CBSE | DEPARTMENT OF SKILL EDUCATION

<u>Electronics and Hardware</u> (SUBJECT CODE 847)

MARKING SCHEME FOR CLASS XII (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. 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.

<u>SECTION A: OBJECTIVE TYPE QUESTIONS</u>

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.	True	**PSSCIVE**	Unit-1	**22**	**1**
ii.	(ii) =	**PSSCIVE**	Unit-3	**44**	**1**
iii.	Green Design Professionals	**PSSCIVE**	Unit-5	**121**	**1**
iv.	Boosts morale and leadership skills	**PSSCIVE**	Unit-4	**79**	**1**
v.	Paranoid	**PSSCIVE**	Unit-2	**27**	**1**
vi.	(i) Extraversion (ii) Agreeableness (iii) Conscientiousness (iv) Emotional stability (Any two)	**PSSCIVE**	Unit-2	31	**1**
Q. 2	Answer any 5 out of the given 7 questions (1 x 5 = 5 marks)				
i.	(A) Local Area Network	**PSSCIVE**	Unit-1	3	**1**
ii.	(C) MAN, LAN, WAN	**PSSCIVE**	Unit-1	3	**1**
iii.	(A) True	**PSSCIVE**	Unit-1	4	**1**
iv.	(A) True	**PSSCIVE**	Unit-1	5	**1**
v.	(B)Star	**PSSCIVE**	Unit-1	9	**1**
vi.	(C) Bus	**PSSCIVE**	Unit-1	9	**1**
vii.	(C) Loop	**PSSCIVE**	Unit-1	10	**1**
Q. 3	Answer any 6 out of the given 7 questions (1 x 5 = 5 marks)				
i.	(D)All of these	**PSSCIVE**	Unit-2	29	**1**

ii.	(A) Microsoft	**PSSCIVE**	Unit-2	30	**1**
iii.	(A) Access Control List	**PSSCIVE**	Unit-2	18	**1**
iv.	(D) All of the above	**PSSCIVE**	Unit-2	31	**1**
v.	(B) Merge	**PSSCIVE**	Unit-2	32	**1**
vi.	(D) 3	**PSSCIVE**	Unit-2	31	**1**
vii.	(A) bcedit	**PSSCIVE**	Unit-2	35	**1**
Q. 4	**Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)**				
i.	(B)rm	**PSSCIVE**	Unit-3	44	**1**
ii.	(D)All of the above	**PSSCIVE**	Unit-3	45	**1**
iii.	(D)4	**PSSCIVE**	Unit-3	44	**1**
iv.	(B) mkfs	**PSSCIVE**	Unit-3	46	**1**
v.	(B) kernel	**PSSCIVE**	Unit-3	47	**1**
vi.	(A) True	**PSSCIVE**	Unit-3	43	**1**
Q. 5	**Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)**				
i.	(A) August kerckhofts	**PSSCIVE**	Unit-4	50	**1**
ii.	(D) All mentioned above	**PSSCIVE**	Unit-4	51	**1**
iii.	(A) Fire wall	**PSSCIVE**	Unit-4	52	**1**
iv.	(A) Proprietary	**PSSCIVE**	Unit-4	53	**1**
v.	(B)Spam	**PSSCIVE**	Unit-4	54	**1**
vi.	(A)Configuration	**PSSCIVE**	Unit-4	55	**1**
Q. 6	**Answer any 5 out of the given 6 questions (1 x 5 = 5 marks)**				
i.	(D) Auditors	**PSSCIVE**	Unit-5	61	**1**
ii.	(D)The service providers preferences	**PSSCIVE**	Unit-5	62	**1**
iii.	(D) Management of IT services and budgetary controls	**PSSCIVE**	Unit-5	63	**1**
iv.	(A) Measuremets and matrics	**PSSCIVE**	Unit-5	64	**1**
v.	(B) ITSM	**PSSCIVE**	Unit-5	65	**1**
vi.	(C) People perspective	**PSSCIVE**	Unit-5	66	**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. 7	i. verbal form ii. non-verbal form iii. written form iv. visual form	**PSSCIVE**	Unit-1	24	**2**
Q. 8	Self-motivation is important because • It increases individual's energy and activity. • It directs an individual towards specific goals. • It results in initiation and persistence of specific activities • It affects cognitive processes and learning strategies used for completing similar tasks	**PSSCIVE**	Unit-2	32	**2**
Q. 9	A cell reference identifies a cell or a range of cells. Each cell in the worksheet has a unique address formed by the combination of its intersecting row and column. When a cell address is referred to in a formula, it is called cell referencing	**PSSCIVE**	Unit-3	44	**2**

Q. 10	Yes, Decision making is one of the important entrepreneurial competency, entrepreneurs often have to take that one decision at the right time which can define the future of their company. And then they also have to quickly act upon their decisions.	**PSSCIVE**	Unit-4	79	**2**
Q. 11	Water Pollution is in its alarming state. This has given rise to the need of Water Quality Technicians to help monitor the water quality and treat it.	**PSSCIVE**	Unit-5	112	**2**
Answer any 3 out of the given 5 questions in 20 – 30 words each (2 x 3 = 6 marks)					
Q. 12	A client is a program that runs on the local machine requesting service from the server. A client program is a finite program means that the service started by the user and terminates when the service is completed. A server is a program that runs on the remote machine providing services to the clients. When the client requests for a service, then the server opens the door for the incoming requests, but it never initiates the service.	**PSSCIVE**	Unit-1	**15**	**2**
Q. 13	Active Directory is a server that allows admains to manage and store information about resources from a network, as well as application data, ina distributed database. A domain controller is a server that responds to authentication requests and verifies users on computer networks.	**PSSCIVE**	Unit-2	**31**	**2**
Q. 14	LILO is a boot loader for Linux.it is used to load the Linux operating system into the main memory to begin its options.	**PSSCIVE**	Unit-3	**47**	**2**
Q. 15	Antimalware is a type of software program created to protect information technology (IT) systems and individual computers from malicious software, or malware. Antimalware programs scan a computer system to prevent, detect and remove malware.	**PSSCIVE**	Unit-4	**52**	**2**
Q. 16	ITIL V3 organizes ITIL pricesses into five service lifecycle stages: Service strategy Service design Service transition Service operation Continual service improvement.	**PSSCIVE**	Unit-5	**61**	**2**
Answer any 2 out of the given 3 questions in 30– 50 words each (3 x 2 = 6 marks)					
Q. 17	Based on the geographical area covered and data transfer rate, computer networks are broadly categorized as: • PAN (Personal Area Network) • LAN (Local Area Network) • MAN (Metropolitan Area Network) • WAN (Wide Area Network) **Personal Area Network (PAN)**	**PSSCIVE**	Unit-1	**3,4**	**3**

	It is a network formed by connecting a few personal devices like computers, laptops, mobile phones, smart phones, printers etc., **Local Area Network (LAN)** It is a network that connects computers, mobile phones, tablet, mouse, printer, etc., placed at a limited distance. **Metropolitan Area Network (MAN)** Metropolitan Area Network (MAN) is an extended form of LAN which covers a larger geographical area like a city or a town. **Wide Area Network (WAN)** Wide Area Network connects computers and other LANs and MANs, which are spread across different geographical locations of a country or in different countries or continents.				
Q. 18	ITIL V2 • Focused on product, process and people. • Process oriented approach. • Security management is part of evaluation. • Emphasizes on service design and service strategy. • Have 10 processes and 2 functions. ITIL V3 • Focused on product, process, people and partner. • Lifecycle based approach. • Security management is a separate process. • Equal attention to all processes. • Have 26 processes and 4 functions.	**PSSCIVE**	Unit-5	63	**3**
Q. 19	The process of scanning a computer's port is called port scanning. It provides information on whether a device's ports are open, closed or filtered. It is mainly performed to identify if a port is sending or receiving any information. Port scanning also involves the sending of data to specific ports and analyzing the responses to identify vulnerabilities.	**PSSCIVE**	Unit-4	54	**3**
Answer any 3 out of the given 5 questions in 50– 80 words each (4 x 3 = 12 marks)					
Q. 20	The Data Transmission mode is divided into three categories: o Simplex mode o Half-duplex mode o Full-duplex mode **o Simplex mode**	**PSSCIVE**	Unit-1	16,17	**4**

	Simplex mode In Simplex mode, the communication is unidirectional, i.e., the data flow in one direction. A device can only send the data but cannot receive it or it can receive the data but cannot send the data. This transmission mode is not very popular as mainly communications require the two-way exchange of data. **o Half-duplex mode** In a Half-duplex channel, direction can be reversed, i.e., the station can transmit and receive the data as well. Messages flow in both the directions, but not at the same time. The entire bandwidth of the communication channel is utilized in one direction at a time. **o Full-duplex mode** In Full duplex mode, the communication is bi-directional, i.e., the data flow in both the directions. Both the stations can send and receive the message simultaneously. Full-duplex mode has two simplex channels. One channel has traffic moving in one direction, and another channel has traffic flowing in the opposite direction.				
Q. 21	**Benefits of Domain Controller** 1) Centralized user management 2) Enables resource sharing for files and printers 3) Federated configuration for redundancy (FSMO) 4) Can be distributed and replicated across large networks **5)** Encryption of user data 6) Can be hardened and locked-down for improved security. **Limitations of Domain Controller** 1) Target for cyberattack 2) Potential to be hacked 3) Users and OS must be maintained to be stable, secure and up-to-date 4) Network is dependent on DC uptime 5) Hardware/software requirements	**PSSCIVE**	Unit-2	38	**4**
Q. 22	Linux Operating System has primarily three components: • **Kernel:** Kernel is the core part of Linux. It is responsible for all major activities of this operating system. It is consists of various modules and it interacts directly with the underlying hardware. Kernel provides the required abstraction to hide low level hardware details to system or application programs.	**PSSCIVE**	Unit-3	45	**4**

	• **System Library:** System libraries are special functions or programs using which application programs or system utilities accesses Kernel's features. These libraries implement most of the functionalities of the operating system and do not require kernel module's code access rights. • **System Utility:** System Utility programs are responsible for doing specialized, individual level tasks.				
Q. 23	**Software Firewalls** Software firewalls are installed separately on individual devices. They provide more granular control to allow access to one application or feature while blocking others. But they can be expensive in terms of resources since they utilize the CPU and RAM of the devices they are installed on, and administrators must configure and manage them individually for each device. Additionally, all devices within an intranet may not be compatible with a single software firewall, and several different firewalls may be required. **Hardware Firewalls** On the other hand, hardware firewalls are physical devices, each with its computing resources. They act as gateways between internal networks and the internet, keeping data packets and traffic requests from untrusted sources outside the private network. Physical firewalls are convenient for organizations with many devices on the same network. While they block malicious traffic well before it reaches any endpoints, they do not provide security against insider attacks. Therefore, a combination of software and hardware firewalls can provide optimal protection to your organization's network.	**PSSCIVE**	Unit-4	58	**4**
Q. 24	**Benefits of IT problem management** Eliminates the faults in an organization's services through suitable documentation. • Refines the service design by identifying and solving weak points, ensuring the most effective and efficient path for service delivery. • Increases the first-time fix rate on service failures by providing permanent solutions to	**PSSCIVE**	Unit-4	**67**	**4**

incidents rather than stopping at workarounds • Diminishes the impact of incidents affecting multiple users, or a single user at a crucial time. • Prevents most of the incidents and problems plaguing an organization over time, boosting user productivity. • Strengthens the confidence users have in the organization's IT services. • Decreases the time it takes to recover from failures through systematic maintenance of a KEDB. • Prevents recurring incidents through one-time fixes, sparing valuable service desk efforts in resolving them.				