CBSE Class 12 Electronic Technology 2017 - 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 right answer.

1. Which of the following is **not** an insulator ?

(A) Rubber
(B) Wood
(C) Aluminium Sheet
(D) Leather

2. What is the function of an 'MCB' ?

(A) Stabilize voltage
(B) Stabilize current
(C) 'Open circuit' in case of excess current
(D) All of the above

3. From health and safety point, which of the following frequencies are harmful ?

(A) Audio
(B) Video
(C) Microwave
(D) Radio

4. The directional pattern of a microphone that converts sound uniformly, is

(A) Straight line
(B) Circle
(C) Figure of eight
(D) Sinusoidal

5. For which microphone operation, is a battery needed ?

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

6. The working principle of a Moving Coil Loudspeaker is same as that of a/an

(A) Electric Generator
(B) Electric Motor
(C) Transformer
(D) None of the above

7. The output of a microphone is generally expressed in

(A) Kilo volt
(B) Micro volt
(C) Milli volt
(D) Volt

8. A 'Tweeter' loudspeaker is used for which frequencies ?

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

9. In a Tape Recorder, the recording is done by

(A) permanent magnet
(B) passing signals through a coil
(C) passing R.F. current through a coil
(D) All of the above

10. In digital recording, which of the following circuits converts Analog signals to Digital signals ?

(A) Multiplexer
(B) ADC
(C) DAC
(D) Decoder

11. In a Tape Recorder, what is the frequency range of current which is passed through 'Erase Head' to erase signals ?

(A) 30 Hz to 30 kHz
(B) 1 kHz to 10 kHz
(C) 75 kHz to 120 kHz
(D) 3 MHz to 30 MHz

12. What is the shape of output waves of deflecting circuits in a TV ?

(A) Square
(B) Triangular/Saw tooth
(C) Sine wave
(D) Impulse

13. Which stage in a TV receiver is 'shielded' ?

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

14. What is/are the special feature(s) of an HD TV ?

(A) High resolution
(B) No flicker
(C) Good quality audio and video
(D) All of the above

15. In a Microwave Oven, microwaves are generated by

(A) Klystron
(B) Magnetron
(C) Cathode Ray Tube
(D) Travelling Wave Tube

16. Speed of a 'Laser Printer' is expressed as

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

Section B

Attempt any six questions. Each question carries two marks.

17. Why is the third pin of a three-pin electric plug longer than the other two pins ?

18. Write any two precautions that you will observe while soldering a component/device.

19. Write the working principle of 'Piezoelectric' microphone in brief.

20. What is the difference between normal human voice and the sound of musical instruments ?

21. Explain why 'Bias' voltage is required in magnetic recording.

22. What is the function of 'Tuner' in a TV receiver ?

23. What is the function of 'Blanking Pulse' in TV signals ?

24. Write how food is heated in a microwave oven.

Section C

Attempt any three questions. Each question carries three marks.

25. What is Dry Soldering and why does it happen ?

26. Explain why 'Enclosures' are attached to Loudspeakers.

27. With the help of a diagram, explain the different areas of a CD.

28. Write the special features of HD TV.

29. Explain the working principle of a Scanner.

Section D

Attempt any three questions. Each question carries five marks.

30. Write how 'A.C. Voltage' is measured by Multimeter and CRO, and what precautions are needed.

31. Explain the construction and working of Carbon microphone.

32. Explain how are 'CDs' manufactured.

33. Explain the working of the 'Audio section' or 'Video section' of a Black & White TV.

34. Explain the working of a 'Microwave oven' or a 'Fax' machine.

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