

CUET UG 2023 Biology Question Paper PDF (May 28, 2023) (Shift 1)

- Q1.** Which of the following statements are not correct?
 (A) The milk produced during the initial few days of lactation is called colostrum which contain several antibodies
 (B) The signals for the parturition originate from the pituitary gland of the mother
 (C) Parturition is induced by a complex neuroendocrine mechanism
 (D) Oxytocin is released from the ovary of mother and acts on the uterine muscles
- Choose the **correct** answer from the options given below:
 (a) (A) and (B) only
 (b) (B) and (D) only
 (c) (C) and (D) only
 (d) (A) and (C) only
- Q2.** Which of the following enzyme is used during isolation of DNA from plant cell?
 (a) Pectinase
 (b) Chitinase
 (c) Lysozyme
 (d) Cellulase
- Q3.** Arrange the following events in correct sequence:
 (A) Virus infects macrophages
 (B) Viral DNA is produced by reverse transcriptase
 (C) Viral DNA incorporates into host genome
 (D) Viral RNA is introduced into macrophages
 (E) New viruses are produced
- Choose the **correct** answer from the options given below:
 (a) (A), (B), (D), (C), (E)
 (b) (A), (D), (B), (C), (E)
 (c) (A), (B), (C), (D), (E)
 (d) (A), (C), (D), (B), (E)
- Q4.** Asexual reproductive structures in sponges are known as:
 (a) Conidia
 (b) Pseudopodiospores
 (c) Gemmules
 (d) Zoospores
- Q5.** Increase in concentration of toxicants at successive trophic levels in aquatic food chain called:
 (a) Transformation
 (b) Biofortification
 (c) Biomagnification
 (d) Eutrophication
- Q6.** Match **List-I** with **List-II**:

List-I		List-II	
(A)	Oncogenes	(I)	Allergy
(B)	Auto immunity	(II)	Cirrhosis
(C)	Histamine	(III)	Cancer
(D)	Alcohol and Drug	(IV)	Rheumatoid arthritis

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)-(III), (B)-(IV), (C)-(I), (D)-(II)

- Q7.** Arrange the given steps in correct sequence of their occurrence when lactose is provided in the growth medium of bacteria:

- (A) Operator got free, RNA polymerase binds to promoter
 (B) Lactose is hydrolysed to glucose and galactose
 (C) Lactose binds to repressor protein
 (D) Gene *z*, *y*, *a* are transcribed

Choose the **correct** answer from the options given below:

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

- Q8.** Which one of the following, is NOT an example of intra uterine contraceptive device?

- (a) Multiload 375
 (b) Progestasert
 (c) Progestogen
 (d) LNG - 20

- Q9.** Which of the following variety of wheat has high protein content?

- (a) Kalyan Sona
 (b) Atlas-66
 (c) Sonalika
 (d) Sharbati sonara

- Q10.** Primary productivity does not depend upon which one of the following factors?

- (a) Plant species inhabiting a particular area
 (b) Predators and decomposers
 (c) Availability of nutrients
 (d) Photosynthetic capacity of plants

Q11. Match **List-I** with **List-II**:

List-I		List-II	
(A)	Mutualism	(I)	Abingdon tortoise in Galapagos Island and goat
(B)	Commensalism	(II)	Crow and Cuckoo
(C)	Brood Parasitism	(III)	Sea anemone and Clown fish
(D)	Competition	(IV)	Lichen

Choose the **correct** answer from the options given below:

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

Q12. Match **List-I** with **List-II**:

List-I		List-II	
(A)	Wheat, resistant to leaf and stripe rust	(I)	<i>Himgiri</i>
(B)	<i>Brassica</i> , resistant to white rust	(II)	<i>Pusa Komal</i>
(C)	Cowpea, resistant to bacterial blight	(III)	<i>Pusa Shubhra</i>
(D)	Cauliflower, resistant to black rot	(IV)	<i>Pusa Swarnim</i>
		(V)	<i>Pusa Sadabahar</i>

Choose the **correct** answer from the options given below:

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

Q13. Which method of reproduction will NOT produce morphologically and genetically identical progenies?

- (a) Apomixis
 (b) Binary Fission
 (c) Syngamy
 (d) Budding

Q14. Arrange the steps of gel electrophoresis in a proper sequence:

- (A) Fragments of DNA are separated under an electric field in agarose gel
 (B) DNA bands are cut out from the agarose gel and extracted
 (C) DNA fragments are visualized by exposure to UV radiation
 (D) Separated DNA fragment stained with ethidium bromide

Choose the **correct** answer from the options given below:

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

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

Q15. GM crops are better to grow because they:

- (A) are more tolerant to abiotic stresses
 (B) decrease efficiency of mineral usage
 (C) are less reliant on chemical pesticides
 (D) reduce post-harvest losses

Choose the **correct** answer from the options given below:

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

Q16. Which one of the following is not an example of narrowly utilitarian reason to conserve biodiversity?

- (a) Fire wood
 (b) Food
 (c) Pollination
 (d) Tannins

Q17. Phytophagous insects feed on:

- (a) Excreta
 (b) Eggs of Frog
 (c) Animal's blood
 (d) Plant sap

Q18. Presence of which of the following element in petrol inactivates the catalyst in catalytic converter?

- (a) Sulphur
 (b) Nitrogen
 (c) Lead
 (d) Carbon

Q19. *Propionibacterium sharmanii* is used in the production of:

- (a) Cottage Cheese
 (b) Swiss Cheese
 (c) Roquefort Cheese
 (d) Toddy

Q20. Variation caused by mutation, according to Hugo deVries are:

- (a) Random and directional
 (b) Random and directionless
 (c) Small and directional
 (d) Small and directionless

Q21. Identify the statements which are not true with respect to transgenic animals?

- (A) Transgenic mice are used to test the safety of polio vaccine.
 (B) Transgenic animals are less sensitive to toxic substance than normal animals.
 (C) The milk produced by the first transgenic cow contain human β -lactalbumin.
 (D) Transgenic animals can produce useful biological products.

Choose the correct answer from the options given below:

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

Q22. Down's syndrome is a result of gain of extra copy of chromosome number:
 (a) 21
 (b) 20
 (c) 19
 (d) 22

Q23. Which of the following are the parts of mammary glands?
 (A) Lactiferous duct
 (B) Ampulla
 (C) Areola
 (D) Acrosome

Choose the **correct** answer from the options given below:

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

Q24. Match List-I with List-II:

List-I		List-II	
(A)	RNA	(I)	Adenosine
(B)	Nucleoside	(II)	Adenosine monophosphate
(C)	Nucleotide	(III)	Deoxyribose
(D)	Sugar	(IV)	Uracil

Choose the **correct** answer from the options given below:

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

Q25. Match List-I with List-II:

List-I		List-II	
(A)	Convergent evolution	(I)	Adaptive radiation
(B)	Thorns of <i>Bougainvillea</i> and tendrils of cucurbits	(II)	Analogous Structures
(C)	Darwin's finches	(III)	Use and disuse of organs
(D)	Lamarck	(IV)	Homologous organs

Choose the **correct** answer from the options given below:

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

Q26. Which of the following is caused due to substitution of glutamic acid to valine on 6th position of β -globin chain of Haemoglobin molecule?

- (a) Thalassemia
- (b) Haemophilia
- (c) Sickle cell anaemia
- (d) Phenylketonuria

Q27. Pyramid of which of the following is inverted?

- (A) The pyramid of biomass in sea
- (B) The pyramid of numbers in grassland
- (C) The pyramid of biomass in terrestrial food chain
- (D) The pyramid of number of insects feeding on a big tree

Choose the **correct** answer from the options given below:

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

Q28. Identify the conditions which prevent autogamy:

- (A) Presence of male or female flowers on different plants
- (B) Self incompatibility
- (C) Unsynchronised pollen release and stigma receptivity
- (D) Geitonogamy

Choose the **correct** answer from the options given below:

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

Q29. The ring worm is one of the most common infectious disease caused by:

- (a) Virus
- (b) Bacteria
- (c) Fungi
- (d) Yeast

Q30. For which of the following disease, the transgenic animal model has not been developed?

- (a) Cancer
- (b) Cystic Fibrosis
- (c) AIDS
- (d) Alzheimer's disease

Q31. In the grass family the cotyledon is called:

- (a) Hypocotyl
- (b) Scutellum
- (c) Coleorhiza
- (d) Coleoptile

Q32. Match List-I with List-II:

List-I		List-II	
(A)	Statin	(I)	Removal of oil stains
(B)	Cyclosporin A	(II)	Removal of clots from blood vessels
(C)	Streptokinase	(III)	Lowering of blood cholesterol
(D)	Lipase	(IV)	Immuno-suppressive agent

Choose the **correct** answer from the options given below:

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

Q33. Which of the following is not a stop codon?

- (a) UGA
 (b) UAA
 (c) AUG
 (d) UAG

Q34. Which of the following is the highest species-rich taxonomic group among animals?

- (a) Insects
 (b) Molluscs
 (c) Crustaceans
 (d) Mammals

Q35. Which Assisted Reproductive Technology (ART) is more suitable when the male partner has low sperm count?

- (a) Zygote intra fallopian transfer
 (b) Artificial insemination
 (c) Gamete intra fallopian transfer
 (d) Intra Cytoplasmic sperm injection

Q36. *cryIAb* encodes a protein that controls the growth of _____.

- (a) Beetles
 (b) Cotton bollworms
 (c) Corn borers
 (d) Flies

Q37. Healthy plants can be obtained from virus infected plants through Tissue Culture by using its:

- (a) Leaf tissues
 (b) Cell suspension
 (c) Meristem
 (d) Anther

Q38. Match List-I with List-II:

List-I (Organism)		List-II (Product)	
(A)	<i>Aspergillus niger</i>	(I)	Lactic Acid
(B)	<i>Acetobacter aceti</i>	(II)	Citric Acid
(C)	<i>Lactobacillus</i>	(III)	Butyric Acid
(D)	<i>Clostridium butylicum</i>	(IV)	Acetic Acid

Choose the **correct** answer from the options given below:

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

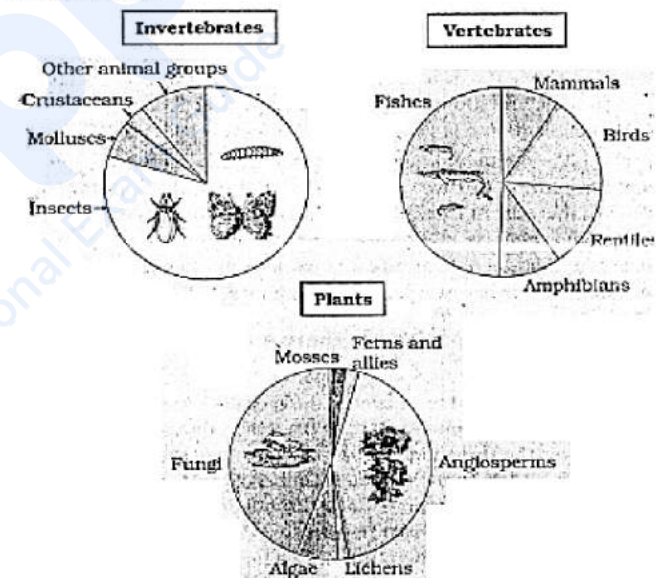
Q39. If a man with blood group A marries a woman with blood group AB. Which of the following blood group will never be found in their children?

- (a) A
 (b) B
 (c) AB
 (d) O

Q40. The mutation theory of saltation given by Hugo deVries based on his work on:

- (a) *Drosophila*
 (b) *Antirrhinum*
 (c) Evening primrose
 (d) Garden Pea

Direction for the question 41 to 45: Observe the given diagram representing global biodiversity and answer the question.



Global Bio-diversity

Q41. _____ occupy more than 2/3rd of Global Biodiversity.

- (a) Lichen
 (b) Animals
 (c) Algae
 (d) Fungi

Q42. Out of every 10 animals on earth, 7 are _____.

- (a) Molluscs
 (b) Crustaceans
 (c) Fishes
 (d) Insects

Q43. Among invertebrates, the order of species richness from low to high is:

- (A) Insect
- (B) Other animal group
- (C) Molluscs
- (D) Crustaceans

Choose the **correct** answer from the options given below:

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

Q44. Identify which is not represented in the figure?

- (a) Crabs and Prawns
- (b) *Chlamydomonas*
- (c) Bacteria
- (d) *Funaria* and *Sphagnum*

Q45. Identify the statements which hold true for biodiversity in India?

- (A) India is amongst one of the twelve megadiversity countries of the world.
- (B) India has only 8.4 percent of the world's land area.
- (C) India has 8.1 percent of the global species diversity.
- (D) Almost 45,000 species of plants have been recorded in India.

Choose the **correct** answer from the options given below:

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

Direction for the question 46 to 50:

Read the given passage and answer the question.

ABO blood groups in human beings are controlled by the gene **I**. The plasma membrane of the red blood cells has sugar polymers that protrude from its surfaces and the kind of sugar is controlled by the gene. The gene (**I**) has three alleles **I^A**, **I^B** and **i**. The alleles **I^A** and **I^B** produce a slightly different

form of the sugar while allele **i** does not produce any sugar. Because humans are diploid organisms, each person possesses any two of the three **I** gene alleles, **I^A** and **I^B** are completely dominant over **i**.

Q46. The number of phenotypes in ABO blood groups is:

- (a) 3
- (b) 4
- (c) 5
- (d) 6

Q47. Select the correct option for number of alleles present in ABO blood groups:

- (a) Two different alleles
- (b) Three different alleles
- (c) Four different alleles
- (d) Six different alleles

Q48. Blood group 'AB' is an example of:

- (a) Incomplete dominance
- (b) Complete dominance
- (c) Co-dominance
- (d) Test cross

Q49. Match List-I with List-II:

List-I (Phenotype)		List-II (Genotype)	
(A)	Blood group A	(I)	I^B I^B, I^B i
(B)	Blood group B	(II)	I^A i, I^A I^A
(C)	Blood group O	(III)	I^A I^B
(D)	Blood group AB	(IV)	i i

Choose the **correct** answer from the options given below:

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

Q50. The genotype of Universal donor is:

- (a) **I^A i**
- (b) **I^B i**
- (c) **i i**
- (d) **I^A I^B**