PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION DECEMBER 2025
(Fifth Semester)

Branch - ELECTRONICS

MAJOR ELECTIVE COURSE – I:
COMPUTER HARDWARE AND NETWORKING

Time: Three Hours   Maximum: 75 Marks

SECTION-A (10 Marks)
Answer **ALL** questions

ALL questions carry **EQUAL** marks $(10 \times 1 = 10)$

Module No.	Question No.	Question	K Level	CO
1	1	Which of the following is the brain of the computer system? a) RAM b) Processor c) BIOS d) SMPS	K1	CO1
	2	SMPS in a computer is used for: a) Cooling the system b) Converting AC to regulated DC supply c) Enhancing bus speed d) Storing system data	K2	CO1
2	3	The storage capacity of a standard 3.5-inch floppy disk is: a) 360 KB b) 1.44 MB c) 720 KB d) 2 MB	K1	CO2
	4	Which of the following is an example of optical storage? a) Hard disk b) Floppy disk c) CD-ROM d) Cache memory	K2	CO2
3	5	Which of the following devices is used to convert hard copy into digital format? a) Mouse b) Scanner c) Plotter d) Printer	K1	CO3
	6	Which printer provides the best quality output among the following? a) Dot Matrix b) Laser c) Inkjet d) Line	K2	CO3
4	7	Which network topology connects each node directly to a central hub? a) Bus b) Ring c) Star d) Mesh	K1	CO4
	8	Which protocol is used for video conferencing in ISDN? a) TCP b) H.320 c) FTP d) UDP	K2	CO4
5	9	Which layer of the OSI model is responsible for logical addressing? a) Application b) Network c) Data Link d) Session	K1	CO4
	10	Which protocol is used for transferring files between computers? a) HTTP b) FTP c) DNS d) SMTP	K2	CO4

SECTION - B (35 Marks)
Answer ALL questions
ALL questions carry EQUAL Marks (5 × 7 = 35)

Module No.	Question No.	Question	K Level	CO
1	11.a.	Explain the functional block diagram of a personal computer.	K2	CO1
		(OR)		
	11.b.	Describe the role of BIOS in the booting process.		
2	12.a.	Explain the organization of PC memory with a neat diagram.	K2	CO2
		(OR)		
	12.b.	Describe the principle of operation of CD-ROM		
3	13.a.	Write a short note on working of laser mouse with diagram.	K3	CO3
		(OR)		
	13.b.	Compare the functioning of dot matrix and inkjet printers.		
4	14.a.	Analyze the advantages and limitations of different network topologies.	K4	CO4
		(OR)		
	14.b.	Examine the role of protocol services in data communication.		
5	15.a.	Explain about routers and gateways.	K3	CO4
		(OR)		
	15.b.	Compare TCP and UDP protocols with suitable examples		

SECTION -C (30 Marks)
Answer ANY THREE questions
ALL questions carry EQUAL Marks (3 × 10 = 30)

Module No.	Question No.	Question	K Level	CO
1	16	Discuss the evolution of personal computers and the major advancements in PC architecture.	K2	CO1
2	17	Explain in detail the fundamentals of magnetic storage. How is data stored and retrieved in HDDs?	K2	CO2
3	18	Describe the working of a CRT display system with diagram.	K3	CO3
4	19	Explain the types of networks (LAN, MAN, WAN) with examples and their applications.	K4	CO4
5	20	Discuss the OSI reference model in detail, explaining the functions of each layer	K3	CO4

Z-Z-Z END