

CBSE | DEPARTMENT OF SKILL EDUCATION

ELECTRONICS AND HARDWARE (SUBJECT CODE -420)

Blue-print for Sample Question Paper for Class IX

Max. Time: 2Hours

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 – I	1	1	2
2	Self-Management Skills – I	2	1	3
3	ICT Skills – I	1	1	2
4	Entrepreneurial Skills – I	1	1	2
5	Green Skills - I	1	1	2
TOTAL QUESTIONS		6	5	11
NO. 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	SHORT ANSWER TYPE QUESTIONS	DESCRIPTIVE/ LONG ANS. TYPE QUESTIONS	TOTAL QUESTIONS
		1 MARK EACH	2 MARKS EACH	4 MARKS EACH	
1	Basics of Electrical and Electronics	4	1	-	5
2	Electrical and Electronics Components	5	1	1	7
3	Tools and Equipment	5	1	-	6
4	Installing an RO Water Purifier	3	1	1	5
5	Repair and Maintenance of Water Purifier	3	1	2	6
6	Maintain Health and Safety	4	1	1	6
TOTAL QUESTIONS		24	6	5	35
NO. OF QUESTIONS TO BE ANSWERED		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 IX (Session 2022-2023)

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	How do you receive information on phone ? a) Listening b) Speaking c) Reading d) Writing	1
ii	Dressing and grooming are important because they help us to look _____. a) Smart b) Untidy c) Shabby d) All of the above	1
iii	Which of the following is a quality of a self-confident person? a) Patient b) Compassionate c) Committed d) Passionate	1
iv	Which one of the following is a valid file extension for image file? a) .jpg b) .doc c) .text d) .txt	1
v	What is the aim of entrepreneurship? a) Earn a profit. b) Solve Customer's need innovatively c) Both of the above d) None of the above	1
vi	Which of the following options describe a green economy correctly? a) Uses less resources b) Uses more resources c) Wastes less items d) Wastes more items	1

Q. 2	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
i	Unit of electric current is a) Ampere b) Volt c) Watt d) Joule	1
ii	Device which store energy in the form of magnetic field ----- a) Capacitor b) Inductor c) Resistors d) Diode	1
iii	The average pressure for the purifier is _____	1
iv	Which of the following equipment is used to measure the AC voltage? a) Multimeter	1

	b) Megger meter c) Ammeter d) Tachometer	
v	Which of the following is type of impurity? a) Minerals b) Salts c) Metals or ions d) All of the above	1
vi	Pentavalent impurities in extrinsic semiconductor have _____electrons in its outermost orbit. a) 3 b) 5 c) 4 d) 2	1

Q. 3	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
i	The maximum contamination level advised for TDS is _____ a) 400 mg/L b) 500 mg/L c) 600 mg/L d) 700 mg/L	1
ii	Which of the following tools is used for making threads? a) Tap and dies b) Screwdriver c) Hammer d) Drill machine	1
iii	If $V = 50\text{ V}$ and $R = 10\ \Omega$, then $I =$ _____ a) 50 A b) 5 A c) 10 A d) 2 A	1
iv	The device which is used to measure insulation resistance _____	1
v	Resistance of material is affected---- a) Length b) Temperature c) Thickness d) All of the above	1
vi	Which of the following is a semiconductor material? a) Silicon b) Germanium c) Both a & b d) None of these	1

Q. 4	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
i	Earthing is necessary in electrical equipment. (True/False)	1
ii	A colour code of Brown, Brown, Red, Gold is for what ohmic value? a) $1.2\text{k}\Omega \pm 5\%$ b) $1.1\text{k}\Omega \pm 5\%$ c) $1.3\text{k}\Omega \pm 5\%$ d) $1.5\text{k}\Omega \pm 5\%$	1

iii	TDS is directly related to the _____ and _____ of water purification system.	1
iv	What is the pH value of water? a) More than 7 b) Less than 7 c) Equal to 7 d) 14	1
v	“Current is directly proportional to the applied Voltage”- this law is given by _____	1
vi	Tong meter is also known as _____	1

Q. 5	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	
i	Transformer works on _____ a) AC b) DC c) Both a & b d) None of these	1
ii	1 KWh = _____ watt x _____ second	1
iii	In NPN Transistor P-type material is equivalent to _____ of the Diode. a) Cathode b) Anode c) Ground d) Neutral	1
iv	Raw water TDS should not be less than _____ a) 50 PPM b) 100 PPM c) 110 PPM d) 120 PPM	1
v	For ideal drinking water TDS Level is _____ a) 0-80 PPM b) 80-150 PPM c) 150-400 PPM d) Above 400 PPM	1
vi	In line tester _____ Bulb is used for indication of live wire.	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	What are the qualities of a self-confident people?	2
Q. 7	Identify the various uses of internet?	2
Q. 8	What are the 7Cs of effective communication?	2
Q. 9	Write down the importance of Green Skills.	2
Q. 10	Identify different steps of starting a business.	2

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

Q. 11	State Ohm's Law.	2
Q. 12	List the types of water purifier.	2
Q. 13	Write down the two possible errors during cleaning the filters.	2
Q. 14	How can you operate diode as a switch?	2
Q. 15	Write a short note on megger meter?	2
Q. 16	Why it is essential to monitor the TDS level of the purified water?	2

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

Q. 17	A resistor has a colour band sequence: yellow, violet, orange, gold, find the value of the resistor in Kilo-ohm and also find out the range of the resistor?	4
Q. 18	Write down the main differences between Water filters and water purifiers.	4
Q. 19	What are the steps for replacement of membrane in purifier?	4
Q. 20	What is meant by troubleshooting? What are the steps of a good troubleshooting?	1+3
Q. 21	List out the various remedies to be taken in workplace?	4