

**K.S.E.E.B., Malleshwaram, Bangalore**  
**SSLC Model Question Paper-1 (2015)**  
**SCIENCE**

Max Marks: 80

Time: 2 Hours 45 minutes

No. of Questions: 42

Code No. : 83E

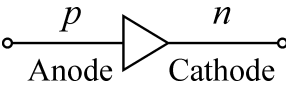
**Four alternatives are given for the each question. Choose the correct alternative and write the complete answer along with its alphabet in the space provided.**

**1 × 10 = 10**

1. The atomic number of an element is 11 this elements belongs to.  
(A) 's' block (B) 'p' block  
(C) 'd' block (D) 'f' block
2. The paper gradually turns yellow with age. This is due to the presence of  
(A) China Clay (B) Chalk  
(C) Lignin (D) Paraffin
3. Identify the organic compound among the following.  
(A) Carbon dioxide (B) Water  
(C) Calcium Carbonate (D) Formaldehyde
4. A non biodegradable pollutant. Cannot be recycled by easy methods is  
(A) PVC (B) Polyesters  
(C) Thiokol (D) Polythene.
5. The enzyme that converts glucose into alcohol is  
(A) Invertase (B) Zymase  
(C) Lypase (D) Amylase
6. Heating of the ore in the absence of oxygen is called  
(A) Calcination (B) Roasting  
(C) Froath Floatation (D) Hydraulic washing

7. Tissue which provides frame work for liver, spleen, tonsils is.

- (A) Areolar (B) Reticular  
(C) Tendons (D) Ligaments

8.  This is the circuit symbol of a

- (A) Diode (B) Transistor  
(C) Battery (D) Dynamo

9. Complementary pair of nitrogen bases as found in DNA is

- (A) A-G (B) T-C  
(C) A-C (D) A-T

10. Blood: Vascular tissue : more of plasma.

- (A) Skeletal Muscles (B) Adipose  
(C) Tendons (D) Areolar

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

$$1 \times 4 = 4$$

A	B	C
1. Salamander	a) Dermal scales with distinct plates, twelve pairs of cranial nerves.	i) Oviparous, internal fertilization. indirect development.
2. Hippocampus	b) Dermal feathers with twelve pairs of cranial nerves	ii) Viviparous, fertilization and development is internal.
3. Shrews	c) Exoskeleton of moist, granular skin, ten pairs of cranial nerves	iii) Oviparous, internal fertilization and direct development.
4. Chameleon	d) Hairy skin, ten pairs of cranial nerves	iv) Oviparous, external fertilisation and indirect development.
	e) Exoskeleton of dermal scales, the pairs of cranial nerves	v) Viviparous, internal fertilization, indirect development.
	f) hairy skin, twelve pairs of creainal nerves	vi) Oviparous, external fertilization and direct

		development
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**Answer the following questions in one sentence**

**1 × 7 = 7**

12. What is annealing?
13. Write the structural formula of n-butane.
14. What is cloning?
15. Mention any two uses of ultrasonic waves.
16. Small amount of copper is added to ornamental gold Why?
17. What does the peripheral nervous system of man comprises of?
18. Sodium displaces hydrogen from dilute acids. Violently but copper doesnot displace hydrogen from dilute acids' Why?

**Answer the following questions**

**2 × 16 = 32**

19. Define electromagnetic induction. On what factors does the induced emf depend?

**OR**

State faraday's laws of electromagnetic induction.

20. Give reasons:
  - (A) Currently CFC free refrigerators are designed and developed more.
  - (B) Urban people often suffer from disorders associated with lungs.
21. Name any two non-conventional sources of energy why should we encourage the use of non-conventional source of energy?
22. A student places an element 'X' in 18<sup>th</sup> group of the periodic table. What may be the properties of that element?
23. Mention any two applications of recombinant DNA technology is
  - a) Animals breeding
  - b) Plant breeding

**OR**

Distinguish between hydroponics and aeroponics.

24. Miners and stone breakers suffer from the disease silicosis. What is the main reason for this? How can we prevent it?
25. Write the differences between transverse wave and longitudinal waves.
26. Name any four human races with one salient feature of each.
27. Draw a diagram of Ac dynamo and label the parts.
28. What is Doppler effect? Doppler effect cannot be observed when the source of sound and the observer are stationary, justify.

**OR**

Justify the statement “Ultrasonic waves are useful because they have high frequency by giving two examples.

29. Differentiate between the structure and function of voluntary and involuntary muscles.
30. Which property of the diode is used to convert AC into D.C? Explain this property.

**OR**

“Semiconductors behave as conductors at room temperature” Explain this statement.

31. 6 l of oxygen gas is collected at 300 K. If the volume has to be reduced to  $\frac{1}{3}$  its original volume. Find the temperature to which the gas has to be cooled.
32. Draw the diagram of a single stage rocket and label the parts.
33. Explain the red giant stage of a star.

**OR**

How is protostar formed? Explain.

34. Draw the diagram showing structure of HIV and label the parts.

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

35. What is electroplating? Explain the process of electroplating.

**OR**

What are electrolytes? Why acetic acid is called a weak electrolyte.

36. Mention the function of the parts of nuclear power reactor

(i) Control Rods

(ii) Moderator

(iii) Coolant in a nuclear power plant.

37. Draw the diagram of an electrolyte cell used in the purification of copper and label the parts

38. a) 'Replication of DNA is a significant phenomenon' How?

b) What do nucleotides composed of?

c) What is a 'gene'?

**OR**

What is incomplete dominance? Illustrate and explain Carl Correns experiment of incomplete dominance.

39. List out the different functions of epidermis of plants.

**OR**

How does the structure and function of collenchymas differ from parenchyma.

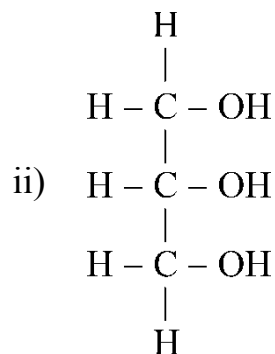
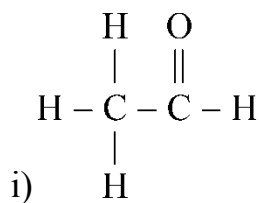
**Answer the following questions****4 × 3 = 12**

40. Explain the expansion stroke and exhaust stroke of a steam engine.

**OR**

Explain the working of a diesel engine.

41. (a) Write the names of the following organic compounds.



(b) Write the four successive hydrocarbon in a homologous series starting from  $\text{CH}_4$ .

42. Draw the diagram showing vertical reaction of human eye and label

i) Cornea

ii) Optic nerve.

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