve
 - Bicuspid valve
- 82) Restriction endonucleases: [4]
- Are used for in vitro DNA synthesis
 - Are synthesized by bacteria as part of their defense mechanism
 - Are present in mammalian cells for the degradation of DNA when the cell dies
 - Are used in genetic engineering for ligating two DNA molecules
- 83) Southern blotting technique is: [4]
- ELISA test
 - DNA profiling
 - Blood test
 - Widal test
- 84) In India, the organisation responsible for assessing the safety of introducing genetically modified organism for public use is : [4]
- Genetic Engineering Approval Committee (GEAC)
 - Indian Council of Medical Research (ICMR)
 - Council for Scientific and Industrial Research (CSIR)
 - Research Committee on Genetic Manipulation (RCGM)
- 85) Which is a direct gene transfer method? [4]
- Using Cosmid
 - Electroporation
 - Using BAC
 - Using Agrobacterium

BOTANY (Section-B)

Attempt any 10 questions

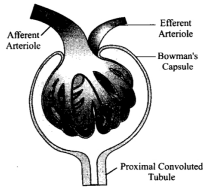
- 86) Choose the wrong statement/s for the symmetry of animals.
- Sponges are mostly asymmetrical
 - When any plane passing through the central axis of the body divides the organism into two identical halves, it is called radial symmetry.
 - Coelenterates, ctenophores and echinoderms have bilateral symmetry.
 - Animals like annelids, arthropods, etc., have radial symmetry.
 - The body can be divided into identical left and right halves in only one plane, exhibit bilateral symmetry.
- [4]
- (iii) and (iv)
 - (iii), (iv) and (v)
 - (ii), (iv) and (v)
 - (i), (ii), (iii) and (iv)
- 87) Intestine absorb the digested food materials. What type of epithelial cells are responsible for that? [4]
- Spindle fibres
 - Stratified squamous epithelium
 - Columnar epithelium
 - Cuboidal epithelium
- 88) Red and white pulp is related with: [4]
- Spleen
 - Teeth
 - Skeletal muscles
 - Bone
- 89) Earthworm does not have special respiratory structures because: [4]
- Haemocoel is present
 - A cylindrical shape gives high surface area to volume ratio
 - Arteries and veins are not differentiated
 - Respiratory pigment is dissolved plasma
- 90) Then most important significance of fertilizin & antifertilizin reaction is to: [4]
- Ensure that least few spermatozoa encounter the egg
 - Mutually attract the gametes of opposite sexes
 - Preserve the sperm
 - Ensure fusion of gamete of same species
- 91) The test - tube baby programme employs which one of the following techniques? [4]
- Intra Cytoplasmic Spenn Injection (ICSI)
 - Intra Uterine Insemination (IUI)
 - Zygote Intra Fallopian Transfer (ZIFT)
 - Gamete Intra Fallopian Transfer (GIFT)
- 92) The given picture shows:



[4]

- Convergent evolution
- Evolution of placental mammals
- Divergent evolution
- Divergent evolution of Australian marsupials

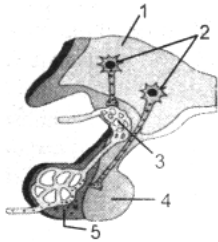
- 93) Refer the given figure of Malpighian body and answer the question.



Which part is considered to be the site where majority (65%) of ions and water in the urinary space is reabsorbed back into the body? [4]

- Efferent arteriole
 - Bowman's capsule
 - Afferent arteriole
 - Proximal convoluted tubule
- 94) Z - lines divides the myofibrils into _____. [4]
- Sarcoplasm
 - Sarcosome
 - Sarcomere
 - Sarcolemma
- 95) Cell bodies of motor and interneurons are present in: [4]
- White matter of brain
 - White matter of brain and spinal cord
 - Gray matter of brain
 - White matter of spinal cord
- 96) Prolonged hyperglycemia leads to a complex disorder called: [4]
- Diabetes keto aciaosis
 - Diabetes mellitus
 - Diabetes insipidus
 - Glycosuria

97) In the given diagram of endocrine gland 3 and 1 represents:



[4]

- 1 - Hypothalamus, 3 - Portal circulation
- All are correct
- 1 - Portal circulation, 3 - Hypothalamic neurons
- 1 - Hypothalamus, 3 - Hypothalamic neurons

98) Which of the following occur in - person living at the mountain? [4]

- Increase in number of antigen
- Large amount of RBC
- Large amount of WBC
- High heart beat

99) Which of the following is used as a best genetic vector for animals? [4]

- Pox virus
- All of these
- Agrobacterium tumifaciens
- Retrovirus

100) Genetic modification has

- Reduced reliance on chemical pesticides.
- Reduced pos - harvest losses.
- Increased efficiency of minerals used by the plants.
- Enhanced nutritional value of the food.

Which of the statements given above are correct?

[4]

- (ii), (iii) and (iv)
- (i), (ii) and (iii)
- (iii) and (iv)
- (i), (ii), (iii) and (iv)