CBSE | DEPARTMENT OF SKILL EDUCATION

ELECTRONICS & 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	
		1 MARK EACH	2 MARKS EACH	QUESTIONS	
1	Communication Skills - II	1	1	2	
2	Self-Management Skills - II	1	1	2	
3	ICT Skills – II	1	1	2	
4	Entrepreneurial Skills - II	1	1	2	
5	Green Skills - II	2	1	3	
TOTAL QUESTIONS		6	5	11	
NC	. OF QUESTIONS TO BE ANSWERED	Any 4	Any 3	07	
TOTAL MARKS		1 x 4 = 4	2 x 3 = 6	10 MARKS	

PART B - SUBJECT SPECIFIC SKILLS (40 MARKS):

UNIT NO.	NAME OF THE UNIT	OBJECTIVE TYPE QUESTIONS 1 MARK	SHORT ANSWER TYPE QUESTIONS 2 MARKS	DESCRIPTIVE/ LONG ANS. TYPE QUESTIONS 4 MARKS	TOTAL QUESTIONS	
		EACH	EACH	EACH		
1	Electrical Components and	6	1	1	7	
-	Motor.	0	1	L	/	
2	Repair and Maintenance	6	2	1	9	
2	of Mixer/Juicer/Grinder.	0	0	2		
3	Repair and Maintenance	6	1	2	9	
3	of Microwave oven.	O	0	-	۷	
4	Workplace Health and	6	2	1	10	
4	Safety measures.	D	0 2	L	10	
	TOTAL QUESTIONS	24	6	5	35	
	NO. OF QUESTIONS TO BE ANSWERED	Any 20	Any 4	Any 3	27	
	TOTAL MARKS	1 x 20 = 20	2 x 4 = 8	4 x 3 = 12	40 MARKS	

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Sample Question Paper for Class X (Session 2023-2024)

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 = marks)	= 4
i.	Which of the following sources of energy is from a renewable source?	1
	a) Solar Energy	
	b) Wood	
	c) Coals	
	d) Petrol	
ii.	Entrepreneurs can create jobs in the market.	1
	a) True	
	b) False	
iii.	How can an anti-virus protect your device?	1
	a) It can protect it from overheating.	
	b) It can increase its performance.	
	C) It can prevent data from getting corrupted.	
	d) It can back up data.	
iv.	In SMART goals, what does 'T' stand for?	1
V.	Which of these is NOT a common communication barrier?	1
••	a) Linguistic barrier.	•
	b) Interpersonal barrier.	
	c) Financial barrier.	
	d) Organizational barrier.	
vi.	How many Sustainable development goals are given by the United Nations?	1
VI.	a) 18	•
	,	
	b) 17	
	c) 15	
Q.2	d) 20 Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
i.	Which of the following is not the part of MCB?	1
	a) Bimetallic Strip.	•
	b) Trip.	
	c) Solenoid.	
	d) Arc-chutes holder.	
ii.	OLP stands for:	1
	a) Auto Switch	•
	b) Automatic Protector	
	c) Overload Switch	
	d) Auto Overload Protector.	
iii.		1
	Which of the following devices is used for overcurrent protection?	1
	a) Diode	
	b) High Voltage Capacitor	
	c) High Voltage Transformer	
•	d) Fuse	-
iv.	Rubber is a good conductor of Electricity.	1
	a) True	
	b) False	
۷.	Which of the following is to control the speed of mixer.	1
	a) Overload Switch	
	b) Rotary switch	
	c) Power switch d) Control Switch	

b) U c) S d) In 2.3 Ans i. White a) C b) O c) Re d) A ii. White a) S b) El c) Ne d) P ii. Mote v. RPN a) S b) El c) Ne d) P ii. Mote v. RPN a) S b) Fa v. White a) T b) Fa d) A fi. Step c) Ai d) A fi. Step d) A b) P ii. Step d) A fi. Step d) A fi. Step d) A fi. Step d) A fi. Step c) Ai d) A fi. Step c) A fi. Step c) A fi. Step c) A fi. Step c) A fi. C) H fi. C) H	r covert the electrical energy intoenergy. I stands for 'Rotation Per Minute' rue	1 1 1 1 1
c) S d) In 2.3 Ans i. Whice a) C b) O c) Re d) A ii. Whice a) S b) E c) Ne d) P ii. Moto v. RPM a) S b) E c) Ne d) P ii. Moto v. RPM a) S b) F v. Whice a) S b) F v. Whice a) S b) P c) Ai d) A S v. Step d) A b) P c) Ai d) A S v. Step d) A b) P c) Ai d) A S v. Step d) A b) P c) Ai d) A S b) P c) A d) A S c) A d) A S c) A d) A S c) A d) A S c) A d) A S c) A d) A c) A c) A d) A c) A c) A c) A c) A c) A c) A c) A c	ervomotor duction motor. wer any 5 out of the given 6 questions (1 x 5 = 5 marks) th of the following steps are required to perform CPR? hest compression ben airway escue breathing I of the above th of the following tools is used to discharge high voltage capacitor? ide cutter plier ectrician knife bese plier ier or covert the electrical energy intoenergy. I stands for 'Rotation Per Minute' rue alse th of the following parts use a permanent magnet?	1
d) In 2.3 Ans i. Whia a) C b) O b) O c) R d) A A ii. Whia iii. Whia a) C b) O c) R d) A ii. Whia a) S b) E c) Na d) P ii. Moto v. RPN b) Fa A) T b) Fa A) S v. Whia a) T b) Fa vi. Step b) Pa C) Ai d) A Ans b) Pa C) Ai d) A Ans b) Pa C) Ai d) A Ans b) Pa C) Ai d) D Ans ii. The a) N D) Ta b) Fa Ans iii. In a b) Fa D) Fa iii. In a b) Fa <tr td=""></tr>	duction motor. wer any 5 out of the given 6 questions (1 x 5 = 5 marks) th of the following steps are required to perform CPR? hest compression ben airway escue breathing I of the above th of the following tools is used to discharge high voltage capacitor? ide cutter plier ectrician knife bese plier ier or covert the electrical energy intoenergy. I stands for 'Rotation Per Minute' rue alse th of the following parts use a permanent magnet?	1
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c) Ra d) Al ii. Whia a) S b) El c) Na d) P ii. Mota v. RPM a) T b) Fa v. Whia d) R v. Whia d) R v. Whia d) R v. Whia d) R v. Step c) Ai d) Al b) P c) Ai d) A S b) P c) Ai d) A S b) P c) Ai d) A S f i. Whia d) R v. Step c) Ai d) A f i. Step c) Ai d) A f i. Step c) Ai d) A f f i. Step c) Ai d) A f f f i. Step c) Ai d) A f f f i. Step c) Ai d) A f f f f f i. Step c) Ai d) A f f f f f f f f f f f f f f f f f f f	escue breathing I of the above th of the following tools is used to discharge high voltage capacitor? ide cutter plier ectrician knife ose plier ier or covert the electrical energy intoenergy. I stands for 'Rotation Per Minute' rue alse th of the following parts use a permanent magnet?	1
d) A ii. White a) S b) El c) Ne d) P ii. Moto v. RPN a) T b) Fa v. RPN b) Fa b) Fa v. White v. White b) Fa d) R vi. Step d) A Ans d) A Ans i. White a) Step c) Ai d) A Ans i. White a) Step c) Ai d) A Ans i. White a) N b) Th b) Th c) Hi d) D The ii. The b) Fa b) Fa v. Elect	I of the above th of the following tools is used to discharge high voltage capacitor? ide cutter plier ectrician knife ose plier ier or covert the electrical energy intoenergy. I stands for 'Rotation Per Minute' rue alse th of the following parts use a permanent magnet?	1
ii. Whice a) S b) El c) Ne d) P ii. Moto v. RPN a) T b) Fa v. Whice a) T b) Fa v. Step c) Ai d) A v. Step c) Ai d) A v. Step c) Ai d) A b) P c) Ai d) A b) Ti c) Hi d) D ii. The a) T b) Fa ii. In a a) Ti b) Fa v. Elec	ch of the following tools is used to discharge high voltage capacitor? ide cutter plier ectrician knife ose plier ier or covert the electrical energy intoenergy. I stands for 'Rotation Per Minute' rue alse ch of the following parts use a permanent magnet?	1
a) S b) El c) No d) P ii. Moto v. RPM a) T b) Fa v. White a) T b) Fa v. White d) R vi. Step c) Ai d) A Step c) A d) A Step c) A d d) D Step c) A d d) D Step c d d d d d d d d d d d d d d d d d d	ide cutter plier ectrician knife ose plier ier or covert the electrical energy intoenergy. I stands for 'Rotation Per Minute' rue alse ch of the following parts use a permanent magnet?	1
b) El c) No d) P ii. Moto v. RPN a) T b) Fa v. White a) H b) M c) Hi d) R vi. Step a) So b) P c) Ai d) A vi. Step a) So b) P c) Ai d) A X X X X X X X X X X	ectrician knife ose plier ier or covert the electrical energy intoenergy. I stands for 'Rotation Per Minute' rue alse ch of the following parts use a permanent magnet?	1
c) Na d) P ii. Moto v. RPN a) T b) Fa v. White a) H b) M c) Hi d) R vi. Step c) Ai d) A vi. Step c) Ai d) A 0.4 Ans i. White d) A b) P c) Ai d) A b) Th c) Hi d) D ii. The a) Th b) Fa ii. In a a) Th b) Fa v. Elec	ose plier ier or covert the electrical energy intoenergy. I stands for 'Rotation Per Minute' rue alse ch of the following parts use a permanent magnet?	1
d) P ii. Moto v. RPM a) T b) Fa v. Whia a) H b) M c) Hi d) R vi. Step a) Se b) P c) Ai d) A 2.4 Ans i. Whia d) A 2.4 Ans i. Whia d) A b) Pa c) Ai d) A b) Ta c) Hi d) D ii. The a) Ta b) Fa v. Elec	ier or covert the electrical energy intoenergy. I stands for 'Rotation Per Minute' rue alse ch of the following parts use a permanent magnet?	1
ii. Moto v. RPM a) T b) Fa v. Whio a) H b) M c) Hi d) R vi. Step a) So b) P c) Ai d) A vi. Step a) So b) P c) Ai d) A X i. Whio a) M b) To c) Hi d) D ii. The a) To b) Fa vi. Elec	or covert the electrical energy intoenergy. I stands for 'Rotation Per Minute' rue alse ch of the following parts use a permanent magnet?	1
v. RPM a) T b) Fi v. White a) H b) M c) Hi d) R vi. Step vi. Step vi. Step vi. Step vi. Step c) Ai Ans d) A Ans b) Pi c) Ai c) Ai Ans i. White a) M b) Ti b) Ti c) Hi d) D Ti ii. The a) Th b) Fi iii. In a a) Ti b) Fi v. Elect	l stands for 'Rotation Per Minute' rue alse ch of the following parts use a permanent magnet?	1
a) T b) Fa v. Whia a) H b) M c) Hi d) R vi. Step a) Sa b) P c) Ai d) A c) Ai d) A c) Ai d) A c) Ai d) A c) Ai d) A c) Ai d) D ii. Whia a) N b) Ti c) Hi d) D ii. The a) T b) Fa ii. In a a) Ti b) Fa	rue alse ch of the following parts use a permanent magnet?	
b) Fa v. Whic a) H b) M c) Hi d) R vi. Step a) S b) P c) Ai d) A c) Ai d) A c) Ai d) A c) Ai d) D ii. Whic a) N b) Ti c) Hi d) D ii. The a) T b) Fa v. Elec	alse h of the following parts use a permanent magnet?	1
 v. White a) H b) M c) Hi d) R vi. Step a) Se b) P c) Ai d) A vi. Step a) Se b) P c) Ai d) A vi. Step a) Se b) P c) Ai d) A vi. Step a) Se b) P c) Ai d) D c) Hi d) D ii. The a) T b) Fa ii. In a a) T b) Fa v. Elect 	h of the following parts use a permanent magnet?	1
a) H b) M c) Hi d) R vi. Step a) So b) P c) Ai d) A c) Ai d) A c) Ai d) A c) Ai d) D ii. White a) N b) Ti c) Hi d) D ii. The a) T b) Fa v. Elec		-
b) M c) Hi d) R vi. Step a) S b) P c) Ai d) A c) Ai d) A c) Ai d) A c) Ai d) D ii. White a) N b) Ti c) Hi d) D ii. The a) T b) Fa v. Elec		
c) Hi d) R d) R vi. Step a) S b) P c) Ai d) A c) Ai d) A c) Ai d) A c) Ai d) D ii. The a) T b) Fa ii. In a a) T b) Fa v. Elec	agnetron	
d) R vi. Step a) S b) P c) Ai d) A c) Ai Ans d) A Ans i. White a) M b) Ti b) The A) D d) D Ans ii. The b) Fa b) Fa iii. In a b) Fa b) Fa v. Elect	gh voltage capacitor	
 vi. Step a) Si b) Pi c) Ai d) A 0.4 Ans a) N b) Ti c) Hi d) D ii. The a) Ti b) Fa ii. In a a) Ti b) Fa v. Elect v. Elect 		
a) So b) P c) Ai d) A A Ans a) A b) Ti c) Hi d) D ii. The a) Ti b) Fa ii. In a a) Ti b) Fa v. Elec	s to use a fire extinguisher involve:	1
c) Ai d) A d) A 2.4 Ans i. Whic a) N b) Tr c) Hi d) D ii. The a) T b) Fa ii. In a a) Tr b) Fa	queeze the handle	
d) A 2.4 Ans i. Whia a) M b) Ti c) Hi d) D ii. The a) T b) Fa ii. In a a) Ti b) Fa v. Elec	ull the pin	
Ans i. White i. White a) M b) Tri c) Hi d) D ii. The b) Fa iii. In a b) Fa v. Elect	m the nozzle	
i. Whic a) M b) Tr c) Hi d) D ii. The a) T b) Fa ii. In a a) Tr b) Fa	l of the above	
a) M b) Ti c) Hi d) D ii. The a) T b) Fa ii. In a a) Ti b) Fa v. Elec	wer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
b) Ti c) Hi d) D ii. The a) T b) Fa ii. In a a) Ti b) Fa v. Elec	h of the following parts produces microwave in microwave oven?	1
c) Hi d) D ii. The a) T b) Fa ii. In a a) Ti b) Fa v. Elec	lagnetron	
d) D ii. The a) T b) Fa ii. In a a) Th b) Fa v. Elec	ansformer	
ii. The a) T b) Fa ii. In a a) Tu b) Fa v. Elec	gh voltage capacitor	
a) T b) Fa ii. In a a) Ti b) Fa v. Elec		
b) Fa ii. In a a) Ti b) Fa v. Elec	rotary switch regulates the speed of the mixer motor.	1
ii. In a a) Ti b) Fa v. Elec		
a) Tr b) Fa		_
b) Fa	circuit, rise in temperature can occur due to short circuit.	1
v. Élec		
v. Whic	alse	1
	alse trical tools have two parts: conductors and	1
	alse trical tools have two parts: conductors and th of the following parts respond when there is increase in heat?	
	alse trical tools have two parts: conductors and th of the following parts respond when there is increase in heat? re-filter	
	alse trical tools have two parts: conductors and th of the following parts respond when there is increase in heat? re-filter hermostat	
	alse trical tools have two parts: conductors and th of the following parts respond when there is increase in heat? re-filter hermostat gh voltage capacitor	
	alse trical tools have two parts: conductors and th of the following parts respond when there is increase in heat? re-filter hermostat gh voltage capacitor gh voltage transformer	
a) Ti	alse trical tools have two parts: conductors and th of the following parts respond when there is increase in heat? re-filter hermostat gh voltage capacitor gh voltage transformer tric wires have different colour code.	1
	alse trical tools have two parts: conductors and th of the following parts respond when there is increase in heat? re-filter hermostat gh voltage capacitor gh voltage transformer tric wires have different colour code. ue	1
2.5 Ans i. Moto	alse trical tools have two parts: conductors and th of the following parts respond when there is increase in heat? re-filter hermostat gh voltage capacitor gh voltage transformer tric wires have different colour code.	1

ii.	Which of the following is not the type of mixer	1
	a) Planetary mixer	
	b) Stand mixer	
	c) Spiral mixer	
	d) Pipe mixer	
iii.	Which of the following components are used in microwave oven	1
	a) Magnetron	
	b) Transformer	
	c) Relay	
	d) All of the above.	
iv.	Copper is a good conductor of electricity.	1
	a) True	
	b) False	
٧.	Rotating part of motor is	1
vi.	Which of the following are the types of juicer?	1
	a) Centrifugal juicer	
	b) Masticating juicer	
	c) Citrus juicer or Reamer	
	d) All of the above.	

SECTION B: SUBJECTIVE TYPE QUESTIONS

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

Q.6	Write down the Advantages of Verbal Communication.	2
Q.7	What is Goal Setting?	2
Q.8	What measures we can take to protect our data from theft and viruses?	2
Q.9	Define the meaning of a career.	2
Q.10	What are the three ways to Create Sustainable Cities?	2

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

Q.11	What is Relay?	2
Q.12	Name the parts of mixer?	2
Q.13	What is OLP?	2
Q.14	List out the needs of microwave in our daily life?	2
Q.15	What is FIRE EXTINGUISHER?	2
Q.16	What is PPE?	2

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

Q.17	Define AC Motor and Write down the types of DC Motor Write down two uses	2+2
	of Special Motor?	
Q.18	Write down the different steps of Cleaning the juicer?	4
Q.19	Write down the Major internal parts of microwave oven? Write down the parts	2+2
	of microwave oven operates on high voltage and current?	
Q.20	Write the Composition of a Microwave Oven?	4
Q.21	What first aid measure must be taken in case of electrical shock?	4