

CUET UG 2023 Biology Question Paper PDF (May 25, 2023) (Shift 2)

- Which is known as 'Terror of Bengal'?
(a) Water Lilly (b) *Hydrilla*
(c) Water hyacinth (d) *Lantana*
- Identify the organism which is a source of single cell protein and is grown on commercial scale.
(a) *Azotobacter* (b) *Rhizobium*
(c) *Azospirillum* (d) *Spirulina*
- Match List I with List II

List I	List II
A. <i>Salmonella typhi</i>	i. Common Cold
B. Rhino viruses	ii. Typhoid
C. <i>Streptococcus pneumoniae</i>	iii. Malaria
D. <i>Plasmodium vivax</i>	iv. Pneumonia

Choose the correct answer from the options given below:
 (a) A-II, B-IV, C-I, D-III (b) A-II, B-IV, C-III, D-I
 (c) A-II, B-I, C-IV, D-III (d) A-I, B-II, C-III, D-IV
- The organisation set up by the Indian Government to take decisions regarding the validity of GM research and the safety of introducing GM- organism is:
 (a) Genetic Engineering Approval Committee (GEAC)
 (b) Genetic Modification Approval Committee (GMAC)
 (c) Indian Council of Agricultural Research (ICAR)
 (d) All India Institute of Medical Sciences (AIIMS)
- Select the correct statement/s from the following:
 (A) Spermatogonia always undergo meiotic cell division.
 (B) Primary spermatocytes divide by mitotic cell division.
 (C) Secondary spermatocytes have 23 chromosomes and undergo second meiotic division
 (D) Spermatozoa are transformed into spermatids.

Choose the correct answer from the options given below:
 (a) A and C only (b) C only
 (c) D only (d) B and C only
- Arrange the following events in correct sequence.
 A. Formation of zygote
 B. Formation of blastocyst
 C. Implantation
 D. Formation of morula

Choose the correct answer from the options given below:
 (a) A, D, B, C (b) A, B, D, C
 (c) A, B, C, D (d) C, D, B, A
- Which of the following statements are correct regarding decomposition?
 A. Decomposition is largely oxygen-requiring process
 B. The rate of decomposition is controlled by chemical composition of detritus and climatic factors
 C. Dry and cold environment favour the decomposition
 D. If detritus is rich in lignin and chitin, the decomposition rate is faster

Choose the correct answer from the options given below:

- Match List I with List II

List-I	List-II
A. The primates with brain capacity of around 900 cc.	i. Neanderthal man
B. The primates with brain capacity of 1400 cc and lived in east and central Asia	ii. <i>Homo erectus</i>
C. The primates which arose in Africa and moved across continents and developed into distinct races	iii. <i>Homo sapiens</i>
D. The primates with the brain capacities between 650-800 cc and probably did not eat meat	iv. Australopithecines
	v. <i>Homo habilis</i>

Choose the correct answer from the options given below:
 (a) A-III, B-I, C-V, D-II (b) A-II, B-I, C-III, D-V
 (c) A-I, B-IV, C-III, D-V (d) A-I, B-III, C-IV, D-II
- Mature mRNA is a fully processed
 (a) hnRNA (b) snRNA
 (c) 28S RNA (d) 5srRNA
- Inbreeding is carried out in animal husbandry because it:
 (a) Increase hybrid vigour
 (b) Improves the breed
 (c) Increase heterozygosity
 (d) Increase homozygosity
- Which of the following metal cannot be recovered from manual recycling process of e-wastes?
 (a) Gold (b) Mercury
 (c) Copper (d) Nickel
- $(p + q)^2 = p^2 + 2pq + q^2 = 1$ represents Hardy Weinberg equation. It is used in:
 (a) Population genetics (b) Mendelian genetics
 (c) Biometrics (d) Molecular genetics
- Bt toxin produced by *Bacillus thuringiensis* is resistant to:
 (a) Drought (b) Insects
 (c) Nematodes (d) Viruses
- The puffed up appearance of dough is due to the production of:
 (a) Oxygen gas (b) CO_2 gas
 (c) Ethyl alcohol (d) Pyruvic acid

15. Match List I with List II

LIST I (Drugs)

- A. Heroin
B. Cannabinoids
C. Cocaine
D. Nicotine

LIST II (Obtained from)

- i. Tobacco plant
ii. *Erythroxylum coca*
iii. *Cannabis sativa*
iv. *Papaver somniferum*

Choose the correct answer from the options given below:

- (a) A-I, B-II, C-III, D-IV
(b) A-II, B-I, C-III, D-IV
(c) A-I, B-II, C-IV, D-III
(d) A-IV, B-III, C-II, D-I

16. Which of the following is used to make the bacterial cell as 'Competent cell' to take up DNA?

- (a) Carbonate ion
(b) Calcium ion
(c) Sodium ion
(d) Sulphate ion

17. In gel electrophoresis the separated DNA fragments can be visualised:

- (a) In visible light
(b) In visible light with staining
(c) In UV radiation without staining
(d) In UV radiation after staining with ethidium bromide

18. Mammals are able to survive in Antarctica or in the Sahara Desert as they are

- (a) Conformers
(b) Partial regulators
(c) Regulators
(d) Migrants

19. In some organisms, male has ZZ chromosomes and female has ZW chromosomes. This type of sex-determination is found in:

- (a) *Drosophila*
(b) Hen
(c) Cockroach
(d) Snail

20. Threatened animals and plants are taken out from their natural habitat and placed in special settings, protected and given special care is

- (a) In situ conservation
(b) Ex situ conservation
(c) Conservation in national park
(d) Conservation in biosphere

21. Sequence the following steps in formation of female gametophyte of flowering plants.

- A. Cell walls are laid down.
B. Formation of seven cells with eight nuclei.
C. Meiosis in megaspore mother cell and formation of megaspore tetrad.
D. Functional megaspore undergoes three mitotic divisions, results in formation of eight nuclei.

Choose the correct answer from the options given below:

- (a) A, D, C, B
(b) A, C, B, D
(c) C, D, A, B
(d) C, A, B, D

22. Methanogens do not produce :

- (a) Carbon dioxide and Methane
(b) Methane and Hydrogen
(c) Hydrogen and Carbon dioxide
(d) Nitrogen and Oxygen

23. The method of producing thousands of plants through tissue culture is called as:

- (a) Somaclones
(b) Micro-propagation
(c) Somatic hybridisation
(d) Vegetative propagation

24. Early Greek thinkers thought that units of life called spores were transferred to different planets including earth. Identify the term associated with the above.

- (a) Abiogenesis
(b) Panspermia
(c) Spontaneous generation
(d) Biogenesis

25. Succession occurring after flood is:

- (a) Hydrarch succession
(b) Primary succession
(c) Secondary succession
(d) Mesarch succession

26. Identify the gene which is effective against corn borer.

- (a) *cryIac*
(b) *cryIAb*
(c) *cryIIAb*
(d) z gene

27. Select the incorrect statements given below :

- A. Methane and Carbon dioxide are green house gases.
B. The Montreal Protocol is associated with the control of emission of ozone depleting substances.
C. Use of incinerators is not crucial to dispose off hospital wastes.
D. Dobson units is used to measure water quality.

Choose the correct answer from the options given below:

- (a) A and B
(b) C and D
(c) A and C
(d) B and D

28. Match List I with List II

List-I

- A. Dominant trait of pod colour in garden pea

- B. The physical association of two genes on a chromosome

- C. The traits generally controlled by three or more genes

- D. When a single gene exhibit multiple phenotypic expression

List-II

- i. Polygenic traits

- ii. Pleiotropy

- iii. Yellow

- iv. Linkage

- v. Green

Choose the correct answer from the options given below:

- (a) A-III, B-II, C-I, D-V
(b) A-II, B-III, C-V, D-I
(c) A-III, B-II, C-I, D-IV
(d) A-V, B-IV, C-I, D-II

29. Match List-I with List-II

List-I

- A. Down's syndrome
B. Thalassemia

- C. Klinefelter's syndrome
D. Turner's Syndrome

List-II

- I. 44+XXY

- II. Autosomal recessive trait

- III. 44+XO

- IV. 45+XY/XX

Choose the correct answer from the options given below:

- (a) A-IV, B-II, C-III, D-I
(b) A-IV, B-II, C-I, D-III
(c) A-I, B-III, C-IV, D-II
(d) A-II, B-IV, C-III, D-I

30. Select the organism which does not undergoes parthenogenesis.

- (a) Honeybee
(b) Rotifer
(c) Turkey
(d) Fruit fly

31. Which of the following is a hormone releasing IUD?

- (a) Multiload 375
(b) LNG-20
(c) Cervical Cap
(d) Vault

32. The correct sequence of steps involved in polymerase chain reaction (PCR) are:

- DNA polymerase is used to extend the primers using oligonucleotides.
- Desired DNA fragments are denatured.
- Amplified fragments are ligated with the vector for cloning.
- Oligonucleotides are added

Choose the correct answer from the options given below:

- C, A, B, D
- A, C, B, D
- A, D, B, C
- B, D, A, C

33. Biofertilisers are the organisms that enrich the nutrient quality of the soil. Which of the following is not a source of biofertiliser?

- Bacteria
- Fungi
- Baculoviruses
- Cyanobacteria

34. Identify the statement which do not hold true for Deoxyribose Nucleic Acid.

- Only purine bases are present in DNA.
- Deoxyribose sugar is present
- A nitrogenous base is linked to the 1'C pentose sugar through N-glycosidic linkage.
- Phosphate group is linked to OH of 4'C of a nucleotide.

Choose the correct answer from the options given below:

- A and D only
- A and B only
- C and D only
- B and C only

35. In which process unusual nucleotide (methyl guanosine triphosphate) is added to the 5' end of hnRNA.

- Splicing
- Capping
- Tailing
- Transcription factor

36. Match List I with List II

LIST I

- Wheat
- Black pepper
- Cashew
- Citrus

LIST II

- Perisperm
- Polyembryony
- Albuminous seed
- False fruits

Choose the correct answer from the options given below:

- A-III, B-II, C-I, D-IV
- A-II, B-I, C-III, D-IV
- A-III, B-I, C-IV, D-II
- A-I, B-II, C-IV, D-III

37. Which forest also known as the 'lungs of the planet earth'?

- Amazon rain forest
- Rain forest of north-east India
- Tiaga forest
- Tundra forest

38. Match List I with List II.

LIST I

- Tubectomy
- Copper ions

LIST II

- Barrier method
- Surgical method of sterilisation in human male
- Surgical method of sterilisation in human female
- Suppress motility of sperms

Choose the correct answer from the options given below:

- A-III, B-IV, C-I, D-II
- A-III, B-I, C-IV, D-II
- A-II, B-I, C-IV, D-III
- A-IV, B-II, C-III, D-I

39. Identify the equation representing logistic growth of a population.

$$(a) \frac{dN}{dt} = rN \left(\frac{K-N}{K} \right) \quad (b) \frac{dN}{dt} = rN$$

$$(c) \frac{dN}{dt} = N \left(\frac{N-K}{K} \right) \quad (d) \frac{dN}{dt} = rN$$

40. Select the statements which do not hold true for Cancer:

- Cancerous cells show a property of contact inhibition.
- Metastasis is the most feared property of malignant tumors.
- Malignant tumor cells invade and damage the surrounding tissue.
- Malignant tumor cells grows slowly.

Choose the correct answer from the options given below:

- A and B only
- B and C only
- A and D only
- B and D only

41. Read the passage and answer the question given below.

When a host is exposed to antigens, which may be in the form of living or dead microbes or other proteins, antibodies are produced in the host body. This type of immunity is called **active immunity**. Active immunity is slow and takes time to give its full effective response. Injecting the microbes deliberately during immunisation or infectious organisms gaining access into body during natural infection induce active immunity. When antibodies are directly given to protect the body against foreign agents, it is called **passive immunity**.

Colostrum secreted by mother during initial stage of lactation provided passive immunity as it is rich in

- Placental lactogen
- Prolactin
- Antigen
- IgA antibodies

42. Read the passage and answer the question given below.

When a host is exposed to antigens, which may be in the form of living or dead microbes or other proteins, antibodies are produced in the host body. This type of immunity is called **active immunity**. Active immunity is slow and takes time to give its full effective response. Injecting the microbes deliberately during immunisation or infectious organisms gaining access into body during natural infection induce active immunity. When antibodies are directly given to protect the body against foreign agents, it is called **passive immunity**.

Which of the following is passive immunisation?

- injecting inactivated pathogens
- injecting antigenic preparation
- injecting preformed antibodies
- injected weakened pathogens

43. Read the passage and answer the question given below.

When a host is exposed to antigens, which may be in the form of living or dead microbes or other proteins, antibodies are produced in the host body. This type of immunity is called **active immunity**. Active immunity is slow and takes time to give its full effective response. Injecting the microbes deliberately during immunisation or infectious organisms gaining access into body during

natural infection induce active immunity. When antibodies are directly given to protect the body against foreign agents, it is called **passive immunity**. Immunity provided to the foetus from the mother through placenta during pregnancy is:

- (a) Active immunity (b) Passive immunity
(c) Non-specific immunity (d) Innate immunity

44. Read the passage and answer the question given below.

When a host is exposed to antigens, which may be in the form of living or dead microbes or other proteins, antibodies are produced in the host body. This type of immunity is called **active immunity**. Active immunity is slow and takes time to give its full effective response. Injecting the microbes deliberately during immunisation or infectious organisms gaining access into body during natural infection induce active immunity. When antibodies are directly given to protect the body against foreign agents, it is called **passive immunity**.

Production of antibodies against antigens in the body is:

- (a) Innate immunity
(b) Passive immunity
(c) Active immunity
(d) Non-Specific immunity

45. Read the passage and answer the question given below.

When a host is exposed to antigens, which may be in the form of living or dead microbes or other proteins, antibodies are produced in the host body. This type of immunity is called **active immunity**. Active immunity is slow and takes time to give its full effective response. Injecting the microbes deliberately during immunisation or infectious organisms gaining access into body during natural infection induce active immunity. When antibodies are directly given to protect the body against foreign agents, it is called **passive immunity**.

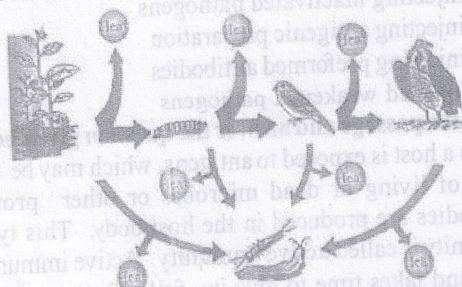
Match List I with List II

List I	List II
A Physical Barrier	I Saliva
B Cellular Barrier	II Interferons
C Physiological Barrier	III Skin
D Cytokine Barrier	IV Polymorphonuclear leukocytes

Choose the correct answer from the options given below:

- (a) A-III, B-I, C-II, D-IV (b) A-III, B-IV, C-I, D-II
(c) A-I, B-IV, C-III, D-II (d) A-IV, B-I, C-III, D-II

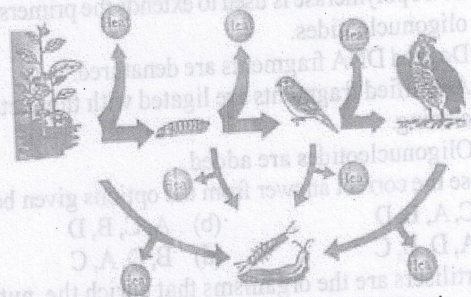
46. Observe the diagram and answer the question given below.



Which of the following constitutes the first trophic level?

- (a) Plants (b) Herbivores
(c) Carnivores (d) Omnivores

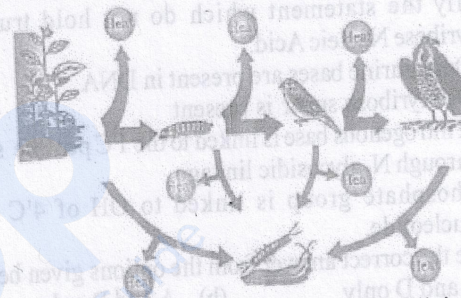
47. Observe the diagram and answer the question given below.



Sparrow comes under which of the following categories:

- (a) Producers (b) Primary consumers
(c) Secondary consumers (d) Tertiary consumers

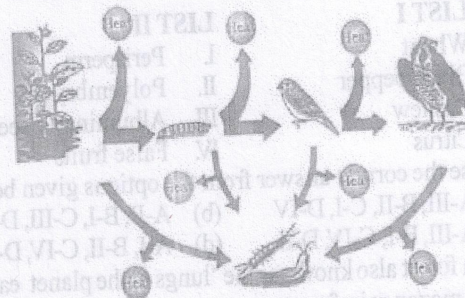
48. Observe the diagram and answer the question given below.



Each trophic level has a certain mass of living material at a particular time called as:

- (a) Standing crop (b) Living crop
(c) Standing life (d) Time crop

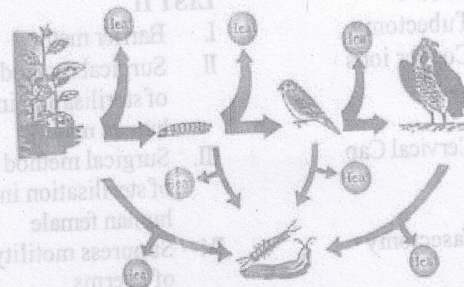
49. Observe the diagram and answer the question given below.



Which among the following is not a primary consumer?

- (a) Snake (b) Grasshopper
(c) Zooplankton (d) Caterpillar

50. Observe the diagram and answer the question given below.



Which of the following is a part of detritus food chain?

- (a) Earthworm (b) Birds
(c) Man (d) Snake