

# ST. PAUL'S MATRICULATION HIGHER SECONDARY SCHOOL, BLOCK - 4, NEYVELI.

X STD

BIOLOGY ONE MARK TEST - 1

MARKS : 100

( PORTION : UNITS 12 to 22 – BOOK BACK CHOOSE )

TIME : 1 ½ HOURS

(100 X 1 = 100)

## I. CHOOSE THE CORRECT ANSWER.

- Casparian strips are present in the \_\_\_\_\_ of the root.  
a) cortex      b) pith      c) pericycle      d) endodermis
- The endarch condition is the characteristic feature of  
a) root      b) stem      c) leaves      d) flower
- The xylem and phloem arranged side by side on same radius is called \_\_\_\_\_  
a) radial      b) amphivasal      c) conjoint      d) None of these
- Which is formed during anaerobic respiration  
a) Carbohydrate      b) Ethyl alcohol      c) Acetyl CoA      d) Pyruvate
- Kreb's cycle takes place in  
a) chloroplast      b) mitochondrial matrix      c) stomata      d) inner mitochondrial membrane
- Oxygen is produced at what point during photosynthesis ?  
a) when ATP is converted to ADP      b) when CO<sub>2</sub> is fixed      c) when H<sub>2</sub>O is splitted      d) All of these
- In leech locomotion is performed by  
a) Anterior sucker      b) Parapodia      c) Setae      d) Contraction and relaxation of muscles
- The segments of leech are known as  
a) Metameres (somites)      b) Proglottids      c) Strobila      d) All the above
- Pharyngeal ganglion in leech is a part of  
a) Excretory system      b) Nervous system      c) Reproductive system      d) Respiratory system
- The brain of leech lies above the  
a) Mouth      b) Buccal Cavity      c) Pharynx      d) Crop
- The body of leech has  
a) 23 segments      b) 33 segments      c) 38 segments      d) 30 segments
- Mammals are \_\_\_\_\_ animals.  
a) Cold blooded      b) Warm blooded      c) Poikilothermic      d) All the above
- The animals which give birth to young ones are  
a) Oviparous      b) Viviparous      c) Ovoviviparous      d) All the above
- Active transport involves  
a) movement of molecules from lower to higher concentration  
b) expenditure of energy      c) it is an uphill task      d) all of the above
- Water which is absorbed by roots is transported to aerial parts of the plant through  
a) cortex      b) epidermis      c) phloem      d) xylem
- During transpiration there is loss of  
a) carbon dioxide      b) oxygen      c) water      d) none of the above
- Root hairs are  
a) cortical cell      b) projection of epidermal cell      c) unicellular      d) both b and c
- Which of the following process requires energy?  
a) active transport      b) diffusion      c) osmosis      d) all of them
- The wall of human heart is made of  
a) Endocardium      b) Epicardium      c) Myocardium      d) All of the above
- Which is the correct sequence of blood flow  
a) ventricle atrium vein arteries      b) atrium ventricle veins arteries  
c) atrium ventricle arteries vein      d) ventricles vein atrium arteries
- A patient with blood group O was injured in an accident and has blood loss. Which group of blood should be used by doctor for transfusion?  
a) O group      b) AB group      c) A or B group      d) all blood group
- 'Heart of heart' is called  
a) SA node      b) AV node      c) Purkinje fibres      d) Bundle of His
- Which one of the following shows correct composition of blood  
a) Plasma - Blood + Lymphocyte      b) Serum - Blood + Fibrinogen  
c) Lymph - Plasma + RBC + WBC      d) Blood - Plasma + RBC + WBC + Platelets
- Bipolar neurons are found in  
(a) retina of eye      (b) cerebral cortex      (c) embryo      (d) respiratory epithelium

25. Site for processing of vision, hearing, memory, speech, intelligence and thought is  
(a) kidney (b) ear (c) brain (d) lungs
26. In reflex action, the reflex arc is formed by  
(a) brain, spinal cord, muscle (b) receptor, muscle, spinal cord  
(c) muscle, receptor, brain (d) receptor, spinal cord, muscle
27. Dendrites transmit impulse cell body and axon transmit impulse cell body.  
(a) away from, away from (b) towards, away from (c) towards, towards (d) away from, towards
28. The outer most of the three cranial meninges is  
(a) arachnoid membrane (b) piamater (c) duramater (d) myelin sheath
29. There are pairs of cranial nerves and pairs of spinal nerves.  
(a) 12, 31 (b) 31, 12 (c) 12, 13 (d) 12, 21
30. The neurons which carries impulse from the central nervous system to the muscle fibre.  
(a) afferent neurons (b) association neuron (c) efferent neuron (d) unipolar neuron
31. Which nervous band connects the two cerebral hemispheres of brain?  
(a) thalamus (b) hypothalamus (c) corpus callosum (d) pons
32. Node of Ranvier is found in  
(a) muscles (b) axons (c) dendrites (d) cyton
33. Vomiting centre is located in  
(a) medulla oblongata (b) stomach (c) cerebrum (d) hypothalamus
34. Nerve cells do not possess  
(a) neurilemma (b) sarcolemma (c) axon (d) dendrites
35. A person who met with an accident lost control of body temperature, water balance, and hunger. Which of the following part of brain is supposed to be damaged?  
(a) Medulla oblongata (b) cerebrum (c) pons (d) hypothalamus
36. Gibberellins cause:  
a) Shortening of genetically tall plants b) Elongation of dwarf plants  
c) Promotion of rooting d) Yellowing of young leaves
37. The hormone which has positive effect on apical dominance is:  
a) Cytokinin b) Auxin c) Gibberellin d) Ethylene
38. Which one of the following hormones is naturally not found in plants:  
a) 2, 4-D b) GA3 c) Gibberellin d) IAA
39. Avena coleoptile test was conducted by  
a) Darwin b) N. Smit c) Paal d) F.W. Went
40. To increase the sugar production in sugarcane they are sprayed with \_\_\_\_\_  
a) Auxin b) Cytokinin c) Gibberellins d) Ethylene
41. LH is secreted by  
a) Adrenal gland b) Thyroid gland c) Anterior pituitary d) Hypothalamus.
42. Identify the exocrine gland  
a) Pituitary gland b) Adrenal gland c) Salivary gland d) Thyroid gland
43. Which organ acts as both exocrine gland as well as endocrine gland  
a) Pancreas b) Kidney c) Liver d) Lungs
44. Which one is referred as "Master Gland"?  
a) Pineal gland b) Pituitary gland c) Thyroid gland d) Adrenal gland
45. The plant which propagates with the help of its leaves is \_\_\_\_\_.  
a) Onion b) Neem c) Ginger d) Bryophyllum
46. Asexual reproduction takes place through budding in \_\_\_\_\_.  
a) Amoeba b) Yeast c) Plasmodium d) Bacteria
47. Syngamy results in the formation of \_\_\_\_\_.  
a) Zoospores b) Conidia c) Zygote d) Chlamydospores
48. The essential parts of a flower are \_\_\_\_\_.  
a) Calyx and Corolla b) Calyx and Androecium  
c) Corolla and Gynoecium d) Androecium and Gynoecium
49. Anemophilous flowers have \_\_\_\_\_.  
a) Sessile stigma b) Small smooth stigma c) Colored flower d) Large feathery stigma
50. Male gametes in angiosperms are formed by the division of \_\_\_\_\_.  
a) Generative cell b) Vegetative cell c) Microspore mother cell d) Microspore

51. What is true of gametes?
  - a) They are diploid
  - b) They give rise to gonads
  - c) They produce hormones
  - d) They are formed from gonads
52. A single highly coiled tube where sperms are stored, get concentrated and mature is known as
  - a) Epididymis
  - b) Vasa efferentia
  - c) Vas deferens
  - d) Seminiferous tubules
53. The large elongated cells that provide nutrition to developing sperms are
  - a) Primary germ cells
  - b) Sertoli cells
  - c) Leydig cells
  - d) Spermatogonia
54. Estrogen is secreted by
  - a) Anterior pituitary
  - b) Primary follicle
  - c) Graffian follicle
  - d) Corpus luteum
55. Which one of the following is an IUCD?
  - a) Copper – T
  - b) Oral pills
  - c) Diaphragm
  - d) Tubectomy
56. According to Mendel alleles have the following character
  - a) Pair of genes
  - b) Responsible for character
  - c) Production of gametes
  - d) Recessive factors
57. 9 : 3 : 3 : 1 ratio is due to
  - a) Segregation
  - b) Crossing over
  - c) Independent assortment
  - d) Recessiveness
58. The region of the chromosome where the spindle fibres get attached during cell division
  - a) Chromomere
  - b) Centrosome
  - c) Centromere
  - d) Chromonema
59. The centromere is found at the centre of the \_\_\_\_\_ chromosome.
  - a) Telocentric
  - b) Metacentric
  - c) Sub-metacentric
  - d) Acrocentric
60. The \_\_\_\_\_ units form the backbone of the DNA.
  - a) 5 carbon sugar
  - b) Phosphate
  - c) Nitrogenous bases
  - d) Sugar phosphate
61. Okasaki fragments are joined together by \_\_\_\_\_.
  - a) Helicase
  - b) DNA polymerase
  - c) RNA primer
  - d) DNA ligase
62. The number of chromosomes found in human beings are \_\_\_\_\_.
  - a) 22 pairs of autosomes and 1 pair of allosomes.
  - b) 22 autosomes and 1 allosome
  - c) 46 autosomes
  - d) 46 pairs autosomes and 1 pair of allosomes.
63. The loss of one or more chromosome in a ploidy is called \_\_\_\_\_.
  - a) Tetraploidy
  - b) Aneuploidy
  - c) Euploidy
  - d) polyploidy
64. Biogenetic law states that \_\_\_\_\_.
  - a. Ontogeny and phylogeny go together
  - b. Ontogeny recapitulates phylogeny
  - c. Phylogeny recapitulates ontogeny
  - d. There is no relationship between phylogeny and ontogeny
65. The 'use and disuse theory' was proposed by \_\_\_\_\_.
  - a. Charles Darwin
  - b. Ernst Haeckel
  - c. Jean Baptiste Lamarck
  - d. Gregor Mendel
66. Paleontologists deal with
  - a. Embryological evidences
  - b. Fossil evidences
  - c. Vestigial organ evidences
  - d. All the above
67. The best way of direct dating fossils of recent origin is by
  - a. Radio-carbon method
  - b. Uranium lead method
  - c. Potassium-argon method
  - d. Both (a) and (c)
68. The term Ethnobotany was coined by
  - a. Khorana
  - b. J.W. Harsbberger
  - c. Ronald Ross
  - d. Hugo de Vries
69. Which method of crop improvement can be practised by a farmer if he is inexperienced?
  - a. clonal selection
  - b. mass selection
  - c. pureline selection
  - d. hybridisation
70. Pusa Komal is a disease resistant variety of \_\_\_\_\_.
  - a. sugarcane
  - b. rice
  - c. cow pea
  - d. maize
71. Himgiri developed by hybridisation and selection for disease resistance against rust pathogens is a variety of \_\_\_\_\_.
  - a. chilli
  - b. maize
  - c. sugarcane
  - d. wheat
72. The miracle rice which saved millions of lives and celebrated its 50th birthday is \_\_\_\_\_.
  - a. IR 8
  - b. IR 24
  - c. Atomita 2
  - d. Ponni
73. Which of the following is used to produce products useful to humans by biotechnology techniques?
  - a. enzyme from organism
  - b. live organism
  - c. vitamins
  - d. both (a) and (b)
74. We can cut the DNA with the help of
  - a. scissors
  - b. restriction endonucleases
  - c. knife
  - d. RNAase
75. rDNA is a
  - a. vector DNA
  - b. circular DNA
  - c. recombinant of vector DNA and desired DNA
  - d. satellite DNA
76. DNA fingerprinting is based on the principle of identifying \_\_\_\_\_ sequences of DNA
  - a. single stranded
  - b. mutated
  - c. polymorphic
  - d. repetitive
77. Organisms with modified endogenous gene or a foreign gene are also known as
  - (a) transgenic organisms
  - (b) genetically modified
  - (c) mutated
  - (d) both a and b

78. In a hexaploid wheat(  $2n = 6 \times 42$  ) the haploid (n) and the basic(x) number of chromosomes respectively are  
 a.  $n = 7$  and  $x = 21$       b.  $n = 21$  and  $x = 21$       c.  $n = 7$  and  $x = 7$       d.  $n = 21$  and  $x = 7$
79. Tobacco consumption is known to stimulate secretion of adrenaline. The component causing this could be  
 a) Nicotine      b) Tannic acid      c) Curcumin      d) Leptin
80. World 'No Tobacco Day' is observed on  
 a) May 31      b) June 6      c) April 22      d) October 2
81. Cancer cells are more easily damaged by radiations than normal cells because they are  
 a) Different in structure      b) Non-dividing      c) Mutated Cells      d) Undergoing rapid division
82. Which type of cancer affects lymph nodes and spleen?  
 a) Carcinoma      b) Sarcoma      c) Leukemia      d) Lymphoma
83. Excessive consumption of alcohol leads to  
 a) Loss of memory      b) Cirrhosis of liver      c) State of hallucination      d) Suppression of brain function
84. Coronary heart disease is due to  
 a) Streptococci bacteria      b) Inflammation of pericardium  
 c) Weakening of heart valves      d) Insufficient blood supply to heart muscles
85. Cancer of the epithelial cells is called  
 a) Leukemia      b) Sarcoma      c) Carcinoma      d) Lipoma
86. Metastasis is associated with  
 a) Malignant tumour      b) Benign tumour      c) Both (a) and (b)      d) Crown gall tumour
87. Polyphagia is a condition seen in  
 a) Obesity      b) Diabetes mellitus      c) Diabetes insipidus      d) AIDS
88. Where does alcohol effect immediately after drinking?  
 a) Eyes      b) Auditory region      c) Liver      d) Central nervous system
89. Which of the following is / are a fossil fuel? i. Tar      ii. Coal      iii. Petroleum  
 a) i only      b) i and ii      c) ii and iii      d) i, ii and iii
90. What are the steps will you adopt for better waste management?  
 a) reduce the amount of waste formed      b) reuse the waste  
 c) recycle the waste      d) all of the above
91. The gas released from vehicles exhaust are i. carbon monoxide      ii. Sulphur dioxide      iii. Oxides of nitrogen  
 a) i and ii      b) i and iii      c) ii and iii      d) i, ii and iii
92. Soil erosion can be prevented by  
 a) deforestation      b) afforestation      c) over grazing      d) removal of vegetation
93. A renewable source of energy is  
 a) petroleum      b) coal      c) nuclear fuel      d) trees
94. Soil erosion is more where there is  
 a) no rain fall      b) low rainfall      c) rain fall is high      d) none of these
95. An inexhaustible resources is  
 a) wind power      b) soil fertility      c) wild life      d) all of the above
96. Common energy source in village is  
 a) electricity      b) coal      c) biogas      d) wood and animal dung
97. Green house effect refers to  
 a) cooling of earth      b) trapping of UV rays      c) cultivation of plants      d) warming of earth
98. A cheap, conventional, commercial and inexhaustible source of energy is  
 a) hydropower      b) solar energy      c) wind energy      d) thermal energy
99. Global warming will cause  
 a) raise in level of oceans      b) melting of glaciers      c) sinking of islands      d) all of these
100. Which of the following statement is wrong with respect to wind energy  
 a) wind energy is a renewable energy  
 b) the blades of wind mill are operated with the help of electric motor  
 c) production of wind energy is pollution free  
 d) usage of wind energy can reduce the consumption of fossil fuels.

**ST.PAUL'S MATRICULATION HIGHER SECONDARY SCHOOL, BLOCK – 4, NEYVELI.**

X STD

**BIOLOGY ONE MARK TEST - 2**

MARKS : 100

TIME : 1 ½ Hrs

(PORTION : UNIT 12 TO 22 - BOOK BACK FILL UPS + BOOK BACK ANSWER IN A SENTENCE )

**I. Fill in the blanks. (100 X 1 =100)**

1. The innermost layer of cortex in root is called \_\_\_\_\_.
2. Xylem and phloem are arranged in an alternate radii constitute a vascular bundle called \_\_\_\_\_.
3. Glycolysis takes place in \_\_\_\_\_.
4. The source of O<sub>2</sub> liberated in photosynthesis is \_\_\_\_\_.
5. \_\_\_\_\_ is ATP factory of the cells
6. The posterior sucker is formed by the fusion of the \_\_\_\_\_ segments.
7. The existence of two sets of teeth in the life of an animal is called \_\_\_\_\_ dentition.
8. The anterior end of leech has a lobe-like structure called \_\_\_\_\_.
9. The blood sucking habit of leech is known as \_\_\_\_\_.
10. \_\_\_\_\_ separate nitrogenous waste from the blood in rabbit.
11. \_\_\_\_\_ spinal nerves are present in rabbit.
12. \_\_\_\_\_ involves evaporative loss of water from aerial parts.
13. Water enters into the root hair cell through \_\_\_\_\_ membrane.
14. Part of the root that absorbs water from the soil is \_\_\_\_\_.
15. Normal blood pressure is \_\_\_\_\_.
16. The normal human heartbeat rate is about \_\_\_\_\_ time per minute.
17. \_\_\_\_\_ is the longest cell in our body.
18. Impulses travels rapidly in \_\_\_\_\_ neurons.
19. A change in the environment that causes an animal to react is called \_\_\_\_\_ .
20. \_\_\_\_\_ carries the impulse towards the cell body.
21. The two antagonistic component of autonomic nervous system are \_\_\_\_\_ and \_\_\_\_\_ .
22. A neuron contains all cell organelles except \_\_\_\_\_ .
23. \_\_\_\_\_ maintains the constant pressure inside the cranium.
24. \_\_\_\_\_ and \_\_\_\_\_ increases the surface area of cerebrum.
25. The part of human brain which acts as relay centre is \_\_\_\_\_ .
26. \_\_\_\_\_ causes cell elongation, apical dominance and prevents abscission.
27. \_\_\_\_\_ is a gaseous hormone involved in abscission of organs and acceleration of fruit ripening.
28. \_\_\_\_\_ causes stomatal closure.
29. Gibberellins induce stem elongation in \_\_\_\_\_ plants.
30. The hormone which has negative effect on apical dominance is \_\_\_\_\_.
31. Calcium metabolism of the body is controlled by \_\_\_\_\_.
32. In the islets of Langerhans, beta cells secrete \_\_\_\_\_.
33. The growth and functions of thyroid gland is controlled by \_\_\_\_\_.
34. Decreased secretion of thyroid hormones in the children leads to \_\_\_\_\_.
35. The embryo sac in a typical dicot at the time of fertilization is \_\_\_\_\_ .
36. After fertilization the ovary develops into \_\_\_\_\_ .
37. Planaria reproduces asexually by \_\_\_\_\_ .
38. Fertilization is \_\_\_\_\_ in humans.
39. The implantation of the embryo occurs at about \_\_\_\_\_ day of fertilization
40. \_\_\_\_\_ is the first secretion from the mammary gland after child birth
41. Prolactin is a hormone produced by \_\_\_\_\_ .
42. The pairs of contrasting character (traits) of Mendel are called \_\_\_\_\_.
43. Physical expression of a gene is called \_\_\_\_\_
44. The thin thread like structures found in the nucleus of each cell are called \_\_\_\_\_.
45. DNA consists of two \_\_\_\_\_ chains
46. An inheritable change in the amount or the structure of a gene or a chromosome is called \_\_\_\_\_.
47. The characters developed by the animals during their life time, in response to the environmental changes are called \_\_\_\_\_.
48. The degenerated and non-functional organs found in an organism are called \_\_\_\_\_.
49. The forelimbs of bat and human are examples of \_\_\_\_\_ organs.
50. The theory of natural selection for evolution was proposed by \_\_\_\_\_.



51. Economically important crop plants with superior quality are raised by\_\_\_\_\_.
52. A protein rich wheat variety is \_\_\_\_\_.
53. \_\_\_\_\_is the chemical used for doubling the chromosomes.
54. The scientific process which produces crop plants enriched with desirable nutrients is called \_\_\_\_\_.
55. Rice normally grows well in alluvial soil, but \_\_\_\_\_ is a rice variety produced by mutation breeding that grows well in saline soil.
56. \_\_\_\_\_ technique made it possible to genetically engineer living organism.
57. Restriction endonucleases cut the DNA molecule at specific positions known as \_\_\_\_\_.
58. Similar DNA fingerprinting is obtained for \_\_\_\_\_.
59. \_\_\_\_\_ cells are undifferentiated mass of cells.
60. In gene cloning the DNA of interest is integrated in a \_\_\_\_\_.
61. Cirrhosis is caused in liver due to excessive use of \_\_\_\_\_.
62. A highly poisonous chemicals derived from tobacco is \_\_\_\_\_.
63. Blood cancer is called \_\_\_\_\_.
64. Less response of a drug to a specific dose with repeated use is called \_\_\_\_\_.
65. Insulin resistance is a condition in \_\_\_\_\_diabetes mellitus.
66. Deforestation leads to \_\_\_\_\_ in rainfall.
67. Removal of soil particles from the land is called \_\_\_\_\_.
68. Chipko movement is initiated against \_\_\_\_\_ .
69. \_\_\_\_\_ is a biosphere reserve in Tamilnadu.
70. Tidal energy is \_\_\_\_\_ type of energy.
71. Coal, petroleum and natural gas are called \_\_\_\_\_ fuels.
72. \_\_\_\_\_ is the most commonly used fuel for the production of electricity.
73. \_\_\_\_\_ is the common step in aerobic and anaerobic pathway.
74. \_\_\_\_\_ is the phenomenon by which carbohydrates are oxidized to release ethyl alcohol.
75. \_\_\_\_\_ is the common name of the Hirudinaria granulosa.
76. Leech respire through \_\_\_\_\_.
77. \_\_\_\_\_ pairs of testes are present in leech.
78. \_\_\_\_\_ are the organs attached to the two bronchi.
79. \_\_\_\_\_ acts as suction pump in leech.
80. The study of fossils is called \_\_\_\_\_.
81. \_\_\_\_\_ is the two layered protective covering of human heart.
82. The heart valve associated with the major arteries leaving the ventricles is \_\_\_\_\_.
83. The artery which supplies blood to the heart muscle is \_\_\_\_\_.
84. \_\_\_\_\_ acts as a link between the nervous system and endocrine system.
85. The hormone which promotes the production of male flowers in Cucurbits is \_\_\_\_\_.
86. The hormone which induces parthenocarp in tomatoes is \_\_\_\_\_.
87. The hormone responsible for the secretion of milk in female after child birth is \_\_\_\_\_.
88. The hormones which regulates water and mineral metabolism in man is \_\_\_\_\_.
89. \_\_\_\_\_ hormone is secreted during emergency situation in man.
90. The gland which secretes digestive enzymes and hormones is \_\_\_\_\_.
91. The endocrine glands associated with kidneys is \_\_\_\_\_.
92. The germination of pollen grains takes place in \_\_\_\_\_ of the flower.
93. The hormone responsible for the vigorous contractions of the uterine muscles is \_\_\_\_\_.
94. The enzyme present in acrosome of sperm is \_\_\_\_\_.
95. \_\_\_\_\_ is considered to be the fossil bird.
96. \_\_\_\_\_ is a cross in which inheritance of two pairs of contrasting characters are studied.
97. The condition when both the alleles are identical is called \_\_\_\_\_.
98. The segments of DNA, which are responsible for the inheritance of a particular character are called \_\_\_\_\_.
99. The bond which binds the nucleotides in a DNA is \_\_\_\_\_.
100. A human hand, a front leg of a cat, a front flipper of a whale and a bat's wing look dissimilar and adapted for different functions. The name given to these organs is \_\_\_\_\_.

**ST.PAUL'S MATRICULATION HIGHER SECONDARY SCHOOL, BLOCK – 4, NEYVELI.**

X STD

**BIOLOGY ONE MARK TEST - 3**

MARKS : 100 TIME : 1 ½ Hrs

(PORTION : UNIT 12 TO 22 - BOOK BACK TRUE OR FALSE / ASSERTION & REASON / ABBREVIATIONS )

**I. State whether the statements are true or false. Correct the false statement. (81 X 1 = 81)**

1. Phloem tissue is involved in the transport of water in plant.
2. The waxy protective covering of a plant is called as cuticle.
3. In monocot stem cambium is present in between xylem and phloem.
4. Palisade parenchyma cells occur below upper epidermis in dicot root.
5. Mesophyll contains chlorophyll.
6. Anaerobic respiration produces more ATP than aerobic respiration.
7. An anticoagulant present in saliva of leech is called heparin.
8. The vas deferens serves to transport the ovum.
9. Diastema is a gap between premolar and molar teeth in rabbit.
10. The cerebral hemispheres of rabbit are connected by band of nerve tissue called corpora quadrigemina.
11. The phloem is responsible for the translocation of food.
12. Plants lose water by the process of transpiration.
13. The form of sugar transported through the phloem is glucose.
14. In apoplastic movement the water travels through the cell membrane and enter the cell.
15. When guard cells lose water the stoma opens.
16. Initiation and stimulation of heart beat take place by nerves.
17. All veins carry deoxygenated blood.
18. WBC defend the body from bacterial and viral infections.
19. The closure of the mitral and tricuspid valves at the start of the ventricular systole produces the first sound 'LUBB'.
20. Dendrons are the longest fibres that conducts impulses away from the cell body.
21. Sympathetic nervous system is a part of central nervous system.
22. Hypothalamus is the thermoregulatory centre of human body.
23. Cerebrum controls the voluntary actions of our body.
24. In the central nervous system myelinated fibres form the white matter.
25. All the nerves in the body are covered and protected by meninges.
26. Cerebrospinal fluid provides nutrition to brain.
27. Reflex arc allows the rapid response of the body to a stimulus.
28. Pons helps in regulating respiration.
29. A plant hormone concerned with stimulation of cell division and promotion of nutrient mobilization is cytokinin.
30. Gibberellins cause parthenocarpy in tomato.
31. Ethylene retards senescence of leaves, flowers and fruits.
32. Exophthalmic goiter is due to the over secretion of thyroxine.
33. Pituitary gland is divided into four lobes.
34. Estrogen is secreted by corpus luteum.
35. Stalk of the ovule is called pedicle.
36. Seeds are the product of asexual reproduction.
37. Yeast reproduces asexually by means of multiple fission.
38. The part of the pistil which serves as a receptive structure for the pollen is called as style.
39. Insect pollinated flowers are characterized by dry and smooth pollen.
40. Sex organs produce gametes which are diploid.
41. LH is secreted by the posterior pituitary.
42. Menstrual cycle ceases during pregnancy.
43. Surgical methods of contraception prevent gamete formation.
44. The increased level of estrogen and progesterone is responsible for menstruation.
45. A typical Mendelian dihybrid ratio of F<sub>2</sub> generation is 3:1.
46. A recessive factor is altered by the presence of a dominant factor.
47. Each gamete has only one allele of a gene.
48. Hybrid is an offspring from a cross between genetically different parent.
49. Some of the chromosomes have an elongated knob-like appendages known as telomere.
50. New nucleotides are added and new complementary strand of DNA is formed with the help of enzyme DNA polymerase.
51. Down's syndrome is the genetic condition with 45 chromosomes.
52. The use and disuse theory of organs' was postulated by Charles Darwin.
53. The homologous organs look similar and perform similar functions but they have different origin and developmental pattern.
54. Birds have evolved from reptiles.
55. *Raphano brassica* is a man-made tetraploid produced by colchicine treatment.
56. The process of producing an organism with more than two sets of chromosome is called mutation.
57. A group of plants produced from a single plant through vegetative or asexual reproduction are called a pureline.
58. Iron fortified rice variety determines the protein quality of the cultivated plant.
59. Golden rice is a hybrid.

60. Bt gene from bacteria can kill insects.
61. *In vitro fertilisation* means the fertilization done inside the body.
62. DNA fingerprinting technique was developed by Alec Jeffrey.
63. Molecular scissors refers to DNA ligases.
64. AIDS is an epidemic disease.
65. Cancer causing genes are called Oncogenes.
66. Obesity is characterized by tumour formation.
67. In leukemia both WBCs and RBCs increase in number.
68. Study of cause of disease is called etiology.
69. AIDS is not transmitted by contact with a patient's clothes.
70. Type 2 diabetes mellitus results due to insulin deficiency.
71. Carcinogens are cancer causing agents.
72. Nicotine is a narcotic drug.
73. Cirrhosis is associated with brain disorder.
74. Biogas is a fossil fuel.
75. Planting trees increases the groundwater level.
76. Habitat destruction cause loss of wild life.
77. Nuclear energy is a renewable energy.
78. Overgrazing prevents soil erosion.
79. Poaching of wild animals is a legal act.
80. National park is a protected park.
81. Wild life protection act was established in 1972.

## II. Assertion and Reasoning (14 X 1 = 14)

**Direction:** In each of the following questions a statement of assertion (A) is given and a corresponding statement of reason (R) is given just below it. Mark the correct statement as.

- a. If both A and R are true and R is correct explanation of A
- b. If both A and R are true but R is not the correct explanation of A
- c. A is true but R is false
- d. Both A and R are false

82. **Assertion:** RBC plays an important role in the transport of respiratory gases.

**Reason:** RBC do not have cell organelles and nucleus.

83. **Assertion:** Persons with AB blood group are called an universal recipients, because they can receive blood from all groups.

**Reason:** Antibodies are absent in persons with AB blood group.

84. **Assertion:** Cerebrospinal fluid is present throughout the central nervous system.

**Reason:** Cerebrospinal fluid has no such functions.

85. **Assertion:** Corpus callosum is present in space between the duramater and piamater.

**Reason:** It serves to maintain the constant intracranial pressure.

86. **Assertion:** Application of cytokinin to marketed vegetables can keep them fresh for several days.

**Reason:** Cytokinins delay senescence of leaves and other organs by mobilization of nutrients.

87. **Assertion (A):** Pituitary gland is referred as "Master gland".

**Reason (R):** It controls the functioning of other endocrine glands.

88. **Assertion (A):** Diabetes mellitus increases the blood sugar levels.

**Reason (R):** Insulin decreases the blood sugar levels.

89. **Assertion:** All drugs act on the brain.

**Reason:** Drugs disturb the functioning of the body and mind.

90. **Assertion:** Excretion of excess glucose in urine is observed in a person with diabetes mellitus.

**Reason:** Pancreas is unable to produce sufficient quantity of insulin.

91. **Assertion:** Rainwater harvesting is to collect and store rain water.

**Reason:** Rainwater can be directed to recharge the underground water source.

92. **Assertion:** Energy efficient bulbs like CFL must be used to save electric energy.

**Reason:** CFL bulbs are costlier than ordinary bulbs, hence using ordinary bulbs can save our money.

**Understand the assertion statement, justify the reason given and choose the correct choice**

- a. Assertion is correct and reason is wrong.
- b. Reason is correct and the assertion is wrong
- c. Both assertion and reason is correct
- d. Both assertion and reason is wrong.

93. **Assertion:** Hybrid is superior than either of its parents.

**Reason:** Hybrid vigour is lost upon inbreeding.

94. **Assertion:** Colchicine reduces the chromosome number.

**Reason:** It promotes the movement of sister chromatids to the opposite poles.

95. **Assertion:** rDNA is superior over hybridisation techniques.

**Reason:** Desired genes are inserted without introducing the undesirable genes in target organisms.

## III. Expand the following abbreviations. (5 X 1 = 5)

96. HIV
97. BMI
98. AIDS
99. CHD
100. NIDDM



**ST.PAUL'S MATRICULATION HIGHER SECONDARY SCHOOL, BLOCK – 4, NEYVELI.**

X STD

**BIOLOGY ONE MARK TEST - 4**

MARKS : 75

TIME : 1 Hr.

(PORTION : UNIT 12 TO 22 - BOOK BACK MATCH / ANALOGY)

**I. Match the following. (73 X 1 = 73)****Match - 1**

1. Amphicribal - a) *Dracaena*
2. Cambium - b) Translocation of food
3. Amphivasal - c) Fern
4. Xylem - d) Secondary growth
5. Phloem - e) Conduction of water

**Match – 2**

Organs	Covering	Location
6. Brain	Pleura	Abdominal cavity
7. Kidney	Capsule	Mediastinum
8. Heart	Meninges	Thoracic cavity
9. Lungs	Pericardium	Cranial cavity

**Match – 3**

10. Symplastic pathway - a) Leaf
11. Transpiration - b) Plasmodesmata
12. Osmosis - c) Pressure in xylem
13. Root Pressure - d) Pressure gradient

**Match – 3**

14. Leukemia - a) Thrombocytes
15. Platelets - b) Phagocyte
16. Monocytes - c) Decrease in leucocytes
17. Leucopenia - d) Blood Cancer
18. AB blood group - e) Allergic condition
19. O blood group - f) Inflammation
20. Eosinophil - g) Absence of antigen
21. Neutrophils - h) Absence of antibody

**Match - 4**

22. Nissl's granules - a) Forebrain
23. Hypothalamus - b) Peripheral Nervous system
24. Cerebellum - c) Cyton
25. Schwann cell - d) Hindbrain

**Match – 5**

Column I	Column II	Column III
26. Auxin	<i>Gibberella fujikuroi</i>	Abscission
27. Ethylene	Coconut milk	Internodal elongation
28. Absciscic acid	Coleoptile tip	Apical dominance
29. Cytokinin	Chloroplast	Ripening
30. Gibberellins	Fruits	Cell division

**Match - 6**

31. Thyroxine - a) Acromegaly
32. Insulin - b) Tetany
33. Parathormone - c) Simple goitre
34. Growth hormone - d) Diabetes insipidus
35. ADH - e) Diabetes mellitus

**Match - 7**

36. Fission - a) Spirogyra
37. Budding - b) Amoeba
38. Fragmentation - c) Yeast

**Match – 8**

39. Parturition	a) Duration between pregnancy and birth
40. Gestation	b) Attachment of zygote to endometrium
41. Ovulation	c) Delivery of baby from uterus
42. Implantation	d) Release of egg from Graafian follicle

**Match - 9**

43. Autosomes - a) Trisomy 21
44. Diploid condition - b) 9:3:3:1
45. Allosome - c) 22 pair of chromosome
46. Down's syndrome - d) 2n
47. Dihybrid ratio - e) 23rd pair of chromosome

**Match – 10**

48. Atavism	Caudal vertebrae and vermiform appendix
49. Vestigial	A forelimb of a cat and a organs bat's wing
50. Analogous	Rudimentary tail and organs thick hair on the body
51. Homologous	A wing of a bat and organs a wing of an insect
52. Wood park	Radiocarbon dating
53. W.F. Libby	Thiruvakkarai

**Match - 11**

54. Sonalika - a) *Phaseolus mungo*
55. IR 8 - b) Sugarcane
56. Saccharum - c) Semi-dwarf wheatS
57. Mung No. 1 - d) Ground nut
58. TMV – 2 - e) Semi-dwarf Rice
59. Insulin - f) *Bacillus thuringiensis*
60. Bt toxin - g) Beta carotene
61. Golden rice - h) First hormone produced using rDNA technique

**Match - 12**

62. Sarcoma - a) Stomach cancer
63. Carcinoma - b) Excessive thirst
64. Polydipsia - c) Excessive hunger
65. Polyphagia - d) Lack of blood flow to heart muscle
66. Myocardial Infarction - e) Connective tissue Cancer.

**Match - 13**

67. Soil erosion - a) Energy saving
68. Bio gas - b) Acid rain
69. Natural gas - c) Removal of vegetation
70. Green house gas - d) Renewable energy
71. CFL bulbs - e) CO<sub>2</sub>
72. Wind - f) Non-renewable energy
73. Solid waste - g) Lead and heavy metals

**II. Analogy type questions. Identify the first words and their relationship and suggest a suitable word for the fourth blank. (2 X 1 = 2)**

74. Communicable : AIDS

Non communicable: \_\_\_\_\_.

75. Hypertension: Hypercholesterolemia

Glycosuria: \_\_\_\_\_.

PREPARED BY : M.G.RAYMOND, M.Sc., B.Ed.,

ST.PAUL'S MHS SCHOOL, NEYVELI.

9629705161 / 9442980841

**ST.PAUL'S MATRICULATION HIGHER SECONDARY SCHOOL, BLOCK - 4, NEYVELI.**

X STD

**BIOLOGY TWO MARK QUESTIONS (VSA)TEST - 5**

MARKS : 100

TIME : 2 Hrs.

(PORTION : UNIT 12 TO 17 - BOOK BACK VERY SHORT ANSWERS / 2 MARK QUESTIONS )

**I. WRITE VERY SHORT ANSWER FOR THE FOLLOWING QUESTIONS. ( 50 X 2 = 100)**

- 1.What is collateral vascular bundle?
- 2.Where does the carbon that is used in photosynthesis come from?
3. What is the common step in aerobic and anaerobic pathway?
4. Draw and label the structure of oxysomes.
5. Name the three basic tissues system in flowering plants.
6. What is photosynthesis and where in a cell does it occur?
7. What is respiratory quotient?
8. Why should the light dependent reaction occur before the light independent reaction?
9. Write the reaction for photosynthesis?
10. Give an account on vascular bundle of dicot stem.
11. What are the end product of light and dark reaction of photosynthesis?
12. Where do the light dependent reaction and the Calvin cycle occur in the chloroplast?
13. Write the dental formula of rabbit.
14. How is diastema formed in rabbit?
15. Why is the teeth of rabbit called heterodont?
16. How does leech suck blood from the host?
17. Why are the rings of cartilages found in trachea of rabbit?
18. How is the circulatory system designed in leech to compensate the heart structure ?
19. Leeches do not have an elaborate secretion of digestive juices and enzymes -Why ?
20. How is the digestive system of rabbit suited for herbivorous mode of feeding?
21. What is the shape of RBC in human blood?
22. Which kind of cells are found in the lymph?
23. What is cohesion?
24. Trace the pathway followed by water molecules from the time it enters a plant root to the time it escapes into the atmosphere from a leaf.
25. What would happen to the leaves of a plant that transpires more water than its absorption in the roots?
26. Mature RBC in mammals do not have cell organelles – Give reason.
27. Why is the circulation in man referred to as double circulation?

28. What are heart sounds? How are they produced?
29. What is the importance of valves in the heart?
30. Who discovered Rh factor? Why was it named so?
31. How are arteries and veins structurally different from one another?
32. Why is the Sinoatrial node called the pacemaker of heart?
33. Differentiate between systemic circulation and pulmonary circulation.
34. The complete events of cardiac cycle last for 0.8 sec. What is the timing for each event?
35. Why are the walls of the left ventricle thicker than the other chambers of the heart?
36. Define stimulus.
37. Name the parts of the hind brain.
38. What are the structures involved in the protection of brain?
39. Give an example for conditioned reflexes.
40. Define reflex arc.
41. Differentiate between Voluntary and involuntary actions.
42. Differentiate between Medullated and non-medullated nerve fibre.
43. 'A' is a cylindrical structure that begins from the lower end of medulla and extend downwards. It is enclosed in bony cage 'B' and covered by membranes 'C'. As many as 'D' pairs of nerves arise from the structure 'A'.  
(i) What is A?  
(ii) Name (a) bony cage 'B' and (b) membranes 'C'  
(iii) How much is D?
44. Write the differences between endocrine and exocrine gland.
45. Write the name of a synthetic auxin.
46. What are synthetic auxins? Give examples.
47. What is bolting? How can it be induced artificially?
48. Bring out any two physiological activities of abscisic acid
49. What will you do to prevent leaf fall and fruit drop in plants? Support your answer with reason.
50. What are chemical messengers?

PREPARED BY : M.G.RAYMOND, M.Sc., B.Ed.,

ST.PAUL'S MHS SCHOOL, NEYVELI.

9629705161 / 9442980841

**ST.PAUL'S MATRICULATION HIGHER SECONDARY SCHOOL, BLOCK - 4, NEYVELI.**

X STD

**BIOLOGY TWO MARK QUESTIONS (VSA) TEST - 6**

MARKS : 100

TIME : 2 Hrs.

(PORTION : UNIT 17 TO 22 - BOOK BACK VERY SHORT ANSWERS / 2 MARK QUESTIONS )

**I. WRITE VERY SHORT ANSWER FOR THE FOLLOWING QUESTIONS. ( 50 X 2 = 100)**

1. If one pollen grain produces two male gametes, how many pollen grains are needed to fertilize 10 ovules?
2. Name two organisms which reproduces through budding.
3. Mention the function of endosperm.
4. What is the need for contraception ?
5. Name the part of the human female reproductive system where the following occurs.  
a. Fertilization b. Implantation
6. What will happen if you cut planaria into small fragments?
7. Why is vegetative propagation practiced for growing some type of plants?
8. How does binary fission differ from multiple fission?
9. Define triple fusion.
10. Name the secondary sex organs in male
11. Identify the parts A, B, C and D



12. Why are the human testes located outside the abdominal cavity? Name the pouch in which they are present .
13. Luteal phase of the menstrual cycle is also called the secretory phase. Give reason.
14. Why are family planning methods not adopted by all the people of our country?
15. Why did Mendel select pea plant for his experiments?
16. What do you understand by the term phenotype and genotype?
17. What are allosomes?
18. What are Okazaki fragments?
19. Why is euploidy considered to be advantageous to both plants and animals?
20. The degenerated wing of a kiwi is an acquired character. Why is it an acquired character?
21. Why is Archaeopteryx considered to be a connecting link?
22. Give the name of wheat variety having higher dietary fibre and protein.

23. Semi-dwarf varieties were introduced in rice. This was made possible by the presence of dwarfing gene in rice. Name this dwarfing gene.
24. Define genetic engineering.
25. Name the types of stem cells.
26. What are transgenic organisms?
27. State the importance of biofertiliser.
28. Name three improved characteristics of wheat that helped India to achieve high productivity.
29. Name two maize hybrids rich in amino acid lysine
30. Distinguish between somatic gene therapy and germ line gene therapy.
31. Distinguish between undifferentiated cells and differentiated cells.
32. State the applications of DNA fingerprinting technique.
33. How are stem cells useful in regenerative process?
34. Differentiate between outbreeding and inbreeding.
35. What are psychotropic drugs ?
36. Mention the diseases caused by tobacco smoke.
37. What are the contributing factors for Obesity?
38. What is adult onset diabetes?
39. What is metastasis?
40. How does insulin deficiency occur?
41. What are the various routes by which transmission of human immuno deficiency virus takes place ?
42. How is a cancer cell different from a normal cell ?
43. Why is a dietary restriction recommended for an obese individual ?
44. What precautions can be taken for preventing heart diseases ?
45. What will happen if trees are cut down?
46. What would happen if the habitat of wild animals is disturbed?
47. What are the agents of soil erosion?
48. Why fossil fuels are to be conserved?
49. Solar energy is a renewable energy. How?
50. How are e-wastes generated?

PREPARED BY : M.G.RAYMOND, M.Sc., B.Ed.,

ST.PAUL'S MHS SCHOOL, NEYVELI.

9629705161 / 9442980841