

**STD X QUARTERLY EXAMINATION - 2014****BIOLOGY QUESTION BANK****Write short answer**

(60 X 2 = 120)

1. Mendel has observed Tallness as dominant character in Garden pea plant. Similarly tongue rolling is a dominant character in man. In a group of 60 students, 45 can roll their tongue and 15 are non rollers. In the above context, calculate the percentage of dominant and recessive characters.

2. The heritable characters are varying in different species and within the same species. Name the variation in the following cases.

a) The eye colour among the human beings are varied as blue, black, brown, green, etc., This is called as \_\_\_\_\_ variation.

b) The dentition in rabbit and elephant are not the same. This is called as \_\_\_\_\_ variation.

3. Sexually reproducing organisms produce offsprings with marked, significant and visible variation. Asexually reproducing offsprings show minor variations.

a) Do you agree with the above statements?

b) Among the following organisms list out the asexually reproducing organisms.

Paramoecium, Earthworm, Euglena and Bird.

4. A change that affects the body cell is not inherited. However, a change in the gamete is inherited. Radiation effects of Hiroshima has been affecting generations. Analyzing the above statements, give your interpretation.

**5. Correct the answer**

a. Variation may be defined as the affinities in the characteristics among the individual

b. Evolution is a sudden development from the complex species to simple form

6. Bio-technology, the modern science in biology, has helped in producing different types of products. One of the following group does not have a product of bio-technology. Pick out and give reasons.

a) Enzymes, Organic acids, Steroids, Vaccines

b) Vaccines, Enzymes, Antibiotics, Inorganic acids

c) Antibiotics, Hormones, Steroids, Vaccines

d) Steroids, Enzymes, Antibodies, Vaccines.

7. Here is a certain important hereditary jargons, fix a suitable one from the list given below.

a) \_\_\_\_\_ are the factors which form the physical basis of inheritance.

b) \_\_\_\_\_ is alternate expression of same gene.

c) \_\_\_\_\_ are contrasting pairs of alleles.

(alleles, variation, speciation, gene, allelomorph)

8. Sequentially arrange the different species of man from primitive to modern man. (Neanderthal man, Homo habilis, Homo erectus, Homo sapiens)

9. Identical twins are syngenic with similar chromosomal contents. Natural clones are those who possess identical chromosomes. Fill up with the suitable word given in the bracket.

a) Identical twins are \_\_\_\_\_ (Natural clones / Induced clones)

b) Identical twins are \_\_\_\_\_ (dissimilar to each other / similar to each other).

**10. Correct the answer.**

(a) Primitive man evolved in Australia.

b) Between 7500-1000 years modern Homo sapiens arose.

**11. Correct the answer**

a) The theory of Natural Selection was proposed by Lamarck.

b) Fungi are green saprophytic or parasitic plants living on live and decaying organic matter or living organisms.

Do you agree with the above statements? If not give correct statements.

**12. Fill in the blanks.**

Monoclonal antibodies are the antibodies produced by \_\_\_\_\_.

Monoclonal antibodies are now used for treatment of \_\_\_\_\_.

**13. Match the following**

a) Garden pea plant - Dolly

b) Monohybrid cross - Vaccine

c) Edward Jenner - 3:1

d) Dr. Ian Wilmut - Pisum sativum

14. Marasmus and Kwashiorkor are both protein deficiency defects. Marasmus differs from Kwashiorkor in enlarged belly and swelling in the face. Are these symptoms for the above diseases correct? If not, correct it.

15. Ramya is suffering from bleeding gum and loosening teeth. On a diagnosis, it was found to have been caused by vitamin deficiency.

Suggest Ramya the kind of vitamin that is lacking in her food and tell your friend the name of deficiency disease that she suffers from.

16. Kavitha is suffering from common cold. What are the questions you will put forth to Kavitha to confirm the disease?

**17. Pick out the odd one out and give reasons.**

a) colour blindness, haemophilia, night blindness, albinism, sickle cell anaemia

b) Meningitis, Rabies, Tetanus, Small pox

18. (A) Vitamins (B) Deficiency diseases and (C) Symptoms are given. Match B and C with A.

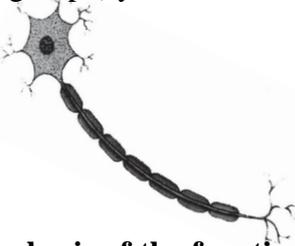
| (A) Vitamin            | (B) Deficiency disease | (C) Symptoms                         |
|------------------------|------------------------|--------------------------------------|
| Vitamin A              | Rickets                | Nervous disorder                     |
| Vitamin B <sub>1</sub> | Haemorrhage            | Defective calcification of bones     |
| Vitamin C              | Beri-Beri              | Night blindness                      |
| Vitamin D              | Scurvy                 | Profuse loss of blood                |
| Vitamin K              | Nyctalopia             | Bleeding gums and loosening of teeth |

19. You suspect that your friend is suffering from Amoebic dysentery. What are the questions you will ask your friend to confirm the disease.

20. **Match the disease and causative agent.**

- a) Influenza - Human rhino virus
- b) Common cold - H<sub>1</sub> N<sub>1</sub> virus
- c) Tuberculosis - Microsporium
- d) Ring worm - Mycobacterium

21. Copy the diagram and label any two parts in the given group (cyton, axon, dendron, myelin sheath)



22. **On the basis of the function performed, Pick out the right statements.**

- a. Pituitary gland secretes hormones and enzymes
- b. Thyroid gland secretes thyroxine and insulin.
- c. Testes produces sperms and the hormone androgen.
- d. Pancreas produces enzymes and hormones.

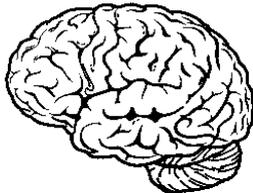
23. **Based on relationships fill in the blanks.**

Thyroxine: personality hormone;

Adrenaline : \_\_\_\_\_.

24. Copy the diagram and label the given two parts A and B.

- A. Seat of smell
- B. Seat of vision



25. Correct the statements if they are wrong.

- a. alpha cells produce insulin and beta cells produce glucagon
- b. cortisone suppresses the immune response
- c. thymus gland is a lymphoid mass.
- d. Ovary produces eggs and Androgen.

26. Reduction division is the process by which Gametes are produced,. The cells in which reduction division take place are (germinal epithelial cells, the sensory epithelial cells, cuboidal epithelial cells, columnar epithelial cells.)

27. In Amoeba, the cell division takes place ( involving changes in the chromatin reticulum, without involving changes in the chromatin reticulum, leading to reduction in the number of chromosomes, without dividing the nucleus)

28.i) Pick out the item which has sequential arrangements

- a. zygotene -> Leptotene -> Pachytene -> Diplotene -> Diakinesis

b. Diakinesis -> zygotene -> Leptotene -> Pachytene -> Diplotene

c. Leptotene -> zygotene -> Pachytene -> Diplotene -> Diakinesis

ii) The important event of meiosis is the crossing over. It occurs during \_\_\_\_\_ ( Leptotene, Pachytene, Diplotene, Zygotene. )

29. **Assertion (A):** Pituitary gland is known as the conductor of endocrine orchestra.

**Reason (R) :** The secretions of pituitary gland controls all other endocrine glands.

- a) A is correct and R is not giving correct reasoning.
- b) A is correct and R is wrong
- c) A is wrong and R is correct
- d) A is relevant and R is giving correct reasoning.

30. Thyroid Gland secreta a hormone called thyroxine. Give any two functions of this hormone.

31. **Match the following glands with suitable hormone.**

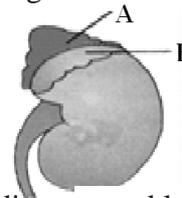
- a) Adrenal cortex - Insulin
- b) Neurohypophysis - Thyroxin
- c) Thyroid - Cortisone
- d) Islets of Langerhan - Oxytocin

32. **Match the following.**

- 1. Fore brain - CNS, PNS and ANS
- 2. Mid brain - Pons, cerebellum & medulla oblongata
- 3. Hind brain - cerebrum, thalamus, hypothalamus
- 4. Nervous system - cerebral aqueduct

33. Find the odd one out from the following. Give the reason. (Goitre, Diabetes, Oestrogen, Dwarfism)

34. Copy the diagram of Kidney and label the parts A and B



35. Copy the diagram and label any two parts.

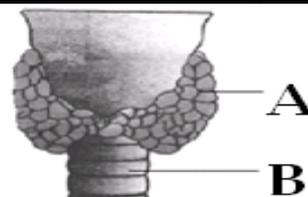


36. **Fill in the blanks**

- a) An endocrine gland found in neck is \_\_\_\_\_ (Adrenal gland, thyroid gland)
- b) The part of the brain which controls emotional reactions in our body is \_\_\_\_\_. (Thalamus, Hypothalamus)

37. Rahul forgets his answers, lacks intelligence lacks imagination and reasoning after met an accident. Which area affected to him?

38. **Mark A and B in the given diagram**



39. Raja's father suffers with diabetic suggest a way to control this problem.

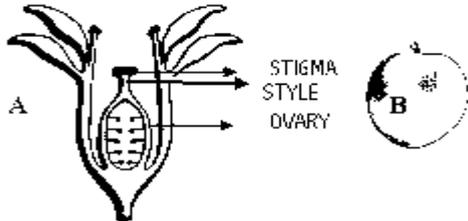
40. a) Unipolar neurons are found in \_\_\_\_\_  
 a) Brain b) Spinal cord c) Embryonic nervous tissue  
 d) Adult nervous tissue

b) In meiosis -1, the pairing of homologous chromosomes (Synapsis) takes place during \_\_\_\_ stage.

a) leptotene b) Zygotene c) Pachytene d) diplotene

41. a. Identify the given fig. A and B.

b. Which part of the A is modified in to B



42. a) Calyx, Corolla are the parts of a flower.

Give the reproductive parts of a flower

b) What are the post fertilization changes?

43. The methods of reproduction and the organisms are given below. Match the type of reproduction to the suitable organisms.

|               |             |           |
|---------------|-------------|-----------|
| Fission       | Spirogyra   | Yeast     |
| Budding       | Protozoan   | Flatworms |
| Fragmentation | Bryophyllum | Bacteria  |

44. In balsam plant the seeds fall off far away from the mother plant.

a) Is this statement correct or incorrect? b) Give reason.

45. The seeds fall off far away from the mother plant. Why?

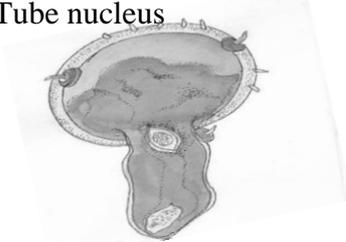
46. **Fill in the blanks.**

a) The composite fruits are formed by all flowers of \_\_\_\_\_.

b) \_\_\_\_\_ fruit is developed from a single flower with multicarpellary apocarpous superior ovary.

47. Redraw the diagram and label the following parts.

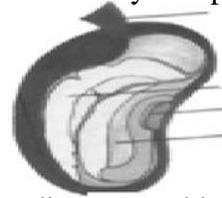
a) Exine b) Tube nucleus



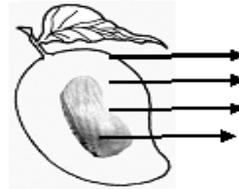
48. Draw and label any two parts of monocot seed.



49. Draw and label any two parts of dicot seed.



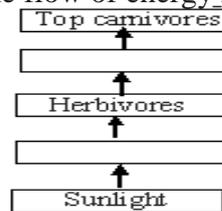
50. Draw the diagram and label the parts



51. a) Which of the following constitute a food chain? (Grass, Wheat and Mango), (Grass, goat and Human), (Goat, cow and elephant), (Grass, fish and goat)

b) \_\_\_\_\_ chemical is used in seeding clouds. (potassium iodide, calcium carbonate, sulphur dioxide, ammonium phosphate)

52. Complete the flow of energy in an Ecosystem.

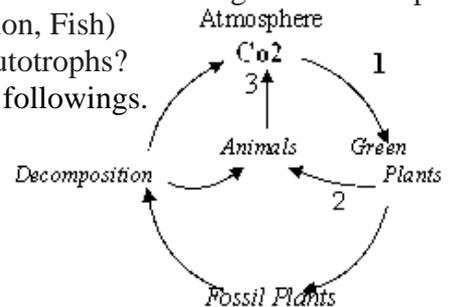


53. Which of the following are non-biodegradable? (Aluminium cans, Hay, Dry twigs, Animal dung, Plastic waste)

54. (a) Which one of the following is an autotroph? (Plants, Cat, Lion, Fish)

(b) What are autotrophs?

55. Answer the followings.



a) Name the processes noted as No.1 and 3.

b) Define the process 1.

56. Study the food chain below. Correct it and convert into a pyramid of energy.

Mulberry → Sparrow → Caterpillar → Kite

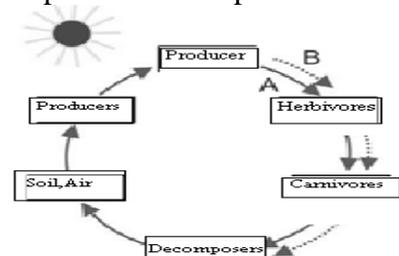
57. Name the plants which are used in the production of Bio plastics.

58. Study the illustration and answer the question.

a. Which line (A or B) represent the flow of energy?

Why do you say so?

b. Give an example of a decomposer.



59.a) Study the food chain.

Paddy -----> Mouse -----> Snake -----> Kite

If the producer has a stored up energy of 500 K.Cal., How much of it goes to the organism at the third trophic level get from it?

60. **Pick the odd one out.**

i) Plant, grasshopper, frog, tiger, snake.

ii) Anaimalai, Point Calimere, Vedanthangal, Mundanthurai.

**Write detail answer for the following questions.**

## **CHAPTER 2**

1. Kala has delivered a baby,

a. Suggest the immunization schedule for the baby, in the first six months

b. What are all the diseases that can be cured as per the schedule?

2. There is a widespread outbreak of malaria in your area.

a. What is the causative agent of malaria?

b. Suggest some controlling measures to the local authorities concerned.

c. What are the symptoms of Malaria?

d. How is the Malarial parasite transmitted?

3. a. What is the causative agent of Tuberculosis?

b. What are the symptoms of Tuberculosis?

c. How to prevent Tuberculosis?

4. What is the causative agent of AIDS?

b. What are the symptoms of AIDS?

c. What are the test to diagnose aids ?

d. How to prevent AIDS?

5. 15th October is observed as 'Hand washing Day'

a. Tell your friend the effects of hand washing.

b. In a day what are the occasions in which you wash your hand?

6. Describe the life cycle of malarial parasite plasmodium.

## **CHAPTER – 7**

1. Smoke, smoke everywhere smoke. Do you agree this situation is good for health? List out the harmful effects of coal burning.

2. a. In your area there is scarcity of water So what are the measures to be taken by you to meet out the scarcity of water.

3. a) Classify the following substances – wood, paper, plastic and grasses.

b) Give detailed account on your classification.

c. What is food chain?

4. a. What is Green Chemistry?

b. What are the principles of Green Chemistry?

c. List out some products produced by the process of Green Chemistry?

5. a. What is Global Village?

b. What is the use of Global Village?

c. What are the technologies used in Global Village?

## **CHAPTER – 4**

1. Describe the structure of dicot seed with diagram.

2. a) Name the process by which the fruit is developed.

b) Give the development process in brief.

c) Draw a neat diagram of that process and label.

3. a) Fruit is the product of fertilization. Is there any fruit is formed without the act of fertilization?

b) Represent the classification of fruits in a diagrammatic sketch.

4. a. Write the two events involved in the sexual reproduction of flowering plant.

b. Discuss the first event and write the types.

c. Give advantages and disadvantages of that event.

5. a. Define fertilization.

b. What are the post fertilization changes?

c. What are parthenocarpic fruits?

6. Compare aggregate fruit with multiple fruit with suitable examples.

## **CHAPTER 1**

1. a. Define Genetic Engineering.

b. What are the benefits of Genetic Engineering?

c. What are the uses of Restriction Endonucleases and DNA ligases?

2. a. Name the different species of mankind in chronological order from primitive to modern man.

b. When were the primitive caves developed?

c. Narrate the life led by early man like hominids.

3. Explain Mendel's Monohybrid Cross.

4. a. What is Bio-sensor?

b. State any two applications of Bio-sensor in medicines.

5. a) What are stem cells?

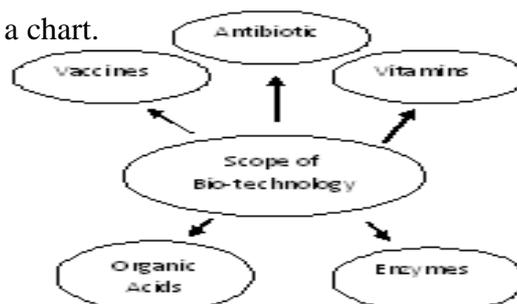
b) Name the two kinds of stem cells.

c) What are the characteristic features of stem cells?

6. a. Write the uses of Bio-sensor and Bio-chips.

b. Write about science today- Gene therapy.

7. List the recent advances made in bio-technical field through a chart.



Prepared by M.G.Raymond, M.Sc., B.Ed.,  
St. Paul's MHS School, Neyveli- 607801  
9442980841 / 9629705161  
raymondmg2001@gmail.com