

SAMPLE QUESTION PAPER - 5

CLASS - 12

BIOLOGY

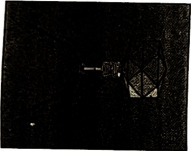
Time Allowed : 3 hours

Maximum Marks : 70

General Instructions : Same as in Sample Question Paper- 1

SECTION - A

- Q.1.** In *E. coli*, the *lac* operon gets switched on when :
 (a) lactose is present and it binds to the repressor
 (b) repressor binds to operator
 (c) RNA polymerase binds to the operator
 (d) lactose is present and it binds to RNA polymerase
- Q.2.** The correct surgical procedure as a contraceptive method is :
 (a) ovariectomy (b) hysterectomy
 (c) vasectomy (d) castration
- Q.3.** Match the following columns :
- | Column-I | Column-II |
|--------------------------------------|--------------------------|
| A. Government of India legalised MTP | 1. 1951 |
| B. Family planning introduced | 2. 1971 |
| C. Lactational amenorrhoea | 3. Natural contraceptive |
| D. IUD | 4. Progesterone |
| E. Pill | 5. Cu-T |
- Codes :**
- | | | | | |
|-------|-----|-----|-----|-----|
| (a) 1 | B 2 | C 3 | D 4 | E 5 |
| (b) 2 | B 1 | C 3 | D 5 | E 4 |
| (c) 4 | B 3 | C 2 | D 1 | E 5 |
| (d) 5 | B 4 | C 3 | D 2 | E 1 |
- Q.4.** The best description of natural selection is :
 (a) the survival of the fittest
 (b) the struggle for existence
 (c) the reproductive success of the members of a population
 (d) a change in the proportion of variation within a population
- Q.5.** Appearance of dry scaly lesions with itching on various parts of body are the symptoms of :
 (a) elephantiasis (b) ringworm
 (c) ascariasis (d) amoebiasis
- Q.6.** The first antibiotic was discovered accidentally by A while working on B.
 (a) A-Waksman, B-*Streptococcus*
 (b) A-Fleming, B-*Penicillium notatum*
 (c) A-Waksman, B-*Bacillus brevis*
 (d) A-Fleming, B-*Staphylococci*
- Q.7.** Golden rice is :
 (a) a variety of rice grown along the yellow river in China
 (b) long stored rice having yellow colour tint
 (c) a transgenic rice having gene for carotene
 (d) wild variety of rice with yellow coloured grains.
- Q.8.** Which one of the following symbols and its representation, used in human pedigree analysis is correct.
 (a) = male affect
 (b) = mating between relatives
 (c) = unaffected male
 (d) = unaffected female
- Q.9.** Population was termed as self-perpetuating unit by :
 (a) Malthus (b) Spencer
 (c) Mubius (d) Odum
- Q.10.** Identify the parts labelled as A, B, C and D :
 (a) Head, Neck, Collar, Tail
 (b) Capsule, Tail, Collar, Pins
 (c) Head, Collar, Tail, Plate
 (d) Head, Tail, Collar, Prongs



- Q.11.** World summit on sustainable development of 2002 was held in :
 (a) South Africa (b) Sweden
 (c) Argentina (d) Brazil
- Q.12.** Select the correct labelling :

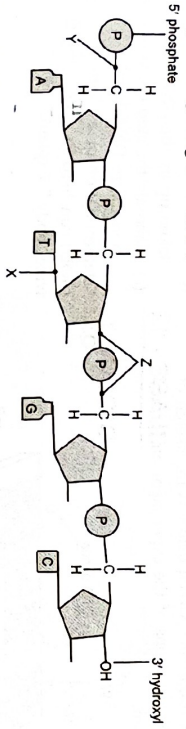
 (a) a-partial regulators, b-conformers, c-regulators
 (b) a-regulators, b-partial regulators, c-conformers
 (c) a-conformers, b-regulators, c-partial regulators
 (d) a-conformers, b-partial regulators, c-regulators
- Q.13.** Assertion : Sporopollenin of pollen grains comes from tapetal cells.
 Reason : Tapetal cells release enzymes for synthesis of sporopollenin.
 Assertion : Cross of F_1 individual with recessive homozygous parent is a test cross.
 Reason : No recessive individual are obtained in the monohybrid test cross progeny.
- Q.14.** Assertion : Interferons are effective against viruses.
 Reason : Proteins which can be synthesized only by genetic engineering are effective against viruses.
- Q.15.** Assertion : The rate at which a population can be expected to grow in the future can be assessed graphically by means of a population pyramid.
 Reason : A triangular population pyramid is characteristic of a country whose population is stable neither growing nor shrinking.

SECTION - B

- Q.17.** Name the stage of the human embryo that gets implanted in the uterus and draw its labelled diagram.
- Q.18.** In peas, tallness is dominant over dwarfness, and red colour of flowers is dominant over the white colour. When a tall plant bearing red flowers was pollinated by a dwarf plant bearing white flowers, the different phenotypic groups were obtained in the progeny in numbers mentioned against them.
 Tall, Red = 138
 Tall, White = 132
 Dwarf, Red = 136
 Dwarf, White = 128
 Mention the genotypes of the two parents and of the types of four offspring.
- Q.19.** In a pyramid of biomass drawn below, name the two crops :
- (i) one which is supported and
 (ii) the one which supports. In which ecosystem is such a pyramid found ?
- Q.20.** (a) Identify (A) and (B) illustrations in the following :

 (i) 3'-CTTAA-5'
 5'-G-3'
- (ii)
- Q.21.** Identify A, B, C, D and E in the diagram of an antibody molecule given below :

Q.31. (a) Study the diagram given below :



Name the linkages X, Y, Z and the respective molecules formed by them.
(b) Identify A, B, C and D in the table given below :

S. No.	Component-I	Component-II	Chemical linkage bonding the two components	Product
(i)	A	Pentose sugar	B	Nucleoside
(ii)	Nucleoside	Phosphate	C	Nucleotide
(iii)	Nucleotide	Nucleotide	D	Dinucleotide

Q.32. (a) Differentiate between spermatogenesis and oogenesis on the basis of :
(i) time of initiation of the process (ii) site of completion of the process
(iii) nature of meiotic division undergone by gamete mother cells
(b) Name the hormones and state their role involved in controlling spermatogenesis in humans.

he saw some farmers who were spraying agrochemical in their fields. He requested the farmers to stop spraying these chemicals and explained them the side effects of such agrochemicals.
Now, answer the following questions :

- What are these chemicals ?
- What did Anil explained to the farmers ?
- Why biofertilizers are preferred to chemical fertilizers ?

Or

Ravi's father is a biotechnologist. Once his father meet his old friend, after long time. He found that his big handlord friend became very poor. Ravi's father asked the reason of his poverty. His friend told him that his land is suitable for growing cotton but every year his crop gets destroyed by



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Note : Solution of this paper will be available on 15th November 2023.

SAMPLE QUESTION PAPER - 6

CLASS - 12
BIOLOGY

Maximum Marks : 70

Time Allowed : 3 hours

General Instructions : Some as in Sample Question Paper- 1

SECTION - A

Q.1. If the base sequence of a codon in mRNA is 5' - AUG - 3' the sequence of tRNA pairing with it must be :

- 5' - UAC - 3'
- 5' - CAU - 3'
- 5' - AUG - 3'
- 5' - GUA - 3'

Q.2. In which of the following weeks of pregnancy CVS is done ?

- 12th - 14th week
- 8th - 10th week
- 5th - 7th week
- None of these

Q.3. Identify the figures of the contraceptive given below and select the correct option.



- Condom Implant for female
- Implant CaI for female
- Condom CaI for male
- Condom Implant for female

- Condom Implant for male
- Implant CaI for female
- CaI Implant for female
- Implant CaI for female

Q.4. Hugo de Vries proposed the mutation theory of organic evolution after his experiments on :

- garden pea
- evening primrose
- fruit fly
- four O'clock plant

Q.5. Which of following cells produce antibodies :

- B-lymphocytes
- Mast cells
- T-lymphocytes
- None of these

5:

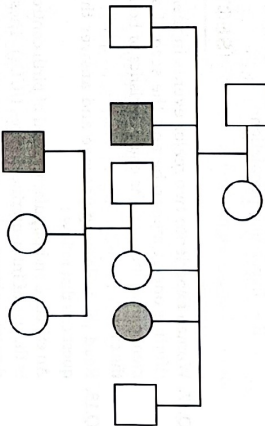
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Q.6. AIDS is widely diagnosed by :

- Widal test
- ELISA
- PC
- Chromatography

Q.7. 'Restriction' in Restriction enzyme refers to :
(a) cleaving of phosphodiester bond in DNA by the enzyme
(b) cutting of DNA at specific position only
(c) prevention of the multiplication of bacteriophage in bacteria
(d) all of these

Q.8. Study the pedigree given below and select the probable mode of inheritance and a human trait that follows this pattern of inheritance.



- Autosomal recessive, sickle cell anaemia
 - Sex linked recessive, Haemophilia
 - Autosomal dominant, Myotonic dystrophy
 - Sex linked dominant, colour blindness
- Q.9. Population dynamics is related to :
- increase in population
 - decrease in population
 - change in population
 - all of these