CBSE Class 12 Electronic Technology 2018 - Set 314

Question Paper

Conducted by the Central Board of Secondary Education (CBSE)

Time Allowed: 2.5 Hours **Maximum Marks: 50**

General Instructions

(i) The question paper contains 34 questions in four sections.

(ii) Section A: Attempt any fourteen of Questions 1–16, carrying 1 mark each. Select the correct answer.

(iii) Section B: Attempt any six of Questions 17–24, carrying 2 marks each.

(iv) Section C: Attempt any three of Questions 25–29, carrying 3 marks each.

(v) Section D: Attempt any three of Questions 30–34, carrying 5 marks each.

Section A

Attempt any fourteen questions. Each question carries one mark. Select the correct answer. 1×14=14

1. In an electrical plug, the 'earth' pin in comparison to other pins, is

(A) equal (B) smaller
(C) larger (D) thinner

2. A multimeter is used to check

(A) Voltage (B) Current
(C) Resistance (D) All of the above

3. The resistance of a p-n junction diode in forward and reverse bias is respectively

(A) low and high (B) high and low
(C) equal (D) infinite and zero

4. Which microphone has a built-in amplifier ?

(A) Capacitance (B) Moving coil
(C) Piezoelectric (D) Carbon

5. In a carbon microphone, sound is converted into electrical signals by a change in

(A) Resistance (B) Capacitance
(C) Inductance (D) Coil movement

6. A moving coil loudspeaker converts

(A) Magnetic energy into electrical signals (B) Electrical signals to sound
(C) Air pressure to electrical signals (D) None of the above

7. Which loudspeaker is used for low frequencies ?

(A) Woofer (B) Tweeter
(C) Squawker (D) Horn type

8. What type of current is passed through the 'Record Head' in magnetic recording ?

(A) D.C. (B) R.F.
(C) Audio signals (D) 1 kHz A.C.

9. What should be the 'Permeability' of the material of various 'Heads' of a Tape Recorder ?

(A) High (B) Low
(C) Medium (D) Infinite

10. Information on a 'CD' is read by

(A) Infrared Rays (B) Laser Beam
(C) White Light Rays (D) Microwave Beam

11. A 'CD' is made of

(A) Polycarbonate (B) Vinyl
(C) Copper (D) Carbon

12. In TV transmission, 'Aspect Ratio' is the ratio between

(A) Height : Width (B) Width : Height
(C) Diagonal : Height (D) Diagonal : Width

13. In a TV Receiver, the audio and video signals are separated after which stage ?

(A) Audio Amplifier (B) Video Detector
(C) Video Amplifier (D) RF Tuner

14. In a TV Transmitter, at what stage are audio and video signals mixed ?

(A) Output of TV camera (B) Just before transmitting antenna
(C) Before modulation (D) After video amplifier

15. The Microwave Ovens work near which frequency ?

(A) 100 MHz (B) 2500 MHz
(C) 2500 kHz (D) 100 kHz

16. The printing speed of 'Laser Printer' is expressed in

(A) Characters/second (B) Lines/second
(C) Pages/minute (D) Words/minute

Section B

Attempt any six questions. Each question carries two marks. 2×6=12

17. Write any two precautions that you will observe while troubleshooting an electronic equipment.

18. Why is earthing provided to electronic circuits ?

19. Explain the working principle of 'Moving Coil' microphone.

20. Explain the frequency range of musical instruments.

21. Explain in brief, how the signal in a Tape Recorder can be erased.

22. With reference to TV, explain in brief the 'Scanning' process.

23. Why do we need synchronising pulse in TV ?

24. How do microwaves heat food in a Microwave Oven ?

Section C

Attempt any three questions. Each question carries three marks. 3×3=9

25. In troubleshooting of electronic equipment, write the application and method of usage of any *one* of the following :

(a) CRO

(b) Soldering Station

26. Explain the frequency characteristic of a loudspeaker.

27. Explain in brief the principle of 'Optical Recording'.

28. Explain that property of 'LCD' *or* 'LED' on which the working of a TV is based.

29. Explain the difference between 'Fax' and 'Scanner'.

Section D

Attempt any three questions. Each question carries five marks. 5×3=15

30. A Black & White TV is 'showing normal picture but there is no sound'. Which stages will you check and how ?

31. Explain the construction and working of Carbon *or* Piezoelectric microphone.

32. Explain the process of manufacturing a CD *or* a DVD, with the help of diagrams.

33. Explain the elements of Cable TV system.

34. Explain in brief, the working of a Microwave Oven *or* any one type of Printer.

- End of Question Paper -