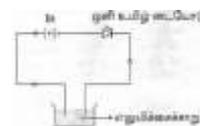


SSLC JUNE-2017 - SCIENCE**Time Allowed : 2 ½ Hours****Maximum Marks: 75****Note : This question paper contains three sections.****SECTION – I****Note: (i) Answer all the 15 Questions.****15x1=15****(ii) Choose the correct answer from the alternatives given in the brackets.**

- In persons suffering from insulin-dependent diabetes,the cells of pancreas are degenerated. (Alpha, Beta, Gamma, Delta)
- The Child eats food rich in carbohydrates and avoids protein in its diet. Which type of nutritional deficiency will affect that child? (Kwashiorkar, Nyctalopia, Diabetes, Down syndrome)
- The following are the parts of a neurone:
 - Axon
 - Terminal branches
 - Cyton
 - Dendrites
 The correct pathway of a nerve impulse through these parts are(badc, dcab, bdac, adbc)
- The fertilized ovary is a fruit. The fruit that develops from a single flower with multi carpellary, apocarpous superior ovary is (Aggregate fruit, Composite fruit, Simple fruit, Multiple fruit)
- Important characteristic features of mammals (Four chambered heart, fore-limbs and hind limbs, milk-producing glands, post anal tail)
- The xylem in the plants is responsible for(transport of water, transport of food, transport of amino acids, transport of oxygen)
-is called the country of “winds” (Denmark, China, India, Italy)
- Aquatic species are more comfortable in cold water because
(as the temperature decreases, the solubility of dissolved oxygen increases, as the temperature increases, the solubility of dissolved oxygen increases, as the temperature increases, the solubility of dissolved oxygen decreases)
- To protect tooth decay, we are advised to brush our teeth regularly. The nature of the tooth paste commonly used isin nature. (acidic, basic, neutral)
- The modern periodic table is based upon theof elements. (electronic configuration, proton configuration, neutron configuration)
- Which is the functional group of carboxylic acid? (-CHO, >C=O , -COOH, -OH)
- One astronomical unit is the mean distance between the centre of the Earth and centre of the(Moon, Sun, Mars)
- The SI unit of momentum: (kg ms^{-1} , N, Nm, $\text{Nm}^2\text{kg}^{-2}$)
- Observe the circuit diagram and fill up the following.
Lemon Juice conduct electricity and the bulb glows. This iseffect. (Chemical effect of Electric current / Magnetic effect of electric current)
- The phenomenon of producing an emf in a circuit whenever the magnetic flux linked with a coil changes is (electromagnetic induction, inducing current, inducing voltage, change in current)

**SECTION – II (Marks:40)****Note: Answer any twenty questions.****20x2=40**

- In dogs, the barking trait is dominant over the silent trait. Using Punnett Square, work out the possible puppies born to two parents with genotype (Rr)
- Who produced the theory of Natural Selection? Mention the two principles of this theory.
- What is Clone? In what way is the cloning technique useful in the field of veterinary science?

19. Match B and C with A

| A | B | C |
|------------------------|----------------------------|----------------------------------|
| Vitamins | Deficiency diseases | Symptoms |
| Vitamin B ₁ | Scurvy | Nervous disorder |
| Vitamin C | Rickets | Bleeding gums |
| Vitamin D | Haemorrhage | Defective calcification of bones |
| Vitamin K | Beri – Beri | Profuse loss of blood |



20. Copy the diagram and label the parts with the help of the clues given:

i) It is otherwise called supra renal gland. ii) It secretes two hormones, namely aldosterone and cortisone.

21. The dispersal mechanism of fruits and seeds is given below. Match the following.

| | | |
|------------|---|----------------------|
| Autochory | - | dispersed by water |
| Anemochory | - | dispersed by animals |
| Hydrochory | - | dispersed by wind |
| Zoochory | - | self dispersal |

22. How is heart beat, “lubb” and “dubb” produced? The average human heart beatstimes in a minute when a body is at rest.

23. a) The type of dentition in man can be called (Homodont / Heterodont)

b) The dental formula of a mammal is written as ICPM=2023 / 1023. The teeth missing in it are(canines / Incisors)

24. Assertion (A) : Social attachment among animals is called imprinting.

Reason (R) : At times, we find the young one of a species raised by a parent of another species. (eg. the chick of the cuckoo is fed by a crow in its nest)

i) Both (A) and (R) are correct. ii) (A) is wrong but (R) is correct.

iii) Both (A) and (R) are wrong. iv) (A) is correct and (R) is wrong.

25. Correct the mistakes in the given statement.

a) Phloem transports water. b) Xylem transports food.

26. A fish taken out of water cannot survive for long time. Why?

27. The raw materials required for photosynthesis are sunlight, water, Co₂ and chlorophyll. Give the biochemical reaction for the process of photosynthesis.

28. Living organisms adapt themselves according to their habitat. Match the following.

| | | |
|----------|---|---------------------|
| a) Fish | - | wings |
| b) Camel | - | hard skin |
| c) Frog | - | fins |
| d) Birds | - | hind limbs with web |

29. A non - renewable resource is a natural resource, if it is replaced by natural process at a rate equal to or faster than its rate of consumption by humans. Read this statement and say whether it is correct or incorrect. If it is incorrect give the correct statement.

30. Observe the diagram and answer the following questions.

a) Which energy is produced? ii) Name A and B in the diagram.



31. Find the odd one out.

a) Biological, Green diesel, Bioethers, Petroleum b) Solar energy, Hydrogen, Wind energy, Natural gas

32. Differentiate true solution and colloidal solution.

33. Beaker A has sugar mixed with water and Beaker B has starch dissolved with water.

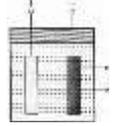
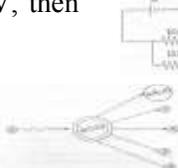
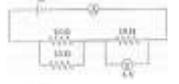
a) Name the type of solution that beaker A and beaker B contain. b) In which beaker does the Brownian movement take place?

34. Calculate the number of molecules 18g of H₂O

35. The hydrogen ion concentration of a solution is 1x 10⁻⁸ M:

a) What is the pH of the solution? b) Is the given solution, acidic or basic?

36. Why does the colour of copper sulphate change when an iron nail is kept in it? Justify.

37. Who am I?
a) I am constituent metal of vitamin B₁₂. b) I am constituent metal of chlorophyll.
38. The chief ore of copper is copper pyrite. It yields nearly 76% of the world production of copper. Raise questions. a)? b).....?
39. What is Esterification? Give its chemical equation.
40. Pick the odd one out.
a) From the following statements find which is not applicable to the mass of an object. (It is a fundamental quantity, It is measured using physical balance, It is measured using spring balance)
b) Name the organisation which does not relate to Chandrayan – I (ISRO, ESA, NASA, ONGC)
41. A constant force acts on an object of mass 10 kg for a duration of 4 sec. It increases the object's velocity from 2 ms⁻¹ to 8 ms⁻¹. Find the magnitude of the applied force. 
42. Copy the diagram and label its parts A and B. 
43. If the reading of the ideal voltmeter (V) in the given circuit is 6V, then find the reading of ammeter (A) 
44. Write the name of A and B in the given Nuclear Fission Reaction. 
45. Correct the mistakes, if any in the following statements.
a) The magnetic field is a quantity that has magnitude only.
b) Outside the bar magnet, the magnetic field lines emerge from the south pole and merge at the north pole.
46. Observe the diagram and state the laws of Refraction. 
47. You know that myopia is a common refractive defect of vision. A person with this defect can clearly see only objects that are near. Using concave lens of suitable power this defect is corrected.
a) Mention the other two types of defects. b) Explain how they can be corrected.

SECTION – III (Marks: 20)

Note : (i) Answer any four questions by choosing one question from each part.

4x5=20

(ii) Each question carries five marks. (iii) Draw diagram wherever necessary.

PART – I

48. There is a widespread outbreak of malaria in your area.
a) Suggest some controlling measures to the local authorities concerned. b) Write the symptoms for malaria.
49. List out the various parts of the human brain and write a note on their functions. (Diagram not necessary)

PART –II

50. What is fruit? a) Explain briefly about fruit formation. b) What are parthenocarpic fruits? Give examples.
51. In your locality people are affected due to water scarcity. What measures will you take to deal with the problem of water scarcity? (any 5)

PART –III

52. State any three findings of modern atomic theory. b) List out any two differences between atoms and molecules.
53. a) How is Ethanoic Acid (CH₃COOH) prepared? Give the chemical equation.
b) Write the common name and IUPAC name of the following.
i) CH₃CH₂OH ii) CH₃CHO iii) CH₃CH₂COOH

PART –IV

54. a) State the Newton's law of gravitation. b) What is Cryogenic Technique? How this Technique can be used in Rocket?
55. Observe the Diagram and answer the following:
a) What is known as induced current? b) How this induced current be generated by Ac Generator?

ABCD - Rectangular coil NS - Permanent magnets
B1B2 - Carbon brushes S1S2 - Rings

