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CLASS :XII

TIME: 3.00 hrs.

SUBJECT: BIOLOGY

MARK :70

BIO-BOTANY**I. CHOOSE THE CORRECT ANSWER.**

8x1=8

1. Size of pollen grain in *Myosotis*
 - a) 10 micrometer
 - b) 20 micrometer
 - c) 200 micrometer
 - d) 2000 micrometer
2. In majority of plants pollen is liberated at
 - a) 1 celled stage
 - b) 2 celled stage
 - c) 3 celled stage
 - d) 4 celled stage
3. **Assertion (A):** Gamma rays are generally use to induce mutation in wheat varieties.
Reason (R): Because they carry lower energy to non-ionize electrons from atom
 - a) A is correct. R is correct explanation of A
 - b) A is correct. R is not correct explanation of A
 - c) A is correct. R is wrong explanation of A
 - d) A and R is wrong
4. **Statement A :** Cattle do not graze on weeds of *Calotropis*.
Statement B : *Calotropis* have thorns and spines, as defense against herbivores.
 - a) Both statements A and B are incorrect.
 - b) Statement A is correct but statement B is incorrect.
 - c) Both statements A and B are correct but statement B is not the correct explanation of statement A.
 - d) Both statements A and B are correct and statement B is the correct explanation of statement A.
5. Which of the following ecosystem has the highest primary productivity?
 - a) Pond ecosystem
 - b) Lake ecosystem
 - c) Grassland ecosystem
 - d) Forest ecosystem
6. The active principle trans-tetra hydro canabial is present in
 - a) Opium
 - b) Curcuma
 - c) Marijuana
 - d) Andrographis
7. Assertion: Turmeric fights various kinds of cancer
Reason: Curcumin is an anti-oxidant present in turmeric
 - a) Assertion is correct, Reason is wrong
 - b) Assertion is wrong, Reason is correct
 - c) Both are correct
 - d) Both are wrong
8. Pond is a type of
 - a) forest ecosystem
 - b) grassland ecosystem
 - c) marine ecosystem
 - d) fresh water ecosystem

II. Answer any Four of the following question

4x2=8

9. What are clones?
10. Distinguish mound layering and air layering.
11. 'Green algae are not likely to be found in the deepest strata of the ocean'. Give at least one reason.

12. Productivity of profundal zone will be low. Why?
13. Give an account of active principle and medicinal values of any two plants you have studied.
14. Name the humors that are responsible for the health of human beings.

III. Answer any Three of the following (Q.NO :19 Compulsory) 3x3=9

15. What is polyembryony. How it can commercially exploited.
16. Draw the diagram of different types of aneuploidy.
17. Write the salient features of Sutton and Boveri concept.
18. What is co evolution?
19. Generally human activities are against to the ecosystem, where as you a student how will you help to protect ecosystem?

IV. Answer the following question 2x5=10

20. Enumerate the characteristic features of Entomophilous flowers (OR)
Explain the mechanism of crossing over.
21. A) What is soil profile? Explain the characters of different soil horizons. (OR)
b) i) Which is called as the "King of Bitters"? Mention their medicinal importance.
ii) What are psychoactive drugs? Add a note *Marijuana* and *Opium*

BIO-ZOOLOGY

I. CHOOSE THE CORRECT ANSWER. 8x1=8

1. ZW-ZZ system of sex determination occurs in
a) Fishes b) Reptiles c) Birds d) All of these
2. Females with Turner's syndrome have
a) Small uterus b) Rudimentary ovaries
c) Underdeveloped breasts d) All of these
3. A mRNA molecule is produced by
a) Replication b) Transcription c) Duplication d) Translation
4. The Neanderthal man had the brain capacity of
a) 650 – 800cc b) 1200cc c) 900cc d) 1400cc
5. The sporozoites of *Plasmodium vivax* are formed from -----
a) Gametocytes b) Sporoblasts c) Oocysts d) Spores
6. B cells that produce and release large amounts of antibody are called
a) Memory cells b) Basophils c) Plasma cells d) killer cells
7. ELISA is mainly used for
a) Detection of mutations
b) Detection of pathogens
c) Selecting animals having desired traits
d) Selecting plants having desired traits
8. Dolly, the sheep was obtained by a technique known as
a) Cloning by gene transfer b) Cloning without the help of gametes
c) Cloning by tissue culture of somatic cells d) Cloning by nuclear transfer

II. Answer any Four of the following question 4x2=8

9. Mention the symptoms of Phenylketonuria.

10. Why the human genome project is called a mega project?
11. How does Neanderthal man differ from the modern man in appearance?
12. Name and explain the type of barriers which involve macrophages.
13. List the common withdrawal symptoms of drugs and alcohol abuse.
14. What are transgenic animals? Give examples.

III. Answer any Three of the following (Q.NO :19 Compulsory) 3x3=9

15. Differentiate Intersexes from Supersexes.
16. State any three goals of the human genome project.
17. Who disproved Lamarck's Theory of acquired characters? How?
18. Autoimmunity is a misdirected immune response. Justify.
19. What are stem cells? Explain its role in the field of medicine.

IV. Answer the following question 2x5=10

20. Explain the genetic basis of ABO blood grouping in man. (OR)
Explain the formation of a nucleosome.
21. Explain the three level of impact of extinction of species (OR)
Explain how recombinant Insulin can be produced.