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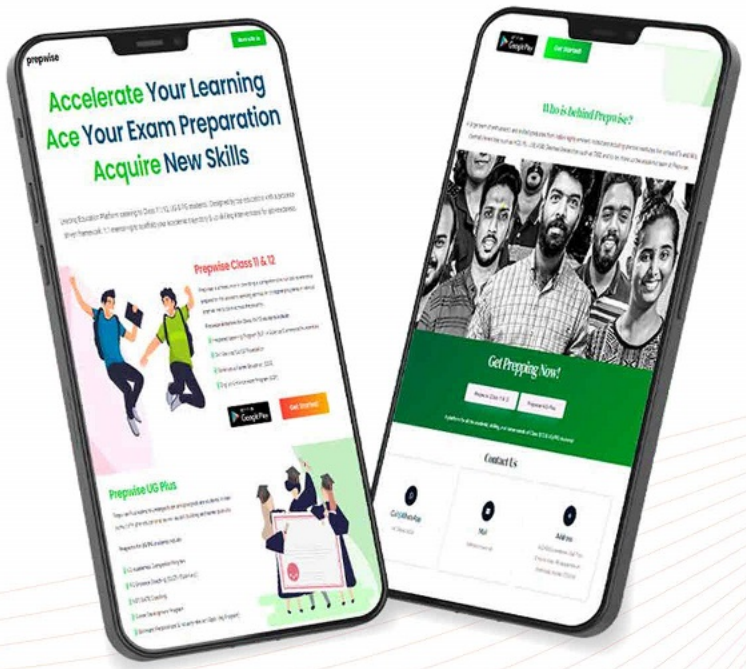

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Previous Year Question Paper

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CUET UG

Previous Year Question Paper

2022

Section II
Biology

Section Name:BIOLOGY

Question:

The outermost and innermost layer of microsporangium in an anther are respectively:

A	Epidermis and middle layer
B	Endothecium and tapetum
C	Epidermis and tapetum
D	Endothecium and middle layer

Section Name:BIOLOGY

Question:

Match list I with list II

List I	List II
A. ABO blood groups in man	I. Polygenic Inheritance
B. Skin colour in man	II. Multiple Phenotypic Effects
C. Pleiotropy	III. Monohybrid Cross
D. Law of segregation	IV. Multiple Allelism

Choose the correct answer from the option given below:

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

Section Name:BIOLOGY

Question:

A specialised procedure of Assisted Reproductive Technology (ART) in which a sperm is directly injected into the ovum is called -

A	IUT
B	ICSI
C	GIFT
D	IUI

Section Name:BIOLOGY

Question:

Which of the following are examples of Mendelian disorder?

A. Turner's Syndrome
B. Down's Syndrome
C. Thalassemia
D. Klinefelter's Syndrome
E. Cystic fibrosis

Choose the correct answer from the options given below:

A	B and D only
B	C and E only
C	D and E only
D	B and C only

Question:

Identify the correct sequence of steps of DNA fingerprinting

A. Electrophoresis of DNA fragments
B. Hybridisation with DNA probe
C. Digestion of DNA by restriction endonucleases
D. Autoradiography
E. Blotting of DNA fragments to nitrocellulose membrane

Choose the correct answer from the options given below:

A	C - A - B - E - D
B	C - A - E - B - D
C	A - E - C - B - D
D	A - C - E - D - B

Section Name:BIOLOGY
Question:
Select the incorrect statement:

A	The technique by which fragments of DNA are separated is called gel electrophoresis.
B	The vector needs to have many recognition sites to link alien DNA gene cloning.
C	Transformation is a procedure to introduce a piece of DNA in a host bacterium.
D	Vectors are used to link foreign DNA with its own DNA at a specific point.

Section Name:BIOLOGY

Question:

Which one of the given sequence depicts the correct post-fertilization stages in the development of embryo in a dicot?

A. Heart-shaped
B. Globular
C. Proembryo
D. Zygote
E. Mature embryo

Choose the correct answer from the options given below:

A	A - B - C - D - E
B	B - C - D - E - A
C	C - D - B - A - E
D	D - C - B - A - E

Section Name:BIOLOGY

Question:

During the process of translation, aminoacylation of tRNA is required for:

A	replication of RNA
B	initiation of transcription
C	energy required for the formation of peptide bond
D	splicing of introns

Section Name:BIOLOGY

Question:

The objective of biotechnology in agriculture is to:

A	to produce pest resistant varieties of plants.
B	to increase nitrogen content.
C	to increase plant weight.
D	to increase flowering in plants.

Section Name:BIOLOGY

Question:

If a double stranded DNA has 30% of Adenine, what will the percentage of cytosine in it?

A	40%
B	15%
C	20%
D	70%

Section Name:BIOLOGY

Question:

The number of meiosis required to form pollen grains in an anther of *Hibiscus* plant with 600 pollen mother cell is:

A	600
B	300
C	150
D	75

Question:

Which one of the following matching pair given by Darwin and Hugo de Vries respectively is incorrect?

A

Darwin	Hugo
Slow variation in a population	Large variation in population

B

Darwin	Hugo
Minor variation causes variation in population	Mutation causes variation in population

C

Darwin	Hugo
Mutations are random and direction less	Variations are small and directional

D

Darwin	Hugo
Evolution was gradual	Mutation caused speciation

Question:

Arrange the steps involved in production of nematode resistant Tobacco plant.

A. RNAi is initiated in nematode that consumes transgenic Tobacco plant cells.
B. Nematode specific genes are introduced in Tobacco plant using *Agrobacterium* vector.
C. Nematode parasite cannot survive in transgenic host.
D. Double stranded (ds RNA) is formed in host plant cell.
E. Nematode gene produces sense and antisense RNA in host cell.

Choose the correct answer from the options given below:

A	B, E, A, D, C
B	B, E, D, A, C
C	B, D, E, A, C
D	B, E, D, C, A

Section Name:BIOLOGY

Question:

Which functional group is responsible in making RNA more reactive?

A	3' OH group
B	2' OH group
C	5' PO_4^{3-} group
D	2' PO_4^{3-} group

Section Name:BIOLOGY
Question:
Analogous structures have:

A	similar anatomical structures.
B	similar structures evolving for different functions.
C	different structures evolving for the same function.
D	similar structures with similar functions.

Section Name:BIOLOGY

Question:

Hepatitis B vaccine is produced from:

A	*Streptococcus*
B	Yeast
C	Microsporum
D	Mycobacterium

Section Name:BIOLOGY

Question:

Arrange the different stages of replication of retrovirus, like HIV in a correct sequence.

A. Viral DNA incorporates into host genome.
B. Viral DNA is produced by reverse transcriptase.
C. Viral RNA is introduced into cell.
D. New viral RNA is produced by the infected cell.
E. New viruses are produced.

Choose the correct answer from the options given below:

A	C - B - D - A - E
B	C - A - B - D - E
C	C - B - A - D - E
D	C - D - B - A - E

Question:
Match list I with list II

List I	List II
A. *Trichoderma polysporum*	I. During sedimentation solids are settled from the sewage to form primary sludge
B. STP	II. Gobar gas formation
C. *Methanobacterium*	III. Pathogens that attack insects
D. Baculoviruses	IV. Cyclosporum A

Choose the correct answer from the option given below:

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

Section Name:BIOLOGY

Question:

Match list I with list II

List I	List II
A. Pusa swarnim (Brassica)	I. Black rot
B. Pusa komal (Cow Pea)	II. Leaf and stripe rust
C. Himgiri (Wheat)	III. White rust
D. Pusa shubhra (Cauliflower)	IV. Bacteria blight

Choose the correct answer from the option given below:

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

Section Name:BIOLOGY

Question:

Antibiotic is not affective against which foreign matter?

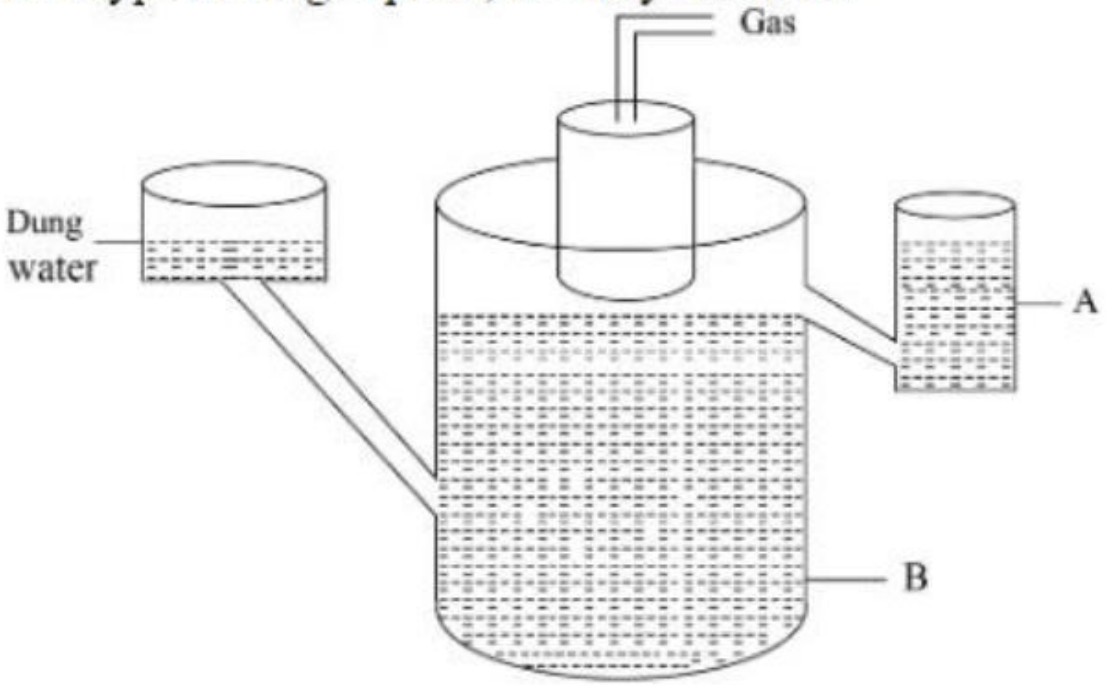
A	Bacteria
B	Fungus
C	Virus
D	Pathogenic Protozoans

CUET 2022 QUESTION PAPER

Section Name:BIOLOGY

Question:

In a typical biogas plant, identify A and B:



A	A- Digester, B- Biogas
B	A- Sludge, B- Digester
C	A- Digester, B- Sludge
D	A- Gas holder, B- Digester

Section Name:BIOLOGY

Question:

Which is not true about barriers method of contraception?

A	They are made up of thin rubber/latex sheath
B	It protects STI's and AIDS
C	They are disposable
D	They release progesteron hormone in female vagina

Section Name:BIOLOGY
Question:
Which one of the following statement is correct?

A	Mycorrhiza is an association between algae with ferns.
B	Cyanobacteria are autotropic microbes used to supply phosphorus to the paddy plants.
C	The main source of biofertilisers are bacteria, fungi and cyanobacteria.
D	In organic farming, the use of chemical fertilisers are encouraged.

Section Name:BIOLOGY

Question:

Match list I with list II

List I (Reproductive structures)	List II (Organisms)
A. Buds	I. Amoeba
B. Gemmules	II. *Penicillium* sp
C. Sporulation	III. Sponge
D. Conidia	IV. Hydra

Choose the correct answer from the option given below:

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

Section Name:BIOLOGY

Question:

A patient suffering from myocardial infarction is immediately given:

A	Penicillin
B	Streptokinase
C	Cyclosporin- A
D	Statins

Section Name:BIOLOGY

Question:

On a snake bite to a person, a doctor injected performed antibodies to the patient. Select the correct option:

A. The type of immunisation is passive immunisation.
B. Immunisation given is slow and takes time for effective response.
C. The type of immunisation is active immunisation.
D. Immunisation is quick and provides immediate immune response.
E. Immunisation involves the production of lgA and lgE antibodies.

Choose the correct answer from the option given below:

A	A and D only
B	B and C only
C	A and B only
D	C and E only

Section Name:BIOLOGY

Question:

A farmer was suggested to add biofertilizer like cyanobacteria for a specific purpose:

A	to increase resistance to root borne pathogen.
B	to increase nitrogen content of soil.
C	to improve tolerance to salinity and drought.
D	to improve phosphate intake from soil.

Section Name:BIOLOGY

Question:

The Mediterranean Orchid Ophrys employs sexual deceit to get pollination done by a species of bee is an example of which population interaction.

A	Competition
B	Parasitism
C	Mutualism
D	Predation

Section Name:BIOLOGY

Question:

Humans are:

A	Oviparous
B	Ovoviviporous
C	Ovivivipporous
D	Viviparous

Section Name:BIOLOGY

Question:

If a new habitat is just colonised, which of the given process will play significant role in increasing population density?

A	Natality
B	Immigration
C	Mortality
D	Emigration

Section Name:BIOLOGY

Question:

The inner cell mass of the blastocyst on attachment to the uterine endometrium get differentiated into:

A	Placenta
B	Zygote
C	Endosperm
D	Embryo

Section Name:BIOLOGY

Question:

Select the **INCORRECT** statement:

A	Water and sunlight are the abiotic components of an ecosystem.
B	Fungi and flagellales are called as decomposers.
C	The movement of energy is unidirectional which takes place from higher trophic levels towards autotrophs.
D	Zooplanktons are primary consumers in aquatic food chain.

Section Name:BIOLOGY

Question:

With reference to human reproduction:

A. By the end of first month limbs and digits of feotus are formed.
B. Relaxin hormone is secreted by ovary.
C. Oral contraceptive pills inhibit ovulation and implantation.
D. The embryo with 16 to 32 cells/blastomeres are called morula.
E. Each test is has about 250 highly coiled testicular lobules.

Choose the correct statements from the options given below:

A	A and D only
B	B and E only
C	B and C only
D	E and A only

Section Name:BIOLOGY

Question:

Given below are two statements:

Statement I: Presence of large amount of nutrients in water causes excessive growth of planktonic algae, called as algal bloom.

Statement II: Some bloom forming algae are extremely toxic to human beings.

In light of the above statements, choose the correct answer from the options given below.

A	Both Statement I and Statement II are true
B	Both Statement I and Statement II are false
C	Statement I is true but Statement II is false
D	Statement I is false but Statement Ii is true

Section Name:BIOLOGY
Question:
Match list I with list II

List I	List II
A. Spermatogenesis	I. Accessory ducts
B. Nutrition to germ cell	II. Leydig cells
C. Synthesis and secretion of testicular hormones	III. Sertoli cells
D. Storage and transport system	IV. Seminiferous tubules

Choose the correct answer from the option given below:

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

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

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

Section Name:BIOLOGY

Question:

The increase in the concentration of the toxicant as DDT and Mercury at successive trophic levels is called:

A	Eutrophication
B	Stratification
C	Biomagnification
D	Succession

Section Name:BIOLOGY

Question:

A. Vasectomy is done in males.

B. In vasectomy small portion of Fallopian tube is removed or tied up.

C. Tubectomy is done in females.

D. In tubectomy small portion of fallopian tube is removed or tied up.

Choose the correct statements from the options given below:

A	B and C only
B	B and D only
C	A, C and D only
D	A and B only

Section Name:BIOLOGY

Question:

Which of the nutrient cycle has its reservoir in atmosphere?

A	Sulphur
B	Phosphorus
C	Nitrogen
D	Water

Section Name:BIOLOGY

Question:

Select the correct chromosome composition of a person with Turner's Syndrome.

A	44 autosomes and one X chromosome
B	44 autosomes and one X and one Y chromosome
C	45 autosomes and two X chromosomes
D	44 autosomes and two X chromosomes and a Y chromosome

Section Name:BIOLOGY

Question:

The types of gametes produced by a 'AaBB' parent will be:

A	AB only
B	AB and aB
C	Ab only
D	aB only

Passage:

Recombinant DNA technology processes have made immense impact in the area of health care by enabling mass production of safe and more effective therapeutics. Since the recombinant therapeutics are identical to human protein, they do not induce unwanted immunological responses. Gene Therapy is the insertion of genes into an individuals cells are tissue to treat diseases especially hereditary disease. It does so by replacing a defective mutant allele with a functional one or gene targeting which involves gene amplification.

Question:
Which therapy do you think is a permanent one for any genetic disease caused to presence of defective mutant allele:

A	Periodic replacement of the product.
B	Bone marrow transplantation.
C	Introduction of healthy gene in embryonic stage.
D	Introduction of healthy lymphocyte in patient.

Section Name:BIOLOGY

Question:

Enzyme replacement therapy of ADA deficiency is not completely curative because:

A	enzymes becomes inactive during injection.
B	it cures for a small period only.
C	it is taken from non-human source.
D	it creates allergy in some people.

Section Name:BIOLOGY

Question:

The first clinical gene therapy was given in 1990 for a disease called:

A	Sickle cell anemia
B	Haemophilea
C	ADA deficiency
D	Thalassemia

Question:
Which of the following statement is **incorrect** regarding genetically engineered insulin:

A	Insulin is used to cure diabetes.
B	The fully mature insulin consist of polypeptide chain A, B and chain C.
C	Insulin consists of two short polypeptide chains A and B.
D	The polypeptide chain A and B are linked together by disulphide bond.

Section Name:BIOLOGY

Question:

Select the **INCORRECT** statement in relation to recombinant DNA technology:

A	Plasmid is used as a vector DNA.
B	Restriction enzyme joins foreign DNA to plasmid.
C	Exonucleases remove nucleotides from the end of the DNA.
D	Eco RI cuts the DNA between bases G and A

Passage:

Species diversity on earth is not uniformly distributed but shows interesting patterns. Of the named species, > 70 percent are animals of which 70% are insects. The diversity of species is generally highest in the tropics and decreases towards poles. The species richness of the tropics are: Tropics had more evolutionary, They provide time a relatively constant environment and receive more solar energy which contributes to the greater productivity.

Question:

Biodiversity enrichment in tropical region:

A. remained undisturbed for millions of years.
B. are subjected to frequent snowfall.
C. are more seasonal and unpredictable.
D. are less seasonal, relatively more constant and predictable.
E. has less availability of solar energy hence low productivity.

Choose the correct statements from the options given below:

A	B and C only
B	C and D only
C	A and D only
D	A and E only

Section Name:BIOLOGY

Question:

With regards to species diversity, as we move away from the equator towards the poles, species diversity _____.

A	increases
B	decreases
C	remains constant
D	latitude does not affect species diversity

Section Name:BIOLOGY

Question:

Which one of the following is the most species rich taxonomic group among animals?

A	Mammals
B	Insects
C	Molluscs
D	Amphibians