

K.S.E.E.B., Malleshwaram, Bangalore
SSLC Model Question Paper-3 (2015)
SCIENCE

Max Marks: 80

Time: 2 Hours 45 minutes

No. of Questions: 42

Code No. : 83E

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. Marchantia : amphibois plant, adult is a gametophyte: Marselia

- (a) tracheophyte, adult is gametophyte
- (b) tracheophyte, adult is a sporophyte
- (c) angiosperm with a reduced gametophyte
- (d) algae, thalloid plant body

2. Not correctly related sequence is

- (a) Xylem tracheids – leaf tip
- (b) Stone cells - coconutshell
- (c) Smooth muscles - heart
- (d) Epithelial tissue – skin.

3. The stroke in which the inlet valve is opened in the petrol engine.

- (a) Intake stroke
- (b) Expansion stroke
- (c) Compression stroke
- (d) Exhaust stroke

4. The electronic configuration of carbon in the excited state.

- (a) $1s^2 2s^2 2p_x^2 2p_y^0 2p_z^0$
- (b) $1s^2 2s^2 2p_x^2 2p_y^0 2p_z^0$
- (c) $1s^2 2s^2 2p_x^2 2p_y^0 2p_z^0$
- (d) $1s^2 2s^2 2p_x^2 2p_y^0 2p_z^0$

5. The ultrasonic wave send by a transmitter of a sonar returns in 6 s from the floor of the ocean to the receiver, the sonar is at a distance from the floor
- (a) 3 km (b) 6 km
(c) 4.5 km (d) 9 km
6. The functional group of carbolic acid is
- (a) – OH (b) –CHO
(c) – COOH (d) –NH₂
7. A child while playing with coins swallows a coin. The wave used to identify the position of the coin is
- (a) U.V. Wave (b) Gamma Wave
(c) Ultrasonic Wave (d) X-ray
8. The dopant present in the base region of a *n-p-n* transistor is
- (a) Boron (b) Phosphorous
(c) Bismuth (d) Antimony
9. Gadgets and machines of both personal and commercial use should be managed properly to check
- (a) air pollution
(b) noise pollution
(c) land pollution
(d) thermal pollution
10. The metallic parts of a bicycle line handle rim, and spokes should be avoided by rusting, this cannot be done by
- (a) Washing regularly with water
(b) Polishing with oil
(c) Painting
(d) Electroplating

11. Match the names of the stars given in column 'A' with the colours and temperatures given in the columns 'B' and 'C' and write the answers in the space given below:

$$1 \times 4 = 4$$

A	B	C
1. Betelgeause	a) Yellowish White	i) 2000-3500 K
2. Sun	b) Bluish White	ii) 3500-5000 K
3. Sirius	c) Red	iii) 10000-50000 K
4. Rigel	d) Orange Yellow	iv) 5000-6000 K
	e) Violet	v) 1000-15000 K
	f) Yellow	vi) 6000-10000 K

Answer the following questions in one sentence

$$1 \times 7 = 7$$

12. Name the pollutant which distructs ozone layer.
13. State modern periodic law.
14. What is the problem faced by our body when
- Parathormone produced in excess
 - Diet is iodine deficient.
15. How are the scientists can identify the positions of the artificial satellite of mars MOM.
16. The efficiency of petrol engine is more than steam engine state the reason!
17. The utensils' used in Kitchen made of stainless steel will not rust. Give reason.
18. What happens to the property of the ornaments made of gold is not mixed with copper.

Answer the following questions

$$2 \times 16 = 32$$

19. It is profitable for the farmers to grow Jatropa plants in the fields where there is shortage of rain. Why?

20. Mention one function of each of the following tissues:

- (i) lateral meristem
- (ii) Chlorenchyma
- (iii) Ciliated columnar epithelium
- (iv) Adipose tissue

OR

Explain the structure of neuron.

21. Atomic number of elements is important than atomic masses of the elements in the modern periodic law. Why?
22. (a) Name the reducing agent used in preparation of crystalline silicon.
(b) Name the compound obtained if reducing agent is taken in excess.
23. Distinguish between mutants and transgenic plants.
24. Each kind of pollution is life threatening. Justify this statement by correlating the effects of water pollution with radioactive pollution.

OR

‘Urban people must be educated about roof gardening and hydroponics. Justify.

25. Write any two features of

- i) Neanderthal men
- ii) Cromagnon men

26. The frequency of a sound wave is 300 Hz and its wavelength is 1.6 m. Calculate the speed of the wave.

OR

Mention any two differences between transverse waves and longitudinal waves.

27. Name the types of the glass used to make lenses and why is it used?

28. State any two differences between petrol engine and diesel engine.

29. Write the circuit diagram of *p-n-p* transistor.
30. 5 liter of gas is enclosed in a vessel at a pressure of 3×10^5 Pa at constant temperature. Calculate the volume of the gas when the pressure is increased to 5×10^5 Pa.
31. How do gymnosperms reproduce?
32. An Iron key is to be electroplated with the copper. Draw the diagram of the apparatus used and name the cathode and anode.
33. (a) Name the pigments present and the colours they give to polysiphonia and sargassum.
- b) Which are the modifications of birds body help them in flying?
34. Write the factors on which the induced current depends.

Answer the following Questions**3 × 5 = 15**

35. Draw the diagram showing structure of HIV and label the parts.
36. a) 'Glycine' is a poly functional compound.
- b) 'Norit' is used in the preparation of sugar.
- c) In Indian system of Medicine Jaggery was widely used than sugar.

OR

Explain the preparation of ethyl alcohol. Briefly.

37. What is a transformer? Name the types of transformers and what is the relation between turns ratio and voltage ratio.
38. Draw the diagram of a Nuclear power reactor and mark the following parts.
- a) Moderator b) Heat exchanger
39. a) Name the nitrogen bases of DNA.
- b) What is DNA replication?

c) Write the phenotype ratio with the types of plants produced in Mendel's dihybridisation experiment.

OR

- a) Write the laws of heredity formulated by Mendel.
b) What are purines and pyrimidines?

Answer the following questions

4 × 3 = 12

40. a) Write the balanced chemical reaction. When copper reacts with moderately concentrated nitric acid.
b) Write the uses of the alloys of (i) Bronze and (ii) Alnico.

OR

Write the balanced chemical reaction that takes place in the blast furnace during the extraction of iron.

41. Write the molecular and structural formula for the following:
i) Cyclobutane, ii) Pentyne, iii) Naphthalene, iv) Salicylic acid.
42. Draw the diagram showing the vertical section of human ear and label
a) tympanum b) cochlea.

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