

CBSE | DEPARTMENT OF SKILL EDUCATION

ELECTRONICS AND HARDWARE (SUBJECT CODE - 847) Marking Scheme for Class XI (Session 2024 - 2025)

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. 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 (30 MARKS):**
 - i. This section has 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. 1	Answer any 4 out of the given 6 questions on Employability Skills (1 x 4 = 4 marks)	Marks
(i)	(b) Speaking	1
(ii)	(b) Making a to-do-list	1
(iii)	(b) Ctrl + n	1
(iv)	(d) All of the above	1
(v)	(c) FILE > PRINT	1
(vi)	(c) Government	1
Q. 2	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	Marks
(i)	(c) Both A and B	1
(ii)	(a) Multi-user OS	1
(iii)	(b) devices	1
(iv)	(c) ROM	1
(v)	(b) cathode is connected to the negative and an anode is connected to the positive terminal of the battery	1
(vi)	(d) Touchpad	1
Q. 3	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	Marks
(i)	(d) Gigabyte	1
(ii)	(b) ampere	1
(iii)	(d) Kernel	1
(iv)	(c) Flex-ATX	1
(v)	(b) Microsoft Windows	1
(vi)	(d) SODIMM	1
Q. 4	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	Marks
(i)	(d) Sun	1
(ii)	(b) Transistor	1
(iii)	(c) cache memory	1
(iv)	(c) the central processing unit	1
(v)	(a) Intel 4004	1
(vi)	(a) AC	1
Q. 5	Answer any 6 out of the given 7 questions (1 x 6 = 6 marks)	Marks
(i)	(b) Electric field	1
(ii)	(d) All of the mentioned	1
(iii)	(b) shell	1
(iv)	(b) the motherboard	1
(v)	(c) is plugged into the motherboard for power	1
(vi)	(b) uninterrupted power supply	1
(vii)	(b) the CPU	1
Q. 6	Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)	Marks
(i)	(c) Both A and B	1
(ii)	(a) /etc/	1
(iii)	(c) Windows Key+D	1
(iv)	(b) kernel	1
(v)	(d) Thermal compound	1
6(vi)	(c) input device	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.7	Effective communication can happen if we follow the basic principles of professional communication skills. These can be abbreviated as 7 Cs, i.e., clear, concise, concrete, correct, coherent, complete and courteous.	2
Q.8	Personal hygiene is important because it <ul style="list-style-type: none"> • helps us stay healthy. • creates a good image of ourselves. • helps us avoid feeling ashamed in public due to our bad breath, body odour, etc. 	2
Q.9	Sustainable means what is good for the economy as well as the future of the environment. For example, natural farming without using chemical fertilisers which permanently harm the soil	2
Q.10	A manufacturing business is one that converts raw material(s) into finished product(s) to meet the demands of the customer. In this form of business, the finished product can be directly sold to the customer.	2
Q.11	To insert an image, click Insert and then Image . This will open the Insert Image dialog box. Select the image file you want to insert into a document and then click Open. This will insert an image into the document	2

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

Q.12	When the P-side of the diode is connected to the negative terminal of the battery and N-side of the diode is connected to the positive terminal of the battery, diode is said to be reverse biased or we can say that diode will act as an open switch (it will be turned 'off').	2
Q.13	This component is close to computer hardware. The device drivers are required for proper functioning of the devices attached to the computer system. These drivers can be installed or uninstalled as and when required.	2
Q.14	PCI (Peripheral Component Interconnect) motherboard expansion slots is an older standard of 1993, which provides less bandwidth for expansion cards.	2
Q.15	SMPS is the board on which electronic components are assembled for the regulation of electric power. In it, input AC voltage is converted into low DC voltage. It is used in PCs so that every part of the PC gets proper power supply separately. It helps split the power to motherboard, hard disk, floppy drive, CD drive, etc.	2
Q.16	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.	2

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

Q.17	the minimum hardware requirements as follows: <ol style="list-style-type: none"> 1. processor: 1 gigahertz (Ghz) or faster processor 2. memory: 1GB RAM for 32-bit or 2GB RAM for 64bit 3. storage: 16 GB of disk space for 32-bit or 20 GB for 64-bit 4. graphics card: DirectX 9 or later with WDDM 1.0 driver 5. display: 800x600 pixels 	3
Q.18	<ul style="list-style-type: none"> • Press down the side locks of the memory slot (see Figure 12.9). Align the notches on the RAM module to the keys in the slot and press down on both ends of RAM module until the side lock gets locked. • Make sure that the side tabs have locked the RAM module. • Repeat the above steps to install additional RAM modules 	3

Q.19	Digital ICs are used in computers and computer networks. An integrated circuit is a combination of electronic components on a single piece (or 'chip') of semiconductor material. It has a large number of tiny transistors on a small chip and results in circuits that are smaller, cheaper, and faster. It also has a number of pins.	3
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Answer any 3 out of the given 5 questions in 50– 80 words each (4 x 3 = 12 marks)

Q.20	<p>The hard drive is the device which stores all the data. It is 3.5 inch wide and needs to be mounted so that access to the cable connections on the back is gained. Drives that are installed in internal bays are called internal drives. A hard disk drive (HDD) is an example of an internal drive.</p> <p>To install HDD, follow these steps:</p> <ul style="list-style-type: none"> • Position the HDD so that it aligns with the 3.5 inch drive bay. • Insert the HDD into the drive bay so that the screw holes in the drive line up with the screw holes in the case. • Secure the HDD to the case using proper screws. 	4
Q.21	<ul style="list-style-type: none"> • Ubuntu is user-friendly. • Ubuntu is FOSS (free and open source software) operating system. • Ubuntu can be downloaded from its official website www.ubuntu.com. • It is more secure as compared to the Windows operating system. • High customisation, it means you can set your own flavors of working. • Many Ubuntu flavors are readily available. • Online Ubuntu community is available to help you out in any problem. • Minimum hardware is required to install Ubuntu. • Lots of free software in software centers. 	4
Q.22	<p>The controller is a printed circuit board, mounted at the bottom of a disk drive. It consists of a microprocessor, internal memory, circuitry, and firmware. The firmware controls power of spindle and speed of motor. It also manages communication between the drive and the host. In addition, it controls the R/W operations by moving the actuator arm and switching between different R/W heads and performs the optimisation of data access.</p>	4
Q.23	<p>This is a new generation output device used to print 3D objects. It can produce different kinds of objects in different materials and this can be done using the same printer. It can print anything from ceramic cups to plastic toys, metal machine parts, stoneware vases, fancy chocolate cakes, etc.</p> <p>The 3D printing process turns the object to be printed into thousands of horizontal tiny little layers. It then prints these layers from bottom to top, layer by layer. These tiny layers stick together to form a solid object</p>	4
Q.24	<p>It is widely used as a computer's main memory. Each DRAM memory cell is made up of a transistor and a capacitor within an integrated circuit. It uses one capacitor and one transistor to store each bit (binary digit) of information. The capacitor needs to be regularly refreshed to hold the charge. This configuration uses very few components per bit, keeping the cost low but the constant refresh reduces the speed.</p>	4