

# CBSE | DEPARTMENT OF SKILL EDUCATION

## ELECTRONICS AND HARDWARE (SUBJECT CODE -420)

**Blue-print for Sample Question Paper for Class X (Session 2024-2025)**

Max. Time: 2 Hours

Max. Marks: 50

### PART A - EMPLOYABILITY SKILLS (10 MARKS):

UNIT NO.	NAME OF THE UNIT	OBJECTIVE TYPE QUESTIONS	SHORT ANSWER TYPE QUESTIONS	TOTAL QUESTIONS
		1 MARK EACH	2 MARKS EACH	
1	Communication Skills-II	1	1	2
2	Self-Management Skills - II	1	1	2
3	ICT Skills - II	2	1	3
4	Entrepreneurial Skills - II	1	1	2
5	Green Skills-II	1	1	2
<b>TOTAL QUESTIONS</b>		<b>6</b>	<b>5</b>	<b>11</b>
<b>NO. OF QUESTIONS TO BE ANSWERED</b>		<b>Any 4</b>	<b>Any 3</b>	<b>07</b>
<b>TOTAL MARKS</b>		<b>1 x 4 = 4</b>	<b>2 x 3 = 6</b>	<b>10 MARKS</b>

### PART B - SUBJECT SPECIFIC SKILLS (40 MARKS):

UNIT NO.	NAME OF THE UNIT	OBJECTIVE TYPE QUESTIONS	SHORT ANSWER TYPE QUESTIONS	DESCRIPTIVE/ LONG ANS. TYPE QUESTIONS	TOTAL QUESTIONS
		1 MARK EACH	2 MARKS EACH	4 MARKS EACH	
1	Electrical Components and Motor.	6	1	0	7
2	Repair and Maintenance of Mixer/Juicer/Grinder.	6	2	1	9
3	Repair and Maintenance of Microwave oven.	6	1	2	9
4	Workplace Health and Safety measures.	6	2	2	10
<b>TOTAL QUESTIONS</b>		<b>24</b>	<b>6</b>	<b>5</b>	<b>35</b>
<b>NO. OF QUESTIONS TO BE ANSWERED</b>		<b>20</b>	<b>Any 4</b>	<b>Any 3</b>	<b>27</b>
<b>TOTAL MARKS</b>		<b>1 x 20 = 20</b>	<b>2 x 4 = 8</b>	<b>4 x 3 = 12</b>	<b>40 MARKS</b>

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### Sample Question Paper for Class X (Session 2024-2025)

Max. Time: 2 Hours

Max. Marks: 50

#### General Instructions:

1. Please read the instructions carefully.
2. This Question Paper consists of **21 questions** in two sections: Section A & Section B.
3. Section A has Objective type questions whereas Section B contains Subjective type questions.
4. **Out of the given (5 + 16 =) 21 questions, a candidate has to answer (5 + 10 =) 15 questions in the allotted (maximum) time of 2 hours.**
5. All questions of a particular section must be attempted in the correct order.
6. **SECTION A - OBJECTIVE TYPE QUESTIONS (24 MARKS):**
  - i. This section has 05 questions.
  - ii. Marks allotted are mentioned against each question/part.
  - iii. There is no negative marking.
  - iv. Do as per the instructions given.
7. **SECTION B – SUBJECTIVE TYPE QUESTIONS (26 MARKS):**
  - i. This section has 16 questions.
  - ii. A candidate has to do 10 questions.
  - iii. Do as per the instructions given.
  - iv. Marks allotted are mentioned against each question/part.

## SECTION A: OBJECTIVE TYPE QUESTIONS

Q. 1	Answer any 4 out of the given 6 questions on Employability Skills (1 x 4 = 4 marks)	
i.	Which of the following is NOT an element of communication within the communication process cycle? a) Channel b) Receiver c) Sender d) Time	1
ii.	Which of the following are types of motivation? a) Internal b) Intermediate c) External d) Extensive	1
iii.	Which of the following trap small children into inappropriate relations? a) Online predators b) Worms c) Trojan Horse d) Anti-Virus	1
iv.	Which of the following functions is not performed using a mouse? a) Turn on b) Hover c) Right click d) Drag and drop	1
v.	Ravi's customer comes to his store and starts shouting at him. He does not get angry. He listens to what his customer is saying. He is _____ a) hardworking b) confident c) patient d) prying new ideas	1
vi.	How many sustainable development goals are given by the United Nations? a) 18 b) 17 c) 15 d) 20	1

Q. 2	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
i.	Which of the following motor is used in robots? a) Stepper motor b) Universal motor c) Servomotor d) Induction motor	1
ii.	Which part protects the mixer from overload? a) Auto Switch b) Automatic Protector c) Overload Switch d) Auto Overload Protector	1
iii.	Which of the following devices is used for overcurrent protection? a) Diode b) High voltage capacitor c) High voltage transformer d) Fuse	1
iv.	When do we use a fire extinguisher? a) In case of flood b) In case of electric shock c) In case of fire d) In case of burn injury	1
v.	Which of the following is to control the speed of mixer. a) Overload switch b) Rotatory switch c) Power switch d) Control switch	1
vi.	Which of the following components are used in microwave oven assembly? a) Magnetron b) Transformer c) Relay d) All of the above	1

Q. 3	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
i.	Which of the following is the full form of MCB? a) Miniature circuit breaker b) Miniature circuit break c) Motor circuit break d) Motor control break	1
ii.	Which of the following is not the part of juicer? a) Plunger b) Drum lid c) Hopper d) Straight Wiper	1

iii.	Which of the following is not the part of microwave oven? a) Control panel b) Cooking cavity c) Turntable d) Variable frequency controller	1
iv.	Which of the following steps are required to perform CPR? a) Chest compression b) Open airway c) Rescue breathing d) All of the above	1
v.	Which of the following tool is used for shaping the metal into a sheet? a) Hammer b) Screwdriver c) Stripper d) Wrench	1
vi.	Which of the following safety item is not essential for a wireman while working? a) Safety boots b) Gloves c) Helmet d) Belt	1

<b>Q. 4</b>	<b>Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)</b>	
i.	Which of the following is not the circuit protection device a) Relay b) Fuse c) Miniature circuit breaker d) Switch	1
ii.	Which of the following is not the type of mixer a) Planetary mixer b) Stand mixer c) Spiral mixer d) Pipe mixer	1
iii.	Which of the following parts use permanent magnet? a) High voltage transformer b) Magnetron c) High voltage capacitor d) Relay	1
iv.	Which of the following is the emergency number in case of electrical shock? a) 101 b) 102 c) 105 d) 108	1
v.	Which of the following equipment is used to measure the AC voltage? a) Tachometer b) Multimeter c) Ammeter d) Megger meter	1
vi.	Steps to use fire extinguisher involves: a) Squeeze the handle b) Pull the pin c) Aim the nozzle d) All of the above	1

<b>Q. 5</b>	<b>Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)</b>	
i.	Universal motor works on DC power a) True b) False	1
ii.	Armature is a part of motor a) True b) False	1
iii.	Transformers are used to step-up or step-down the voltage. a) True b) False	1
iv.	Copper is a good conductor of electricity a) True b) False	1

v.	Microwave have low heat carrying property a) True b) False	1
vi.	Teflon tape helps leakage free connection. a) True b) False	1

## **SECTION B: SUBJECTIVE TYPE QUESTIONS**

**Answer any 3 out of the given 5 questions on Employability Skills (2 x 3 = 6 marks)**

**Answer each question in 20 – 30 words.**

Q. 6	List the different types of verbal communication?	2
Q. 7	What is goal setting?	2
Q. 8	How can you increase the performance of a computer?	2
Q. 9	What are the difference between a misconception and reality?	2
Q. 10	What is the meaning of sustainable development?	2

**Answer any 4 out of the given 6 questions in 20 – 30 words each (2 x 4 = 8 marks)**

Q. 11	What material is required to solder a wire?	2
Q. 12	What are the types of fuse?	2
Q. 13	What is the use of brush in electric motor?	2
Q. 14	Write the main use of Magnetron?	2
Q. 15	In India, what can be specific color code for wire?	2
Q. 16	What can be the various hazards while installing an electrical panel?	2

**Answer any 3 out of the given 5 questions in 50– 80 words each (4 x 3 = 12 marks)**

Q. 17	List the parts of motor. Also specify the type of motor used in mixer.	4
Q. 18	Briefly describe the role of thermostat in microwave oven	4
Q. 19	Write down the steps to replace the high voltage capacitor.	4
Q. 20	What are the factors that result in a hazard	4
Q. 21	Compare the different type of fire extinguisher?	4