CBSE Class 12 Electronic Technology 2017 - Set 313

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 33 questions in four sections.

(ii) Section A: Attempt any thirteen of Questions 1–15, carrying 1 mark each. Select the correct answer.

(iii) Section B: Attempt any five of Questions 16–22, carrying 2 marks each.

(iv) Section C: Attempt any four of Questions 23–28, carrying 3 marks each.

(v) Section D: Attempt any three of Questions 29–33, carrying 5 marks each.

Section A

Attempt any thirteen questions. Each question carries one mark. Select the correct answer.

1. Electromagnetic wave propagation through space wave takes place at

(A) Low RF (B) Medium RF
(C) High RF (D) VHF

2. An electronic signal comprises of frequencies from 1 kHz to 25 kHz. What is its bandwidth ?

(A) 26 kHz (B) 21 kHz
(C) 2500 Hz (D) 24 kHz

3. In the atmosphere, 'Troposphere' is the

(A) middle layer (B) ground surface layer
(C) uppermost layer (D) None of the above

4. In a communication system, the essential components is/are

(A) Transmitter (B) Receiver
(C) Medium (D) All of the above

5. What is the type of 'Signal' in Telemetry ?

(A) Voice (B) Music
(C) Video (D) Data

6. In Satellite communication, the command signals control

(A) Satellite position (B) Signal strength
(C) Signal frequency (D) D.C. voltage

7. In Satellite communication, what is the relation between 'Uplink' and 'Downlink' frequencies ?

(A) Both are equal (B) High and low respectively
(C) Low and high respectively (D) Have no relation

8. In 'Base and Master' system, what is the relation of Transmitter Power with increase in cell size ?

(A) Remains constant (B) Increases
(C) Decreases (D) None of the above

9. Cellular mobile phones use which of the following frequencies ?

(A) (300 – 3000) MHz (B) (825 – 890) MHz

(C) (3 – 30) MHz (D) None of the above

10. Which of the following 'Multiplexing' does ***not*** exist ?

(A) Code Division (B) Time Division

(C) Amplitude Division (D) Frequency Division

11. For repairing a mobile phone, the 'soldering station' is kept at about

(A) (10 to 100) Watt (B) (5 to 35) Watt

(C) (1 to 10) Kilo Watt (D) None of the above

12. An 8 GB Memory Card, can store how many 'bytes' of data ?

(A) 8000 Kilo bytes (B) 8000 Mega bytes

(C) 8000 Bytes (D) 800 Mega bytes

13. With reference to ICs, select the full form of 'BGA'.

(A) Basic Graphics Adapter (B) Basic Graphics Analyser

(C) Ball Grid Array (D) Basic Grid Analyser

14. What is the full form of 'SMD' ?

(A) Surface Multiple Device (B) Surface Mount Device

(C) Surface Mount Diode (D) Solar Mount Diode

15. Which of the following circuits does ***not*** exist on a mobile phone ?

(A) Power Supply Circuit (B) Receiving RF Circuit

(C) Frequency Multiplying Circuit (D) Bluetooth Circuit

Section B

Attempt any five questions. Each question carries two marks.

16. What is the need for modulating the signal ? Explain.

17. Draw the waveform of an Amplitude or Frequency modulated wave and also write its mathematical equation.

18. Classify 'Noise' and also write its source of generation.

19. Explain the main difference between Active and Passive Satellites.

20. Write the full form of 'VSAT' and where this technology is used.

21. In reference to mobile communication, explain any two types of multiplexing with example.

22. Write how will you unlock a mobile phone using code.

Section C

Attempt any four questions. Each question carries three marks.

23. Explain the elements of a Radio Communication System, with the help of a block diagram.

24. Explain a Cellular Radio System and how it is different from a General Radio System.

25. Explain the function of 'Earth Stations' in reference to Satellite Communication.

26. Compare different generations of mobile phones.

27. Explain how you will format a virus affected mobile phone.

28. Write any three precautions needed to be observed in mobile repair.

Section D

Attempt any three questions. Each question carries five marks.

29. What is the difference between Digital and Analog signals ? Explain how digital data is transmitted.

30. Write a brief history of the development of Satellite Communication System.

31. Give briefly an overview of 'Base and Master' system of mobile communication.

32. State how a BGA IC is different from other ICs and explain the procedure to solder it on PCB.

33. List any ten tools/equipments/spare parts used in mobile phone repair and also write their source of procurement.

- End of Question Paper -