

K.S.E.E.B., Malleshwaram, Bangalore
SSLC Model Question Paper-2 (2015)

SCIENCE

Max Marks: 80

Time: 2 Hours 45 minutes

No. of Questions: 42

Code No. : 83EM

Four alternatives are given for the each question. Choose the correct alternative and write the complete answer along with its alphabet in the space provided.

1 × 10 = 10

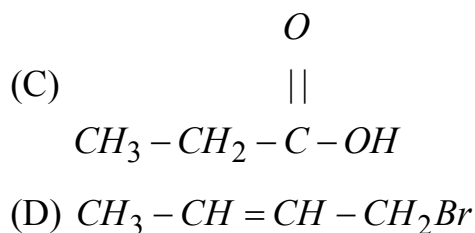
1. Which one of the following is not a feature of non conventional fuels.
 - (A) Energy source are very less
 - (B) Renewable
 - (C) Pollution free
 - (D) Supply of energy in a decentralized system

2. The working principle of a hydrogen bomb is,
 - (A) Principle of Conservation
 - (B) Principle of Nuclear fission reaction
 - (C) Principle of Nuclear fusion reaction
 - (D) Principle Electrometric induction

3. A ship sends ultrasonic sound. It returns from seabed and it is detected after 6 second. The ultrasound wave travelled distance is.

(A) 4.5 km	(B) 0.45 km
(C) 90 km	(D) 9.0 km

4. An unsaturated hydrocarbon is
 - (A) $CH_3 - CH = CH - CH_3$
 - (B)
$$\begin{array}{c} H \\ | \\ CH_3 - CH_2 - CH_2 - C = O \end{array}$$



5. Element used in the process of converting liquid oils into solid saturated fats is,
 (A) Oxygen (B) Hydrogen
 (C) Nitrogen (D) Iodine
6. The constituents of alloy used in the manufacture of permanent magnet is
 (A) Copper + Zinc + Tin
 (B) Aluminium + Magnesium + Copper + Manganese
 (C) Iron + Carbon + Chromium + Nickel
 (D) Iron + Cobalt + Nickel + Aluminium
7. Pollutions which occur by burning of fossil fuels are
 (A) Water pollution and Noise Pollution
 (B) Air pollution and Radio active pollution
 (C) Air pollution and Soil Pollution
 (D) Air pollution and noise pollution
8. (i) Striped muscles (ii) Cardiac muscles (iii) Skeletal muscle (iv) Unstripped muscles. Involuntary muscles in this group are
 (A) (i) and (ii) (B) (i) and (iii)
 (C) (ii) and (iii) (D) (i) and (iv)
9. Group of diseases spread through sexual contact.
 (A) Chikungunya, Dengue, syphilis
 (B) Gonorrhoea, Aids, Syphilis
 (C) Gonorrhoea, Birdflew, Aids
 (D) Dengue, Syphilis, Hepatitis B
10. The technique of separating the desirable gene from a cell and introduce it into another cell is called.

- (A) DNA fingerprint technology
- (B) Recombinant DNA technology
- (C) Information technology
- (D) Gel electrophoresis

11. Match the names of the vertebrates given in column 'A' with the Characteristics listed in columns 'B' and 'C' and write the answers in the space given below:

$$1 \times 4 = 4$$

A	B	C
1. Hippocampus	a) 3 chambered heart 12 pairs of cranial nerve.	i) Viviparous, warm blooded animal
2. Calotes	b) 2 chambered heart, 12 pairs of cranial nerves.	ii) Viviparous, cold blooded animal
3. Flamingo	c) 2 chambered heart, 10 pairs of cranial nerve.	iii) Oviparous, terrestrial animal
4. Bat	d) 4 chambered heart, teeth are absent.	iv) Oviparous, Amphibians
	e) 3 chambered heart, beak like structure present.	v) Oviparous, Cold blooded animal
	f) 4 chambered heart, teeth are present.	vi) Oviparous, warm blooded animal

Answer the following questions in one sentence

$$1 \times 7 = 7$$

12. Name the efficient fuel obtained from cow dung? Also mention its main constituents.
13. What is orbital velocity?
14. What are the factors understood by analyzing the lines of the spectrum of the stars.
15. Electrolytes should be in aqueous state why?
16. Sugar is used in the preparation fruit jam give reason.
17. How is stagnant water helps the amphibians to continue their generations?
18. A person is taking insulin injection every day why?

Answer the following questions

2 × 16 = 32

19. Draw a diagram to show of electroplating and label parts.
20. Draw a diagram of expansion stroke of an external combustion engine and label the parts.
21. Write the characteristic features of Ramapithecus.

OR

Write the characteristic features of astrolopithecus.

22. Mention any two application of simple harmonic motion.

OR

Mention any two imperceptible motions.

23. If non-renewable sources such as petrol and diesel get depleted over a period of time, how to run heat engines?
24. Give reason:
 - a) Manufacture of glass is a cottage industry.
 - b) Pickle is stored in ceramic jars but not in earthen jars.

25. Draw a neat diagram of single stage rocket and label the parts.
26. Nuclear power reactors are big sources of energy even though environmentalists oppose the establishment of nuclear power plants. Justify your answer.
27. Traffic control authorities used the radar gun why?

OR

Astrologer used the Doppler effect why?

28. What is the role of magnesium and hydrochloric acid in the extraction of amorphous silicon?

OR

What is the role of coke in the extraction of crystalline silicon? Write the balanced chemical equation for chemical reaction?

29. Related to environmental pollution it is necessary to encourage to the hydrolic power station setups necessary than thermal power station. Explain.
30. What are the differences between cause and symptoms dengue fever and chikungunya?

OR

What are the ways by which HIV infection spreads?

31. Differentiate between hydroponics and aeroponics.
32. 2l of gas enclosed in a vessel at 2×10^5 pa pressure and allowed to expand about 4l under constant temperature. What would be final pressure?
33. Name the gases produce in the following chemical reactions.
- a) Copper react with *sulphuric* acid.
- b) Copper react with concentrated *nitric* acid.
34. If ethanol is used as a fuel, fossil fuels can be conserved how? Explain.

Answer the following Questions

3 × 5 = 15

35. a) Distinguish between *p*-type semi conductor and *n*-type semiconductor.
- b) The *p-n* junction offers a high resistance in reverse bias give reason?

OR

- a) Distinguish between *nnp* transistor and *pnp* transistor.
- b) What is the function of base in *nnp* transistor?
36. Draw the diagram of an electrolytic cell used in the purification of copper and label the parts.
37. Find the groups and blocks of the following elements ${}_{11}\text{Na}^{23}$, ${}_{18}\text{Ar}^{39}$, ${}_{26}\text{Fe}^{56}$.

38. Draw a diagram to show the structure of neuron and label the parts.
39. Explain DNA finger print technology and write one use of this technology?

OR

Explain recombinant DNA technology and write one use of this technology.

Answer the following questions

4 × 3 = 12

40. Draw a diagram of vertical section of human ear and label the following parts.
- (A) Stepis (B) Cochlea.
41. a) In a homologous series the third member has the formula C_3H_6 , Write the molecular and structural formula of eighth member of this series.
- b) Describe catenation by giving suitable example.

OR

- a) Mention the carbon compound having three OH functional groups and write the structural formula of it.
- b) Describe tetravalency property of carbon.
42. Around the cardboard tube A coil of insulated copper wire is connected to galvanometer. What would happen if a bar magnet is,
- a) pushed into the coil.
- b) magnet is taken out of the coil.
- c) magnet and the coil remain stationary.
- d) the number of the turns of the coil is decreased and the magnet is pushed in the coil.

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