



- 6) An example for non-medicated IUD is
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|-----------|------------------|
| a) Cu-T | b) Lippes Loop |
| c) LNG-20 | d) Multiload 375 |
- 7) Who noted that the behaviour of Chromosomes was parallel to the behaviour of genes?
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|----------------------|------------------------------------|
| a) T.H. Morgan | b) Gregor. J. Mendle |
| c) Alfred Sturtevent | d) Walter Sutton & Theodore Boveri |
- 8) The first genetic material could be
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|------------|------------------|
| a) Protein | b) Carbohydrates |
| c) DNA | d) RNA |
- 9) Which of the following is used as an Industrial pollution indicator?
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|-----------------|---------------|
| a) Lepidoptera | b) Lichens |
| c) Lycopersicon | d) Lypopodium |
- 10) The disease Chikunguniya is transmitted by
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|----------------|---------------------|
| a) House flies | b) Aedes Mosquitoes |
| c) Cockroach | d) Female anopheles |
- 11) Sonalika and Kalyan Sona are varieties of
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|-----------|------------|
| a) wheat | b) rice |
| c) millet | d) tobacco |
- 12) Which one of the following alcoholic drinks is produced without distillation?
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| a) Wine | b) Whisky |
| c) Rum | d) Brandy |

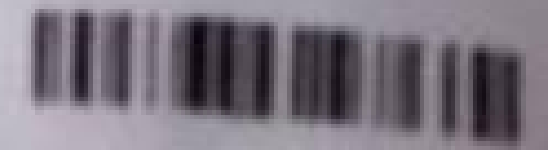


- 13) Plant cells are bombarded with high velocity microparticles of gold or Tungsten coated with DNA in a method known as
- a) Microinjection
 - b) Biolistics
 - c) Heat shock
 - d) Vector mediated
- 14) The commonly used vector for cloning genes in animals is
- a) Retrovirus
 - b) Disarmed retrovirus
 - c) Disarmed Ti plasmid
 - d) Agrobacterium tumifaciens
- 15) According to Allen's rule the mammals from colder climates have
- a) Shorter ears and longer limbs
 - b) Longer ears and shorter limbs
 - c) Longer ears and longer limbs
 - d) Shorter ears and shorter limbs

II. Fill in the blanks by choosing the appropriate word/words from those given below : (5 × 1 = 5)

(Food Web, Standing State, Gause's-Competitive exclusion principle, Atmosphere, Single base pair of DNA)

- 16) Point Mutation arises due to the change in _____.
- 17) _____ states that two closely related species competing for the same resources cannot co-exist indefinitely and competitively inferior one will be eliminated eventually.
- 18) The amount of nutrient, such as carbon, nitrogen, phosphorous and calcium present in the soil at any given time is called as _____.
- 19) The reservoir of gaseous type of nutrient cycle exist in the _____.
- 20) The natural interconnection of food chains make it a _____.

**PART – B**

III. Answer any five of the following questions in 3 - 5 sentences each, wherever applicable : (5 × 2 = 10)

- 21) What are hermaphrodites? Mention one example.
- 22) Distinguish between Menstrual cycle and Oestrous cycle.
- 23) Mention the four symptoms of Down's syndrome.
- 24) Write the genotype of the parents when their children are with A, B, AB, O blood groups.
- 25) Write the two basic aminoacids residues which are rich in histones.
- 26) Differentiate between Geitonogamy and Xenogamy.
- 27) Mention any two examples of evolution by anthropogenic action.
- 28) The use of CNG is better than Petrol or Diesel. Give four reasons.

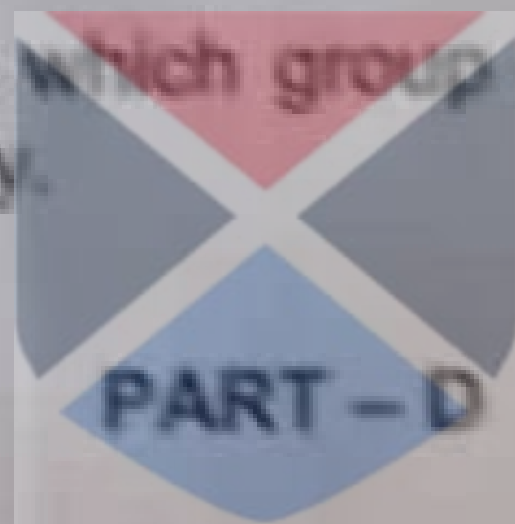
PART – C

IV. Answer any five of the following questions in about 40 - 80 words each, wherever applicable : (5 × 3 = 15)

- 29) a) Why is oxytocin necessary for Parturition? (1)
b) List any four hormones secreted by Placenta. (2)
- 30) What is Infertility? Give reasons for infertility in humans.
- 31) Mention any three applications of DNA finger printing technique.



- 32) Draw a neat labelled diagram of Miller's experiment.
- 33) a) Write the infectious forms of Plasmodium which enter human body through mosquito bite. (1)
- b) Draw a neat labelled diagram of structure of an antibody molecule. (2)
- 34) What is Poultry? Mention two important components of poultry farm Management.
- 35) What is Ecological Succession? Distinguish between Primary succession and Secondary succession.
- 36) a) Mention four "Evil Quartet", which cause depletion of biodiversity. (2)
- b) Among vertebrates which group of animals has the highest number in global biodiversity. (1)



V. Answer any three of the following questions in about 200 - 250 words each, wherever applicable : (3 × 5 = 15)

- 37) What is double fertilization? Describe fertilized embryosac with a neat labelled diagram.
- 38) Draw a neat labelled diagram of human sperm.
- 39) What is incomplete dominance? Explain it with reference to flower colour in Snapdragon.
- 40) Explain five benefits of creating Transgenic animals.



41) Name the disease caused by following organisms :

- a) Entamoeba histolytica (1)
- b) Epidermophyton (1)
- c) Salmonella typhi (1)
- d) Wuchereria Malayi (1)
- e) Plasmodium Vivax. (1)

42) Name the technology that can successfully increase the herd size of cattle in a short time and explain the steps involved in this technology.

VI. Answer any two of the following questions in about 200 - 250 words each, wherever applicable : (2 × 5 = 10)

43) Explain the role of microbes in Industrial products.

- 44) a) Write any four tools used in recombinant DNA technology. (2)
- b) Mention any two methods of introducing alien DNA into host cells. (2)
- c) Name the stain used to visualise DNA fragments in Gel electrophoresis. (1)

45) Describe Fredrick Griffith experiment to show transformation in Bacteria.

- 46) a) Mention any two mechanisms how human body compensates low oxygen availability at higher altitude. (2)
- b) Write two suspended activities in animals against abiotic stresses with suitable examples. (2)
- c) The Abington tortoise in Galapagos Islands become extinct after goats were introduced on the Island. Mention the type of interaction. (1)

47) Write a brief account of electrostatic precipitator with a neat labelled diagram.