CBSE Class 12 Electronic Technology 2018 - 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. $1 \times 13 = 13$

1. Which medium is/are used in a communication system ?

(A) Fibre optic
(B) Atmosphere
(C) Coaxial cable
(D) All of the above

2. If the frequency range of an electronic signal is high, what will be its bandwidth ?

(A) High
(B) Low
(C) Medium
(D) No relation

3. Through which medium does 'space wave' propagation take place ?

(A) Ionosphere
(B) Troposphere
(C) Over the surface of the Earth
(D) Waveguide

4. In a Cellular Radio System, if the cell size is increased, the transmitter power will be

(A) Decreased
(B) Increased
(C) No change
(D) Exponentially decreased

5. In a satellite, how much is the intensity of downlink signals in comparison to uplink received signals ?

(A) No relation
(B) Very high
(C) Very low
(D) Equal

6. The 'Elevation' of a satellite is that angle which the satellite makes

(A) With the horizon
(B) Clockwise from North
(C) Clockwise from South
(D) With the equator

7. In a satellite, for transmission and reception of main signals, how many antennas are there ?

(A) One (common for both)
(B) Two (separate for each)
(C) One or two (depends on satellite)
(D) Three

8. With reference to mobile phones, what is the full form of UIM ?

(A) User Interface Multiplexing
(B) User Interface Module
(C) Unique Identity Module
(D) User Identity Module

9. What is the frequency range on which mobile phones operate ?

(A) 300 MHz to 3000 MHz
(B) 825 MHz to 890 MHz
(C) 3 MHz to 30 MHz
(D) 100 MHz to 1000 MHz

10. What is the shape of 'cells' in a Base Master System ?

(A) Circular
(B) Hexagonal
(C) Square
(D) Triangular

11. The components are soldered and desoldered on a PCB, by an SMD Rework Station through

(A) Hot Air
(B) Direct Heating
(C) Dielectric Heating
(D) None of the above

12. For voice signals, what type of modulation is used in a mobile phone ?

(A) Amplitude Modulation
(B) Frequency Modulation
(C) Phase Modulation
(D) None of the above

13. The radiating power of a mobile phone

(A) remains constant
(B) changes like a sine wave
(C) changes with time
(D) is controlled by a microprocessor

14. Which is the first device (equipment) best suited to repair a wet mobile phone ?

(A) Multimeter
(B) CRO
(C) Hot air gun
(D) Soldering station

15. To become a successful mobile repair technician, the 'Technical Support Guidance' can be obtained from

(A) Internet
(B) Training Institutes
(C) Books
(D) All of the above

Section B

Attempt any five questions. Each question carries two marks. 2×5=10

16. Draw a diagram of an amplitude modulated wave and show different frequencies.

17. What is S/N ratio and what should its value be ?

18. Explain VSAT technology in brief.

19. Explain the need of multiplexing in mobile technology.

20. Explain the function of 'Duplex Filter' in a mobile phone.

21. Write how 'BGA' ICs are different from other ICs.

22. With reference to mobile phones, give one example each, of an equipment, a tool, a spare part and an accessory.

Section C

Attempt any four questions. Each question carries three marks. 3×4=12

23. With the help of a diagram, show the complete range of frequencies used in radio communication.

24. Explain any one type of modulation.

25. Explain the function of telemetry command signals in satellites.

26. Explain the function of SIM card in a mobile phone.

27. Write the signs of a virus-infected mobile phone. How can we avoid viruses ?

28. What is required, if you want to open a mobile phone repair shop ?

Section D

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

29. Compare Cellular Radio System with Simple Radio Broadcast System.

30. Explain the function of transponder in a satellite.

31. Explain 'Base Master System' of mobile communication, in brief.

32. Explain the function of any one IC that is used in a mobile phone.

33. Write the efforts, you have to make, if you want to be a successful mobile repair technician.

- End of Question Paper -