

**Shri Shivaji Education Society, Amravati's  
Science College, Congress Nagar, Nagpur  
First Term Exam – 2021-22  
Subject – Biology  
Class – XII<sup>th</sup> std**

**Time -3 hours**

**Maximum marks- 70**

**General instructions:**

Qu.No.1 contains 10 multiple choice type of questions carrying one mark each

Qu.No. 2 contains 8 very short answer type of questions carrying 1 mark each

2.Section B:

Qu .No. 3 to Qu.No.14 are short answer type of question carrying two marks each.

3. Section C :

Qu.No .15 to Qu.No. 26 are short answer type of questions carrying 3 marks each

4.Section D :

Qu .No.27 to 31 are long answer type of questions carrying 4 marks each

5.Figures to the right indicate full marks.

6.For each MCQ, correct answer must be written along with its alphabet

**Section -A**

Question 1 Select and write the correct answer :

(10M)

i) Test tube baby technique is called -----

- a) in Vivo fertilization
- b) insitu fertilization
- c) in vitro fertilization
- d) artificial insemination

ii) Gyri in the brain are present in-----

- a) cerebrum
- b) rhombencephalon
- c) medulla oblongata
- d) hypothalamus

iii) Which of the following primitive man was nicknamed as ape man ?

- a) Homo habits
- b) Homo erectus
- c) Homo sapiens
- d) Dryopithecus

iv) Books lungs are the respiratory surface in-----

- a) Limulus
- b) Fish
- c) Birds
- d) Spiders

v) ----- is an example of extinction due to over exploitation

- a) Pigeon
- b) Dodo bird
- c) Maldivian
- d) Great Indian Bustard

Vi) Transfer of pollen grain to a stigma of a different flower produced on the same plant is called as -----

-----

- a) Autogamy
- b) Geitonogamy
- c) xenogamy
- d) Anemophily

Vii) When phenotypic and genotypic ratios are the same then it is an example of-----

- a) Incomplete dominance
- b) Complete dominance
- c) Multiple alleles
- d) Cytoplasmic inheritance

Viii) In eukaryotic organisms, replication of DNA takes place in the ----- of interphase in the cell cycle

- a) G-1 phase
- b) G-2 phase
- c) S phase
- d) Cytoplasmic inheritance

IX) Which type of water is available to plants for absorption?

- a) Gravitational water
- b) Hygroscopic water
- c) Combined water
- d) Capillary water

X) Which of the following growth hormone is gaseous in nature?

- a) Ethylene
- b) Cytokinin
- c) Gibberellins
- d) Auxins

Qu.2 Answer the following ; (8M)

- i) What are astrocytes?
- ii) Name any two Mendelian disorders?
- iii) From which plant is cocaine obtained?
- iv) What is Korotkoff sound?
- v) What is protandry?
- vi) Define vernalization.
- vii) What is the long form of MOET?
- viii) A colourblind man marries a woman who is homozygous for normal colour vision. What will be the probability of their son being colourblind?

### Section B

(16M)

Attempt any 8 questions of the following:

Q.3 Why is Zona pellucida retained around the egg till it reaches uterus?

- Q.4 Distinguish between arteries and veins
- Q.5 Distinguish between inspiration and expiration
- Q.6 Enlist different factors that are responsible for changing gene frequency
- Q.7 what are transgenic animals ? give any two examples of transgenic animals.
- Q.8 explain biological nitrogen fixation with example
- Q.9 Define term codon and codogen
- Q.10 Draw the well labeled diagram of anatropous ovule
- Q.11 Give economic importance of fishery Q.12 Define and explain the terms-
- i ) Biopatent
  - ii ) Biopiracy
- Q. 13 Draw the diagram showing structure of root hair
- Q.14 Define the following terms -
- i ) Mutualism
  - ii ) Ecological succession.

**Section C**

**(24M)**

Attempt any eight questions of the following-

Qu.15 Give diagrammatic representation of oogenesis showing multiplication phase ,growth phase and maturation phase .

Qu.16 What are the major changes that took place in the evolution of man.

Qu.17 write a short note on vaccination

Qu.18 Give the name and type of II , IX and XI th cranial nerves .

Qu.19 Write a short note on Down's syndrome.

Qu .20 Explain mission Harit in Maharashtra

Qu.21 Write a short note on plasmolysis.

Qu.22 What is gibberlin ? Where it is synthesized in plant ? Write about its chemical nature .

Qu.23 Give the steps in a PCR for polymerase chain reaction with a suitable diagram

Qu.24 What is commensalism? Explain it with the help of appropriate example .

QU.25 What is parthenogenesis ? Explain the haplo- diploid method of sex determination in Honey Bee .

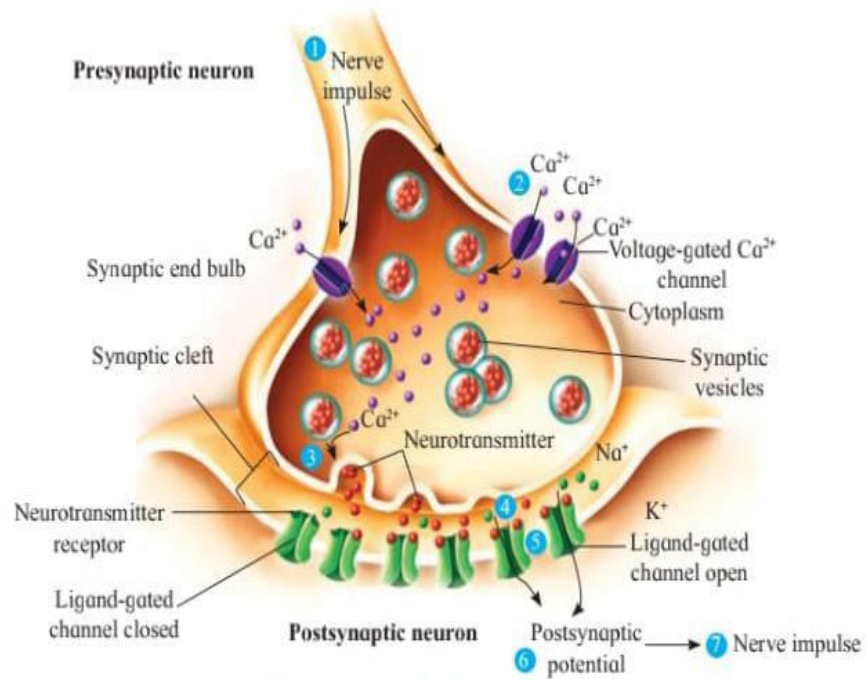
Qu.26 Define decomposition and describe the processes and products of decomposition.

**Section D**

**(12M)**

Attempt any three questions of the following

Qu .27 Observe the diagram given below and answer the questions.



- a) Name the process used to release the neurotransmitter.
- b) what do the synaptic vesicle contain?
- c) Can you name the channel responsible for transmission of impulse.
- d) Name the enzyme which destroys the neurotransmitter and makes the synapse ready to receive new impulse.

Qu.28 Describe the gaseous exchange between alveoli and capillary with the help of neat and well labelled diagram

Qu.29 Explain the process by which zygote divide and redivides to form the morula.

Qu 30 Explain the process of double fertilization.

Qu 31 Describe the structure of root hair.