SAMPLE PAPER CLASS XII BIOLOGY

MM - 70TIME 3 HRS Section A (1X8=8)1) A plant was introduced in India because of its beautiful flowers & shape ofleaves. It propagates vegetatively at a phenomenal rate and spread all over thewater bodies and has become a threat. Which plant is being referred to? 2) A criminal case of 10 years old was registered for investigation. What samples they might have tested? 3) The health department would like to control malaria without using chemicals in any form. Being a student of Biology what method would you suggest? 1 4) Bottled juices are clearer compared to homemade juice. Give reason. 5) Which is a proteinaceous infecting agent? 6) On fermentation the dough of idli and dosa puffs up. Which metabolic pathway is responsible for this process? 7) Two closely related species competing for the same resources cannot co-existin definitely. State the principle which supports this phenomenon. 1 8) Can temperature regulate the rate of decomposition how? 1 Section B (2X10=20) 9) Which cell organelle is present in the neck of the sperm? What is its significance? 2 10) A point mutation leads to adverse change in the function of hemoglobin (B-globinchain). Identify the disease that may occur due to this mutation. Mentionthe change of amino acids in the polypeptide due to this mutation. 11) Study the following pairs of organs and identify them as homologous oranalogous organs: 1/2X4 =i) Thorns of Bougainvillea and cucurbit tendrils. ii) Fore legs of horse and arms of man iii) Wings of bat and butterfly iv) Flipper of whale and fins of fish 12) One student has drawn mRNA but he made some mistake in codons 2 UGAU AGA UUU AUG 5 | | | | 3 | i) Identify the mistakes made by him in codons ii) Correct the mistakes 13) A person has developed allergic reactions like sneezing, watery eyes, runningnose and difficulty in breathing. What could be the reason for these symptoms? How can it be controlled? 14). Write the use of the following in Biotechnology. 2 (a) Chilled ethanol (b) Microinjection(c) Bioreactor (d) plasmid 15) What will happen if more than one recognition sites are present in a vector? 2

- 16) "Snow leopards are not found in Kerala forests and tuna fish are rarely found 2 beyond tropical latitude in the ocean". States the possible reasons for the same.
- 17) "Flow of energy is unidirectional but nutrient flow is in a cycle" Give reason 2
- 18) Amazon forests are regarded are "Lungs of the Planet". Why?

The gradual and predictable change in the species composition of a given area is called ecological succession. What do you understand with the pioneer and climax community?

Section C

19) A woman's husband is infertile. So the lady has decided to have baby bytaking sperms from sperm bank. Which technique will you suggest for herpregnancy?

A newly married couple does not want to produce children at least for one year and also not to use any contraceptives. Suggest a method to prevent pregnancy.

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20) Name the part of the female reproductive system where the embryo is implanted. Mention the type of tissue by which it is made up of and give their functions?

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21) A man with blood group A married a woman with B group, they have a son with AB blood group and a daughter with blood group O, work out the possibility of inheritance with the help of a Punnet square. 3 22)



- i) Name fragment A) & B)
- ii) Name the process of given diagram
- iii) In what phase of cell cycle this process takes place.
- 23) A patient has lost his immunity. 3
- (i) Name the disease associated with it.
- (ii) Name the confirmatory test to diagnose the disease.
- (iii) Why did he lose his immunity?
- 24)Following are the steps for breeding process. Arrange them in correct order, name the process& state its advantages. 3
- a. The female is mated with a male of good variety
- b. The fertilized egg at 8-32 called stage are recovered & transferred to surrogate mother.
- c. The female is administered hormones to induce super-ovulation.
- 25) For what significant properties the Baculoviruses are considered as best Biological control agent?. Mention its importance in organic farming.
- 26) Give the correct term for the following; -
- (a) Replacing a defective mutant allele with a normal functional allele /

gene.

- (b) Increasing the copies (content) of a gene
- (c) Preventing m-RNA translation
- (d) Specific pattern of base pairs that are recognized by restriction enzymes.
- (e) Mobile genetic element
- (f) One DNA copies itself and produces two
- 27) Mr. Ram on a trip to Rohtang Pass Suddenly experienced heart Palpitations, Nausea, fatigue etc on reaching the destination. Suggest the reasons for his sudden deterioration of health and also state Whether his body will withstand this problem if he stays there for long and how? 3

or

Ecosan toilets are a hygienic, efficient and cost effective solution to the disposal of human wastes. Justify.

SECTION D (5X3=15)

- 28) A student wants to know the ploidy of coconut. After studying its different parts he inferred the ploidy of the following parts. Check whether the student is correct. 5
- (a) Water inside the fruit-n
- (b) White Kernal-2n
- (c) Seed coat-n
- (d) Embryo-3n
- (e) Tepal-2n

or

Women are often blamed for giving birth to girl child in our society. What is your view? 5

29) Two plants (snapdragon) with red flowers and white flowers are crossed and the following results are shown: 5

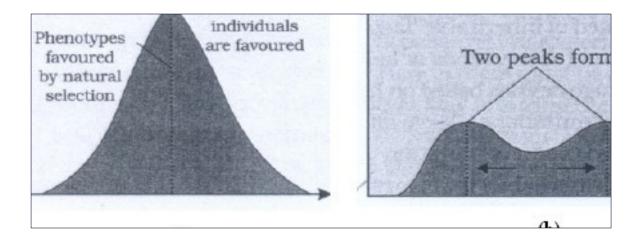


F1 generation: All pink flowers

- i) What phenomenon is shown in F₁ generation?
- ii) Write the genotype of F1 and phenotype of F2 generation.
- iii) What is the phenotypic and genotypic ratio of the F₂ generation?
- iv) With the help of a punnet square illustrate the result.

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1) Study the figures (a) and (b) given below and answer the question given after the graph 5



- i) Under the influence of which type of natural selection would graph (a) become like graph(b) 3
- ii) What could be the likely reasons of new variations arising in the population?
- iii) Who suggested natural selection as a mechanism of evolution?
- 30) In England, after industrialization it was observed that white winged moth did not survive. 2
- i) What you think the cause may be?
- ii) What was the change and why it has happened?
- iii) Which organism is known as natural indicator to air pollution?