

CBSE | DEPARTMENT OF SKILL EDUCATION

Electronics and Hardware (SUBJECT CODE - 420)

MARKING SCHEME FOR CLASS IX (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. There is no negative marking.
 - iii. Do as per the instructions given.
 - iv. Marks allotted are mentioned against each question/part.
7. **SECTION B – SUBJECTIVE TYPE QUESTIONS (26 MARKS):**
 - i. This section contains 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. No.	QUESTION	Source Material (NCERT/PSSCIVE/ CBSE Study Material)	Unit/ Chap. No.	Page no. of source material	Marks
Q. 1	Answer any 4 out of the given 6 questions on Employability Skills (1 x 4 = 4 marks)				
i.	b) share	PSSCIVE CLASS IX BOOK NAME- Employability Skills	Chapter 1	Page No 02	1
ii.	c) Committed	PSSCIVE CLASS IX BOOK NAME- Employability Skills	Chapter 2	Page No 70	1
iii.	b) Bargaining	PSSCIVE CLASS IX BOOK NAME- Employability Skills	Chapter 2	Page No 58	1
iv.	Information and Communication Technology	PSSCIVE CLASS IX BOOK NAME- Employability Skills	Chapter 3	Page No 83	1
v.	b) Economic	PSSCIVE CLASS IX BOOK NAME- Employability Skills	Chapter 4	Page No 135	1

vi.	b) Solar Energy	PSSCIVE CLASS IX BOOK NAME- Employability Skills	Chapter 5	Page No 181	1
Q. 2	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)				
i.	b) volt	PSSCIVE BOOK CLASS IX BOOK NAME: - Field Technician – Other Home Appliances	Chapter 1	Page No 10	1
ii.	a) capacitor	PSSCIVE BOOK CLASS IX BOOK NAME: - Field Technician – Other Home Appliances	Chapter 2	Page No 62	1
iii.	b) 500mg/L	PSSCIVE BOOK CLASS IX BOOK NAME: - Field Technician – Other Home Appliances	Chapter 5	Page No 194	1
iv.	c) Ammeter/ a) multimeter	PSSCIVE BOOK CLASS IX BOOK NAME: - Field Technician – Other Home Appliances	Chapter 3	Page No 89	1
v.	c) 50-70 psi	PSSCIVE BOOK CLASS IX BOOK NAME: - Field Technician – Other Home Appliances	Chapter 4	Page No 178	1
vi.	b) Artificial respiration	PSSCIVE BOOK CLASS IX BOOK NAME: - Field Technician – Other Home Appliances	Chapter 6	Page No 236	1
Q. 3	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)				
i.	b) 5A	PSSCIVE BOOK CLASS IX BOOK NAME: - Field Technician – Other Home Appliances	Chapter 1	Page No 46	1
ii.	c) Both a & b	PSSCIVE BOOK CLASS IX BOOK NAME: - Field Technician – Other Home Appliances	Chapter 2	Page No 78	1
iii.	Megger	PSSCIVE BOOK CLASS IX BOOK NAME: - Field Technician – Other Home Appliances	Chapter 3	Page No 108	1
iv.	a) 50 PPM	PSSCIVE BOOK CLASS IX	Chapter 4	Page No 178	1

		BOOK NAME: - Field Technician – Other Home Appliances			
v.	d) Parts per million	PSSCIVE BOOK CLASS IX BOOK NAME: - Field Technician – Other Home Appliances	Chapter 5	Page No 218	1
vi.	a) Tap and dies	PSSCIVE BOOK CLASS IX BOOK NAME: - Field Technician – Other Home Appliances	Chapter 6	Page No 235	1
Q.No.	QUESTION	Source Material (NCERT/PSSCIVE/ CBSE Study Material)	Unit/ Chap. No.	Page no. of source material	Marks
Q. 4	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)				
i.	Hand	PSSCIVE BOOK CLASS IX BOOK NAME: - Field Technician – Other Home Appliances	Chapter 6	Page No 235	1
ii.	d) All of the above	PSSCIVE BOOK CLASS IX BOOK NAME: - Field Technician – Other Home Appliances	Chapter 5	Page No 218	1
iii.	c) Equal to 7	PSSCIVE BOOK CLASS IX BOOK NAME: - Field Technician – Other Home Appliances	Chapter 4	Page No 177	1
iv.	Clamp Meter	PSSCIVE BOOK CLASS IX BOOK NAME: - Field Technician – Other Home Appliances	Chapter 3	Page No 112	1
v.	b) 1.1kΩ 5%	PSSCIVE BOOK CLASS IX BOOK NAME: - Field Technician – Other Home Appliances	Chapter 2	Page No 82	1
vi.	(d) All of the above	PSSCIVE BOOK CLASS IX BOOK NAME: - Field Technician – Other Home Appliances	Chapter 1	Page No 2	1
Q. 5	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)				
i.	a) AC	PSSCIVE BOOK CLASS IX BOOK NAME: - Field Technician – Other Home Appliances	Chapter 2	Page No 79	1

ii.	Neon	PSSCIVE BOOK CLASS IX BOOK NAME: - Field Technician – Other Home Appliances	Chapter 3	Page No 112	1
iii.	1000 - 3600	PSSCIVE BOOK CLASS IX BOOK NAME: - Field Technician – Other Home Appliances	Chapter 1	Page No 48	1
iv.	True	PSSCIVE BOOK CLASS IX BOOK NAME: - Field Technician – Other Home Appliances	Chapter 6	Page No 237	1
v.	Which of the following is used as a wire connector. a) Lugs b) Screwdriver c) Stripper d) Hammer	PSSCIVE BOOK CLASS IX BOOK NAME: - Field Technician – Other Home Appliances	Chapter 3	Page No 111	1
vi.	In NPN Transistor P-type material is equivalent to _____ of the Diode. a) Cathode b) Anode c) Ground d) Neutral Answer: b) Anode	PSSCIVE BOOK CLASS IX BOOK NAME: - Field Technician – Other Home Appliances	Chapter 2	Page No 68	1

SECTION B: SUBJECTIVE TYPE QUESTIONS

Q. No.	QUESTION	Source Material (NCERT/PSSCIVE/ CBSE Study Material)	Unit/ Chap. No.	Page no. of source material	Marks
Answer any 3 out of the given 5 questions on Employability Skills in 20 – 30 words each (2 x 3 = 6 marks)					
Q. 6	Write down different types of non-verbal communication. Answer: The different types of non-verbal communication are Facial Expression, Posture, Gestures or Body Language, Touch, Space, Eye Contact, Paralanguage.	PSSCIVE CLASS IX BOOK NAME- Employability Skills	Chapter 1	Page No 13	2
Q. 7	What are the factors that affect self-confidence? Answer: The factors that affect self-confidence are: (a) When we think we cannot do a particular work. (b) When we keep thinking of our past mistakes and feel bad about it, instead of learning from them.	PSSCIVE CLASS IX BOOK NAME- Employability Skills	Chapter 2	Page No 68	2

	(c) When we expect to be successful at the first attempt itself and do not try again. (d) When we are surrounded by people who have a negative attitude, which is reflected in their speech.				
Q. 8	List the different input and output devices of a computer. Answer: Keyboards, mouse, scanners, etc. are some of the input devices while printers, monitors, headphones, etc. are some of the output devices.	PSSCIVE CLASS IX BOOK NAME- Employability Skills	Chapter 3	Page No 96	2
Q. 9	What are the 3 types of business activities? Answer: There can be three types of business activities: • Product business • Service business • Hybrid business	PSSCIVE CLASS IX BOOK NAME- Employability Skills	Chapter 4	Page No 153	2
Q. 10	What are green skills? Answer: Green skills are those skills needed to adapt processes, services, and products to climate change and the environmental regulations and requirements related to it.	PSSCIVE CLASS IX BOOK NAME- Employability Skills	Chapter 5	Page No 176	2
Answer any 4 out of the given 6 questions in 20 – 30 words each (2 x 4 = 8 marks)					
Q. 11	What is electric current? Answer: The flow of electric charge is called electric current, The amount of current flowing from one place to another is determined by the amount of charge flowing through it per unit time.	PSSCIVE BOOK CLASS IX BOOK NAME: - Field Technician – Other Home Appliances	Chapter 1	Page No 23	2
Q. 12	What are the applications of transistor? Answer: Transistor will act as switch or can be used for amplification. An easy way to understand transistor is that it is a switch which is controlled by an electrical signal. Transistor can also be used for enhancing the applied signal strength.	PSSCIVE BOOK CLASS IX BOOK NAME: - Field Technician – Other Home Appliances	Chapter 2	Page No 80	2
Q. 13	Write down two uses of a Multimeter? Answer: The two uses of a multimeter are: 1. Multimeter is used to measure two or more electrical values—principally voltage (volts), current (amps) and resistance (ohms). 2. Multimeter is used to check continuity of a circuit.	PSSCIVE BOOK CLASS IX BOOK NAME: - Field Technician – Other Home Appliances	Chapter 3	Page No 94	2
Q. 14	Write a short note on Carbon filter? Answer:	PSSCIVE BOOK CLASS IX	Chapter 4	Page No 126	2

	Carbon filter uses chemical absorption for filtration of water. Carbon is activated by adding positive charge which enhances the surface area as well as the ability of the filter. Carbon filter removes chlorine, arsenic, lead, asbestos, salts or metals.	BOOK NAME: - Field Technician – Other Home Appliances			
Q. 15	Write down a short note on TDS? Answer: Total Dissolved Solids (TDS) are the total amount of dissolved solids present in water. It is the sum of positively charged ions (cations) and negatively charged ions (anions) in the water. It is measured in units of mg per unit volume of water (mg/L) and is also referred to as parts per million (ppm).	PSSCIVE BOOK CLASS IX BOOK NAME: - Field Technician – Other Home Appliances	Chapter 5	Page No 199	2
Q. 16	Write down the different types of Hazards? Answer: <ul style="list-style-type: none"> • Accident Hazards • Physical Hazards • Psychological, psychosocial and Organizational Hazards • Chemical Hazards 	PSSCIVE BOOK CLASS IX BOOK NAME: - Field Technician – Other Home Appliances	Chapter 6	Page No 226	2
Answer any 3 out of the given 5 questions in 50– 80 words each (4 x 3 = 12 marks)					
Q. 17	What is LED & Why LEDs are good choice? Answer: Light-Emitting Diode (LEDs) comprises of several layers of semi-conducting material. When the diode is being utilized with DC, the active layer produces light. LEDs are good choice because of the following reasons: 1. Long life 2. Durable 3. High efficiency 4. Low energy use 5. Compact size 6. No UV issue	PSSCIVE BOOK CLASS IX BOOK NAME: - Field Technician – Other Home Appliances	Chapter 2	Page No 82	4
Q. 18	List the different types of water purifier? Answer: <ul style="list-style-type: none"> • RO Water Purifiers • UF Water Purifiers • UV Water Purifiers • Gravity Based Water Purifiers • Activated Carbon Water Purifiers 	PSSCIVE BOOK CLASS IX BOOK NAME: - Field Technician – Other Home Appliances	Chapter 4	Page No	4
Q. 19	What are the steps for checking the TDS level of the water? Answer: A TDS meter is very easy and simple to use. The following figure lists the steps of taking TDS measurements using a TDS meter: Step1: Collect water in a clean glass	PSSCIVE BOOK CLASS IX BOOK NAME: - Field Technician – Other Home Appliances	Chapter 5	Page No 208	4

	<p>Step 2: Remove the cap and turn the TDS meter on</p> <p>Step 3: Insert the meter into the water</p> <p>Step 4: Lightly stir the water to displace any air bubbles</p> <p>Step 5: Wait for the display to stabilize</p> <p>Step 6: Press the HOLD button to view the reading</p> <p>Step 7: Remove the meter and shake off excess water</p> <p>Step 8: Replace the cap</p>				
Q. 20	<p>Write down the steps for the replacement of filter?</p> <p>Answer: Following steps are used for the replacement of filter in purifier:</p> <ol style="list-style-type: none"> 1. Turn off the feed water line using the SS ball valve. 2. Turn the SS ball valve off by turning the lever in perpendicular to the SS ball valve body. 3. Release the excessive pressure using the pressure release valve. 4. Put the wrench to first filter housing, open the housing by rotating the wrench in clockwise direction. 5 Remove the filter from the housing and discard the filter if necessary. 6. Put the new filter into the housing. 7. Ceramic filter is used in stage one and carbon black filter in stage two and three. 8. Before closing the housing make sure that every housing has a black O ring. 9. Tighten the housing by tighten the housing in the counter-clockwise direction. 	<p>PSSCIVE BOOK CLASS IX BOOK NAME: - Field Technician – Other Home Appliances</p>	Chapter 5	Page No 207	4
Q. 21	<p>What are the precautions to be taken for preventing electric shock on the job?</p> <p>Answer:</p> <ul style="list-style-type: none"> • Ensure the power tools to be used in the assembly process include extension cord of proper rating. • Do not use damaged electric tools. • Inspect and test the installed electrical equipment and system at a regular interval. • Check the rating and physical condition of the components and cables. • Use the standard techniques for assembling the components. • Use protective equipment for safety purpose. 	<p>PSSCIVE BOOK CLASS IX BOOK NAME: - Field Technician – Other Home Appliances</p>	Chapter 6	Page No 229	4