

# CBSE | DEPARTMENT OF SKILL EDUCATION

## Electronics and Hardware (SUBJECT CODE 847)

### MARKING SCHEME FOR CLASS XI (Session-2023-2024)

Max. Time: 3 Hours

Max. Marks: 60

#### General Instructions:

1. Please read the instructions carefully.
2. This Question Paper consists of **24 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 (6 + 18 =) 24 questions, a candidate has to answer (6 + 11 =) 17 questions in the allotted (maximum) time of 3 hours.**
5. All questions of a particular section must be attempted in the correct order.
6. **SECTION A – OBJECTIVE-TYPE QUESTIONS (30 MARKS):**
  - i. This section has 06 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 (30 MARKS):**
  - i. This section contains 18 questions.
  - ii. A candidate has to do 11 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
<b>Q. 1</b>	<b>Answer any 4 out of the given 6 questions on Employability Skills (1 x 4 = 4 marks)</b>				
i.	4) All of the above	PSSCIVE CLASS XI BOOK NAME: - Employability Skills	Unit 1	Page No. <b>02</b>	<b>1</b>
ii.	Specific	PSSCIVE CLASS XI BOOK NAME: - Employability Skills	Unit 2	Page No. <b>97</b>	<b>1</b>
iii.	It is the ability to plan and control how to spend the hours of a day well and to do all that we want to do.	PSSCIVE CLASS XI BOOK NAME: - Employability Skills	Unit 2	Page No. <b>101</b>	<b>1</b>
iv.	1) Edit	PSSCIVE CLASS XI BOOK NAME: - Employability Skills	Unit 3	Page No. <b>111</b>	<b>1</b>
v.	True	PSSCIVE CLASS XI BOOK NAME: - Employability Skills	Unit 4	Page No. <b>147</b>	<b>1</b>

<b>vi.</b>	1) Making Policies	PSSCIVE CLASS XI BOOK NAME: - Employability Skills	Unit 4	Page No. <b>186</b>	<b>1</b>
<b>Q. 2</b>	<b>Answer any 5 out of the given 7 questions (1 x 5 = 5 marks)</b>				
<b>i</b>	1. Current	PSSCIVE CLASS XI BOOK NAME: - Installation Technician Computing and Peripherals	Unit 1	Page No. <b>08</b>	<b>1</b>
<b>ii</b>	3. $V = I * R$	PSSCIVE CLASS XI BOOK NAME: - Installation Technician Computing and Peripherals	Unit 1	Page No. <b>09</b>	<b>1</b>
<b>iii</b>	4. Cache	PSSCIVE CLASS XI BOOK NAME: - Installation Technician Computing and Peripherals	Unit 1	Page No. <b>06</b>	<b>1</b>
<b>iv</b>	1. KVA	PSSCIVE CLASS XI BOOK NAME: - Installation Technician Computing and Peripherals	Unit 1	Page No. <b>15</b>	<b>1</b>
<b>v</b>	1. Liquid	PSSCIVE CLASS XI BOOK NAME: - Installation Technician Computing and Peripherals	Unit 1	Page No. <b>23</b>	<b>1</b>
<b>vi</b>	semiconductor	PSSCIVE CLASS XI BOOK NAME: - Installation Technician Computing and Peripherals	Unit 1	Page No. <b>06</b>	<b>1</b>
<b>vii</b>	Hardcopy	PSSCIVE CLASS XI BOOK NAME: - Installation Technician Computing and Peripherals	Unit 1	Page No. <b>64</b>	<b>1</b>

<b>Q. 3</b>	<b>Answer any 6 out of the given 7 questions (1 x 6 = 6 marks)</b>				
<b>i</b>	1. Input device	PSSCIVE CLASS XI BOOK NAME: - Installation Technician Computing and Peripherals	Unit 1	Page No. <b>47</b>	<b>1</b>
<b>ii</b>	Farad	PSSCIVE CLASS XI BOOK NAME: - Installation Technician Computing and Peripherals	Unit 1	Page No. <b>12</b>	<b>1</b>
<b>iii</b>	True	PSSCIVE CLASS XI BOOK NAME: - Installation Technician Computing and Peripherals	Unit 1	Page No. <b>09</b>	<b>1</b>
<b>iv</b>	Switched Mode Power Supply	PSSCIVE CLASS XI BOOK NAME: - Installation Technician Computing and Peripherals	Unit 1	Page No. <b>18</b>	<b>1</b>
<b>v</b>	3. Operating System	PSSCIVE CLASS XI BOOK NAME: - Installation Technician Computing and Peripherals	Unit 2	Page No. <b>83</b>	<b>1</b>
<b>vi</b>	Single	PSSCIVE CLASS XI BOOK NAME: - Installation Technician Computing and Peripherals	Unit 2	Page No. <b>84</b>	<b>1</b>
<b>vii</b>	Linux.	PSSCIVE CLASS XI BOOK NAME: - Installation Technician Computing and Peripherals	Unit 2	Page No. <b>109</b>	<b>1</b>
<b>Q. 4</b>	<b>Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)</b>				
<b>i</b>	1. Client Hyper-V	PSSCIVE CLASS XI BOOK NAME: - Installation Technician Computing and Peripherals	Unit 2	Page No. <b>83</b>	<b>1</b>

ii	True	PSSCIVE CLASS XI BOOK NAME: - Installation Technician Computing and Peripherals	Unit 2	Page No. <b>106</b>	<b>1</b>
iii	open	PSSCIVE CLASS XI BOOK NAME: - Installation Technician Computing and Peripherals	Unit 2	Page No. <b>108</b>	<b>1</b>
iv	2. Non-volatile	PSSCIVE CLASS XI BOOK NAME: - Installation Technician Computing and Peripherals	Unit 3	Page No. <b>167</b>	<b>1</b>
v	4. RAM	PSSCIVE CLASS XI BOOK NAME: - Installation Technician Computing and Peripherals	Unit 3	Page No. <b>161</b>	<b>1</b>
vi	False	PSSCIVE CLASS XI BOOK NAME: - Installation Technician Computing and Peripherals	Unit 3	Page No. <b>168</b>	<b>1</b>
<b>Q. 5</b>	<b>Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)</b>				
i	3. Cylinder and tracks	PSSCIVE CLASS XI BOOK NAME: - Installation Technician Computing and Peripherals	Unit 3	Page No. <b>143</b>	<b>1</b>
ii	4. Mouse	PSSCIVE CLASS XI BOOK NAME: - Installation Technician Computing and Peripherals	Unit 3	Page No. <b>147</b>	<b>1</b>
iii	ALU	PSSCIVE CLASS XI BOOK NAME: Installation Technician Computing and Peripherals	Unit 3	Page No. <b>168</b>	<b>1</b>

<b>iv</b>	3. CMOS RAM Set up	PSSCIVE CLASS XI BOOK NAME: - Installation Technician Computing and Peripherals	Unit 3	Page No. <b>167</b>	<b>1</b>
<b>v</b>	4. ROM	PSSCIVE CLASS XI BOOK NAME: - Installation Technician Computing and Peripherals	Unit 3	Page No. <b>169</b>	<b>1</b>
<b>vi</b>	4. Memory bus	PSSCIVE CLASS XI BOOK NAME: - Installation Technician Computing and Peripherals	Unit 3	Page No. <b>175</b>	<b>1</b>
<b>Q. 6</b>	<b>Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)</b>				
<b>i</b>	Motherboard	PSSCIVE CLASS XI BOOK NAME: - Installation Technician Computing and Peripherals	Unit 3	Page No. <b>119</b>	<b>1</b>
<b>ii</b>	3. more than two	PSSCIVE CLASS XI BOOK NAME: - Installation Technician Computing and Peripherals	Unit 3	Page No. <b>120</b>	<b>1</b>
<b>iii</b>	Protects.	PSSCIVE CLASS XI BOOK NAME: - Installation Technician Computing and Peripherals	Unit 4	Page No. <b>204</b>	<b>1</b>
<b>iv</b>	off	PSSCIVE CLASS XI BOOK NAME: Installation Technician Computing and Peripherals	Unit 4	Page No. <b>215</b>	<b>1</b>
<b>v</b>	Motherboard	PSSCIVE CLASS XI BOOK NAME: Installation Technician Computing and Peripherals	Unit 4	Page No. <b>214</b>	<b>1</b>

vi	4. Thermal compound.	PSSCIVE CLASS XI BOOK NAME: - Installation Technician Computing and Peripherals	Unit 4	Page No. 205	1
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## **SECTION B: SUBJECTIVE TYPE QUESTIONS**

Q. No.	QUESTION	Source Material (NCERT/PSSCIVE/ CBSE Study Material)	Unit/ Chap. No.	Page no. of source material	Marks
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**Answer any 3 out of the given 5 questions on Employability Skills in 20 – 30 words each (2 x 3 = 6 marks)**

Q. 7	i) Oral or spoken communication: Examples are face to face conversation, talking on the phone, classroom teaching, business meeting, public speeches etc. ii) Written Communication: - Examples are letters, notes, SMS, printed books and newspapers etc.	PSSCIVE CLASS XI BOOK NAME: - Employability Skills	Unit 1	Page No. 07	2
Q. 8	It is finding and listing our goals and then planning on how to complete them. It helps us to focus on the result instead of less important work.	PSSCIVE CLASS XI BOOK NAME: - Employability Skills	Unit 2	Page No. 96	2
Q. 9	i) We can create resumes and postures ii) We can make the documents attractive by adding different colors, text styles, and text size.	PSSCIVE CLASS XI BOOK NAME: - Employability Skills	Unit 3	Page No. 106	2
Q. 10	i) An entrepreneur is a person who tries to meet the needs of a customer through new ideas or ways of doing business and makes profit in return. ii) Values of a successful entrepreneur are a) Confidence b) Independence c) Perseverance d) Open-mindedness	PSSCIVE CLASS XI BOOK NAME: - Employability Skills	Unit 4	Page No. 138	2
Q. 11	i) Agriculture ii) Transport iii) Forestry iv) Energy v) Resources vi) Fisheries vii) Water management	PSSCIVE CLASS XI BOOK NAME: - Employability Skills	Unit 5	Page No. 172	2

**Answer any 3 out of the given 5 questions in 20 – 30 words each (2 x 3 = 6 marks)**

Q. 12	These are the materials whose conductivity is between that of insulator and conductors. Example: Diode, Transistor.	PSSCIVE CLASS XI BOOK NAME: - Installation Technician Computing and Peripherals	Unit 1	Page No. 06	2
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Q. 13	<p><b>Hardware:</b> it consists of mechanical and electronic devices which we can see and touch. CPU, Mouse are the example of hardware.</p> <p><b>Software:</b> it consists of programs, cooperating systems and the data that resides in the memory and storage device. Windows, Microsoft Office are the example of software.</p>	PSSCIVE CLASS XI BOOK NAME: - Installation Technician Computing and Peripherals	Unit 1	Page No. 27	2
Q. 14	<p><b>RAM:</b> 1. RAM is a volatile memory that can store data as long as the power is supplied. 2. Read and write operation are supported.</p> <p><b>ROM:</b> 1. ROM is a non-volatile memory that can store data even when the power is turn off. 2. only read operation are supported.</p>	PSSCIVE CLASS XI BOOK NAME: - Installation Technician Computing and Peripherals	Unit 3	Page No. 163	2
Q. 15	A computer hard disk drive (HDD) is a non-volatile data storage device. Non-volatile refers to storage devices that maintain stored data when turned off. All computers need a storage device, and HDDs are just one example of a type of storage device.	PSSCIVE CLASS XI BOOK NAME: - Installation Technician Computing and Peripherals	Unit 3	Page No. 199	2
Q. 16	Thermal solution is used to conduct heat away from the CPU. ESD is Electrostatic discharge.	PSSCIVE CLASS XI BOOK NAME: - Installation Technician Computing and Peripherals	Unit 4	Page No. 467	2

**Answer any 2 out of the given 3 questions in 30– 50 words each (3 x 2 = 6 marks)**

Q. 17	<p><b>The three components of the CPU are:</b></p> <p><b>Arithmetic and logic unit</b> This performs arithmetic and logic operations. for example, it can add together two binary numbers either from memory or from some of the CPU registers.</p> <p><b>Control unit</b> This controls the action of the computer components so that instructions are executed in the correct sequences.</p> <p><b>Registers</b> These are the temporary storage inside the CPU. It is internal memory of CPU which can read and write at high speed.</p>	PSSCIVE CLASS XI BOOK NAME: - Installation Technician Computing and Peripherals	Unit 3	Page No. 147	3
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<p><b>Q. 18</b></p>	<p>There are essentially three components of operating system as described below: 1. the device driver 2.the kernel 3. the shell</p> <p><b>Real-time OS</b> This method receives data, processes it, and returns results quickly to affect the functioning of the system at that time. It is an online processing system where the processing time is critical. Monitoring and controlling nuclear power stations, rocket launching systems, are examples of real time systems.</p>	<p>PSSCIVE CLASS XI BOOK NAME: - Installation Technician computing and Peripherals</p>	<p>Unit 2</p>	<p>Page No. 79</p>	<p>3</p>
<p><b>Q. 19</b></p>	<p>Three basic safety guidelines for installing of computer and peripherals: 1. we should turn off the power and unplug equipment before installation. 2. we should never touch the computer and printer's parts that use high voltage. 3. we should never open a power supply or a CRT monitor.</p>	<p>PSSCIVE CLASS XI BOOK NAME: - Installation Technician Computing and Peripherals</p>	<p>Unit 4</p>	<p>Page No. 208</p>	<p>3</p>

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

<p><b>Q. 20</b></p>	<p>A computer is an electronic device that accepts data, processes data, generates output, and stores data. A computer mainly performs the following four functions:</p> <p><b>Input</b> The computer accepts input data from the user via an input device like keyboard. The input data can be characters, word, text, sound, images, document, etc.</p> <p><b>Process</b> The computer processes the input data. It performs arithmetic or logic calculation, editing, modifying a document, etc. During processing, the data, instructions, and the output are stored temporarily in the computer's main memory.</p> <p><b>Output</b> It is the result generated after the processing of data. The output may be in the form of text, sound, image, document, etc. The computer may display the output on a monitor and send the output to the printer for printing.</p> <p><b>Storage</b> The input data, instructions, and output are stored permanently in the secondary storage devices like hard disk. The stored data can be retrieved, whenever needed.</p>	<p>PSSCIVE CLASS XI BOOK NAME: - Installation Technician Computing and Peripherals</p>	<p>Unit 1</p>	<p>Page No. 28</p>	<p>4</p>
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<p><b>Q. 21</b></p>	<p><b>Windows 10 System Requirements</b></p> <ol style="list-style-type: none"> <li>processor: 1 gigahertz (GHz) or faster processor</li> <li>memory: 1GB RAM for 32-bit or 2GB RAM for 64bit</li> <li>storage: 16 GB of disk space for 32-bit or 20 GB for 64-bit</li> <li>graphics card: DirectX 9 or later with WDDM 1.0 driver</li> <li>display: 800x600 pixels</li> </ol> <p><b>Three Features of Ubuntu Linux</b></p> <ul style="list-style-type: none"> <li>• Ubuntu is free and open-source software operating system.</li> <li>• It is more secure as compared to the Windows operating system.</li> <li>• Minimum hardware is required to install.</li> </ul>	<p>PSSCIVE CLASS XI BOOK NAME: - Installation Technician Computing and Peripherals</p>	<p>Unit 2</p>	<p>Page No. <b>109</b></p>	<p><b>4</b></p>
<p><b>Q. 22</b></p>	<p>A CPU or processor carries out certain instructions and manipulates data. The main function of a CPU is to execute a sequence of stored instructions called a program. It can execute only machine code and fetches the machine coded instructions from memory and executes them. CPU processes instructions in four steps—fetch, decode, execute, and write back.</p> <p><b>Fetch:</b> The CPU reads data and instruction from memory.</p> <p><b>Decode:</b> The data and instructions are decoded to determine what action is required.</p> <p><b>Execute:</b> The instructions are executed by performing arithmetic or logical operation on data.</p> <p><b>Write:</b> The result of an execution is written to memory or an I/O module.</p>	<p>PSSCIVE CLASS XI BOOK NAME: - Installation Technician Computing and Peripherals</p>	<p>Unit 3</p>	<p>Page No. <b>145</b></p>	<p><b>4</b></p>
<p><b>Q. 23</b></p>	<p>A hard disk typically works on the principle of simple magnetism to store the data and information. A hard drive typically consists of a large plate that is usually made up of a magnetic material and is known as a platter. The platter is usually constructed in a circular shape. The surface of the magnetic plate is divided into billions of tiny compartments. The magnetization of the tiny areas can be performed independently. Magnetized tiny area of the plate denotes a binary high and is equivalent to binary value one; whereas, the demagnetized tiny area denotes a binary low and is equivalent to binary value zero. This</p>	<p>PSSCIVE CLASS XI BOOK NAME: - Installation Technician Computing and Peripherals</p>	<p>Unit 3</p>	<p>Page No. <b>179</b></p>	<p><b>4</b></p>

	<p>indicates that the letters, numbers, and other forms of data stored by the hard disk drive are a combination of binary values, i.e., zeroes or ones. The smallest portion of the information stored by the hard disk drive is known as a bit. The process of magnetization of materials is typically preferred to store information in the disks as it does not get affected by switching off the power supply. The data is retained by the drive even if it is not connected to the power supply for a long time period. The magnetized portion of the hard disk tends to stay magnetized until it is externally demagnetized, thereby allowing reliable storage of data.</p>				
<p><b>Q. 24</b></p>	<p><b>ESD Tools</b>  There are two ESD tools— the anti-static wrist strap and the anti-static mat. The anti-static wrist strap protects computer equipment when grounded to a computer chassis. It is used to prevent ESD damage to computer equipment. The anti-static mat protects computer equipment by preventing static electricity from accumulating on the hardware or on the technician. It is used to stand or place onto the hardware to prevent static electricity from building up.</p> <p><b>Diagnostic Tools</b>  <b>Digital multi-meter:</b> It is used to test the integrity of circuits and the quality of electricity in computer components.  <b>Loopback adapter:</b> It is also known as a loopback plug and is used to test the basic functionality of computer ports.  <b>Toner probe:</b> It is a two-part tool. The toner part is connected to a cable at one end using specific adapters such as an RJ-45. The toner generates a tone that travels the length of the cable.</p>	<p>PSSCIVE  CLASS XI  BOOK NAME: -  Installation Technician  Computing and  Peripherals</p>	<p>Unit <b>4</b></p>	<p>Page No.  <b>204</b></p>	<p><b>4</b></p>