

12 - Std

BIOLOGY

SALEM
District

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Time : 3.00 Hrs

BIO - BOTANY

Marks : 70

8 X 1 = 8

I Choose the correct answer.

1. In which techniques Ethidium Bromide is used?
a) Southern Blotting Techniques b) Western Blotting Techniques
c) Polymerase chain Reaction d) Agrose Gel Electroporosis
2. Functional megaspore in angiosperm develops into an
a) Endosperm b) Embryosac c) Embryo d) Ovule
3. Which one of the following matches is correct .
a) Palmyra - Native of Brazil
b) Saccharum - Abundant in Kanyakumari
c) Steveocide - Natural Sweetner
d) Palmyra sap - Fermented to give ethanol
4. Who was the term Green Revolution coined by
a) William S.Gaud b) Dr. M.S. Swaminathan c) Robert Hook d) Nel Jayaraman
5. World Ozone day
a) September - 16 b) October - 16 c) June - 16 d) May - 16
6. Strong - sharp spines that get attached to animal's feet are found in the fruits of
a) Argemone b) Ecballium c) Heritier d) Crossandra
7. The time duration for sterilization process by using autoclave is minutes and the temperature is
a) 10 to 30 minutes and 125°C b) 15 to 30 minutes and 121°C
c) 15 to 20 minutes and 125°C d) 10 to 20 minutes and 121°C
8. The ratio in a dihybrid test cross between two individuals is given by
a) 2 : 1 b) 1 : 2 : 1 c) 3 : 1 d) 1 : 1 : 1 : 1

II Answer any four of the following questions

9. What are ecological equivalents?
10. What is pyramid of biomass.
11. What is Dichogamy?
12. What is Gene mapping?
13. Define - Biopiracy.
14. What is Hybridization?

Dr. G. THIRUMOORTHY, M.Sc., B.Ed., Ph.D.,
Guest Lecture
PG and Research Department of Physics
Government Arts College (Autonomous)
SALEM - 636 007.

4 x 2 = 8

III Answer any three of the following questions Q.No. 19 is compulsory. 3 x 3 = 9

15. Enumerate the uses of cotton.
16. What is meant by cytoplasmic inheritance.
17. Define : Embryogenesis.
18. What are the effects of Global warming?
19. List out two sub - aerial stem modifications with example.

IV Answer all the questions.

2 x 5 = 10

20. a) Explain the mechanism of crossing over. (OR)
b) Write the objective of afforestation.
21. a) What is single cell protein? Write the applications of single cell protein. (OR)
b) Explain the types of Ovules.

BIO-ZOOLOGY**PART - I**

8X1 = 8

Note : (i) Answer all the questions. (ii) Choose the most appropriate answer from the given four alternatives and write the option code and the corresponding answer.

1. **Assertion:** Offsprings produced by asexual reproduction are genetically identical to the parent.
Reason: Asexual reproduction involves only mitosis and no meiosis.
a) Assertion and reason both are true. Reason is correct explanation for assertion
b) Assertion and reason both are true. Reason is not correct explanation for assertion
c) Assertion is true. But reason is false d) Reason is true. But assertion is false
2. A contraceptive pill prevents ovulation by
(a) Blocking fallopian tube (b) Inhibiting release of FSH and LH
(c) Stimulating release of FSH and LH (d) Causing immediate degeneration of released ovum

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3. Holandric genes otherwise known as
 - a) Y- linked genes
 - b) Y- Unlinked genes
 - c) X- linked genes
 - d) X- Unlinked genes
4. The age of fossils can be determined by
 - a) electron microscope
 - b) weighing the fossils
 - c) carbon dating
 - d) analysis of bones
5. Fever, cough, painful breathing and brown sputum are the symptoms of _____ disease.
 - a) Pneumonia
 - b) Tetanus
 - c) Diphtheria
 - d) Black death

6. Match it.

Column I

- | | | |
|---|--------------|-------|
| A | Mutualism | I |
| B | Commensalism | II |
| C | Parasitism | III |
| D | Competition | IV |
| E | Predation | V |
| a | A-IV | B-V |
| b | A-III | B-I |
| c | A-II | B-III |
| d | A-V | B-IV |

Column II

- Lion and deer
- Round worm and man
- Birds compete with squirrels for nuts
- Sea anemone on hermit crab
- Barnacles attached to Whales

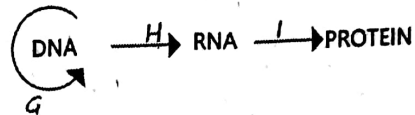
7. Which one of the following are at high risk extinction due to habitat destruction
 - a) Mammals
 - b) Birds
 - c) Amphibians
 - d) Echinoderms
8. Excess of fluoride in drinking water causes _____.
 - a) Lung disease
 - b) Intestinal infection
 - c) Fluorosis
 - d) None of the above

PART - II

Answer any four of the following questions: -

4 x 2 = 8

9. What is the composition of semen?



10. Answer it.

a. Write the correct sequence G,H,I

b. Above the Central dogma indicates biological process of?

11. Give any two bioactive molecules produced by microbes and state their uses.

12. What are DNA vaccines?

13. Name the active chemical found in the medicinal plant *Rauwolfia vomitoria*. What type of diversity it belongs to?

14. Write the effects of acid rain.

PART - III

Answer any three of the following questions. (question number 19 is compulsory).

3 x 3 = 9

15. Write a note on pedal laceration reproduction method.

16. Which method do you suggest the couple to have a baby, if the male partner fails to inseminate the female or due to very low sperm count in the ejaculate? Add notes.

17. Mention the symptoms of Down's syndrome.

18. Write any three salient features of genetic code.

19. Differentiate between predator and prey.

PART - IV

Answer all the questions :-

2 x 5 = 10

20. a) How does Hardy-Weinberg's expression ($p^2 + 2pq + q^2 = 1$) explain that genetic equilibrium is maintained in a population? List any four factors that can disturb the genetic equilibrium. (OR) b) Write the effects of drugs and alcohol

21. a) The following is the illustration of the sequence of ovarian events (A-I) in a human female.



i) Identify the figure that illustrates ovulation and mention the stage of oogenesis it represents. ii) Name the ovarian hormone and the pituitary hormone that have caused the above-mentioned events. iii) Explain the changes that occur in the uterus simultaneously in anticipation. iv) Write the difference between C and H.

(OR) b) Describe MFC