

CBSE Class 12 Electronic Technology 2024 - Set 344/S - Compartment



Question Paper

Conducted by the Central Board of Secondary Education (CBSE)

Time Allowed: 3 Hours

Maximum Marks: 60

General Instructions

- (i) Please read the instructions carefully.
- (ii) This question paper consists of 24 questions in two sections: Section A and Section B.
- (iii) Section A has Objective Type Questions and Section B has Subjective Type Questions.
- (iv) Answer 17 questions: all 6 questions in Section A and 11 of the 18 questions in Section B, following the choices within each question or group.
- (v) Attempt the questions of each section in the correct order.
- (vi) Section A carries 30 marks. There is no negative marking. Follow the instructions given; marks are indicated against each question or part.
- (vii) Section B carries 30 marks. Follow the instructions given; marks are indicated against each question or part.

Section A

1. Answer any 4 out of the given 6 questions on Employability Skills. $4 \times 1 = 4$

1(i). Consider the sentence given.

Kiran quickly wrote a letter.

The adverb in the sentence is :

- | | |
|-----------|-------------|
| (A) Kiran | (B) quickly |
| (C) wrote | (D) letter |

1(ii). Some people disregard social rules and obligations. They are irritating and abusive. They take drugs and alcohol. Such people suffer from :

- | | |
|-------------------------------------|---------------------------------------|
| (A) Borderline personality disorder | (B) Antisocial personality disorder |
| (C) Histrionic personality disorder | (D) Narcissistic personality disorder |

1(iii). Personality is a cluster of thoughts, feelings and _____ that make a person unique and different from others.

- | | |
|-------------------|------------------|
| (A) behaviour | (B) education |
| (C) social status | (D) mental state |

1(iv). All formulae in a spreadsheet begin with _____ sign.

- | | |
|-------|-------|
| (A) & | (B) = |
| (C) @ | (D) # |

1(v). Entrepreneurship is an economic activity done to create, develop and _____ a profit-oriented organisation.

- | | |
|--------------|--------------|
| (A) plan | (B) identify |
| (C) maintain | (D) risk |

1(vi). _____ is the non-conventional fuel that is sought for to run vehicles without creating pollution.

- | | |
|-------------|-------------|
| (A) Petrol | (B) Bitumen |
| (C) Biofuel | (D) Diesel |

2. Answer any 5 out of the given 7 questions. $5 \times 1 = 5$

2(i). _____ must be an integral part of training process in industries.

- | | |
|----------------------|--------------------------|
| (A) Future planning | (B) Technical competency |
| (C) Safety awareness | (D) Investment planning |

2(ii). All electrical cords must have sufficient insulation to prevent direct contact. (True/False)

2(iii). There is only one symbol used to indicate high radiation place/zone. (True/False)

2(iv). Which among the following is **not** related to an occupational hazard ?

- | | |
|-----------|-----------------|
| (A) Noise | (B) Poison |
| (C) Fire | (D) Electricity |

2(v). What is CPR in first aid ?

- | | |
|-----------------------------------|-------------------------------|
| (A) Care Personal Resident | (B) Cardiopulmonary Resident |
| (C) Cardiopulmonary Resuscitation | (D) Cardiopulse Resuscitation |

2(vi). Identify the picture.



- (A) Safety shoes (B) Hiking shoes
(C) Sports shoes (D) Physiotherapy shoes

2(vii). The identification of hazards and their associated effects on the health is called _____.

- (A) Analyse (B) Anticipation
(C) Casting (D) Reconnaissance

3. Answer any 6 out of the given 7 questions.
 $6 \times 1 = 6$

3(i). The disadvantage of carbon microphone is :

- (A) Does not respond to audio frequencies (B) High impedance
(C) Less sensitive (D) Hissing sound

3(ii). A moving coil is used in :

- (A) Dynamic microphone (B) Carbon microphone
(C) Crystal microphone (D) Capacitor microphone

3(iii). What is the frequency range of Violin ?

- (A) 80 Hz – 650 Hz (B) 250 Hz – 3 KHz
(C) 240 Hz – 2 KHz (D) 80 Hz – 1 KHz

3(iv). The disadvantage of capacitor microphone is its high impedance. (True/False)

3(v). A tweeter is a loudspeaker meant for high frequency. (True/False)

3(vi). The typical frequency range of woofer is :

- (A) 20 Hz to 20 KHz (B) 20 Hz to 600 Hz
(C) 2 KHz to 20 KHz (D) 15 KHz to 20 KHz

3(vii). _____ is an application of Piezoelectric microphone.

- (A) Laboratory (B) Sound measurement system
(C) Tape recorder (D) Industrial sound recording

4. Answer any 5 out of the given 6 questions.
 $5 \times 1 = 5$

4(i). _____ is used to convert analog sound signal into electrical signal.

- (A) Actuator (B) Microphone
(C) Saxophone (D) Converter

4(ii). Edison used wax cylinder for the recording purpose. (True/False)

4(iii). The storage capacity of a CD is :

- (A) 290 MB (B) 490 MB
(C) 690 MB (D) 890 MB

4(iv). Sampling frequency of ADC is _____ the input frequency.

- (A) same as (B) double
(C) triple (D) four times

4(v). In a tape recorder, the recording is done by :

- | | |
|-----------------------------|---------------------------------|
| (A) permanent magnet | (B) passing signal through coil |
| (C) passing RF through coil | (D) zero signal |

4(vi). _____ is used for analog sound recording.

- | | |
|-------------------|-----------------------|
| (A) Compact disc | (B) Blu-ray disc |
| (C) Magnetic tape | (D) Solid-state drive |

5. Answer any 5 out of the given 6 questions.
 $5 \times 1 = 5$

5(i). Varactor diode in TV tuner circuit is used as :

- | | |
|-----------------------|------------------------|
| (A) rectifier | (B) variable capacitor |
| (C) variable resistor | (D) switch |

5(ii). The picture tube is made up of plastic. (True/False)

5(iii). _____ is used to amplify the radio signal received by the antenna.

- | | |
|---------------------|------------------|
| (A) RF amplifier | (B) IF amplifier |
| (C) Audio amplifier | (D) Mixer |

5(iv). The full form of SECAM is _____.

5(v). TV remote control works on the principle of :

- | | |
|---|--|
| (A) demodulation | (B) pulse code modulated ultraviolet light |
| (C) pulse code modulated infrared light | (D) pulse amplitude modulation |

5(vi). How many electron guns are there in a colour TV picture tube ?

- | | |
|-------|-------|
| (A) 4 | (B) 3 |
| (C) 2 | (D) 1 |

6. Answer any 5 out of the given 6 questions.
 $5 \times 1 = 5$

6(i). What do you mean by tone ringer unit ?

6(ii). _____ area of the page reflects maximum light in FAX machine.

- | | |
|-----------|------------|
| (A) Black | (B) White |
| (C) Grey | (D) Yellow |

6(iii). Printers are classified in three categories. (True/False)

6(iv). In a microwave oven, microwave is generated by :

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

6(v). _____ contact scanners make contact as they are brushed over printed matter to be read.

- | | |
|--------------|----------------|
| (A) Laser | (B) Digital |
| (C) Handheld | (D) Ultrasound |

6(vi). In a 4-port directional coupler there is no transmission of power between :

- | | |
|-----------------------|-----------------------|
| (A) Port 1 and Port 2 | (B) Port 1 and Port 4 |
| (C) Port 1 and Port 3 | (D) Port 2 and Port 3 |

Section B

Answer any 3 out of the given 5 questions on Employability Skills. Answer each question in 20 – 30 words. $3 \times 2 = 6$

7. Differentiate between the noun phrase and verb phrase.
8. List any four sources of self-motivation.
9. Write two advantages of spreadsheet software.
10. Entrepreneurial competencies play a key role in the success of an entrepreneur. Write any two entrepreneurial competencies.
11. What is the role of green jobs in the society ?

Answer any 3 out of the given 5 questions in 20 – 30 words each. $3 \times 2 = 6$

12. Write a short note on occupational health.
13. What is the function of HF Biasing ?
14. Enlist the advantages of LED television (any two).
15. Write a short note on Squawker.
16. What are the faults which occur in FAX Machine (any two) ?

Answer any 2 out of the given 3 questions in 30 – 50 words each. $2 \times 3 = 6$

17. Mention different subsections and the problems associated with each subsection of the TV receiver.
18. Explain the construction and working principle of Moving Coil Loudspeaker.
19. Draw a flowchart for fault finding and rectification of recorder/player.

Answer any 3 out of the given 5 questions in 50 – 80 words each. $3 \times 4 = 12$

20. Write important safety tips to help avoid injuries at the workplace.
21. Explain working, merits and demerits of Piezoelectric microphone.
22. With the help of a block diagram, explain the working principle of Tape Recorder System.
23. Explain the working principle of TV Transmitter. Draw its block diagram also.
24. What do you mean by Telephone ? Explain the different type of telephones.

- End of Question Paper -