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22NMB102N

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BVoc DEGREE EXAMINATION MAY 2025
(First Semester)

Branch – **NETWORKING AND MOBILE APPLICATIONS**

FUNDAMENTALS OF NETWORKS AND INDUSTRIAL SAFETY

Time: Three Hours Maximum: 75 Marks

SECTION-A (10 Marks)
Answer **ALL** questions
ALL questions carry **EQUAL** marks (10 × 1 = 10)

Module No.	Question No.	Question	K Level	CO
1	1	Which device is used to connect different networks together? a) Switch b) Hub c) Router d) Repeater	K1	CO1
	2	Which topology has all devices connected to a single central hub or switch? a) Bus topology b) Star topology c) Ring topology d) Mesh topology	K2	CO1
2	3	The Physical Layer is responsible for_____. a) Error detection and correction b) Routing of data packets c) Transmission of raw bits over a communication channel d) Encryption and decryption of data	K1	CO2
	4	Which of the following is NOT a function of the Physical Layer? a) Bit synchronization b) Data encoding c) Logical addressing d) Transmission medium selection	K2	CO2
3	5	What is the primary difference between analog and digital signals? a) Analog signals are continuous, while digital signals are discrete b) Analog signals use binary values, while digital signals use continuous values c) Digital signals have more noise than analog signals d) Analog signals cannot be transmitted over networks	K1	CO3
	6	Which of the following is an example of an analog signal? a) Morse code b) Human voice c) Binary data d) Digital clock	K2	CO3
4	7	The Application Layer is the _____ layer in the OSI model. a) First b) Third c) Fifth d) Seventh	K1	CO4
	8	Which of the following protocols operates at the Application Layer? a) TCP b) IP c) HTTP d) ARP	K2	CO4

Cont...

5	9	What is the primary objective of industrial safety management? a) To increase production speed b) To reduce workplace accidents and hazards c) To decrease employee wages d) To improve customer satisfaction	K1	CO5
	10	What does PPE stand for in industrial safety? a) Professional Protection Equipment b) Personal Protective Equipment c) Public Protection Engineering d) Process Protection Evaluation	K2	CO5

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 different types of networks based on their geographical coverage.	K2	CO1
		(OR)		
	11.b.	Examine five important uses of computer networks in different fields.		
2	12.a.	Discuss the role of the Physical Layer in data transmission and explain how different transmission media affect network performance.	K3	CO2
		(OR)		
	12.b.	Develop guided transmission medium in physical layer.		
3	13.a.	Discuss in detail about fundamentals of signals.	K3	CO3
		(OR)		
	13.b.	Give notes network layer design issues.		
4	14.a.	Compare the roles of DNS Resolver, Root Server, TLD Server, and Authoritative DNS Server in domain resolution.	K4	CO4
		(OR)		
	14.b.	Analyze the role of encryption and authentication in securing email communication.		
5	15.a.	Evaluate the key safety factors in industrial safety and maintenance management.	K5	CO5
		(OR)		
	15.b.	Examine safety aspects of sites and its important.		

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	Give brief notes on network protocols and examples of network.	K3	CO1
2	17	Analyze the role of error detection and correction techniques in ensuring reliable data transmission.	K4	CO2
3	18	Evaluate the role of routing algorithm in determining the best path for data transmission.	K5	CO3
4	19	Elucidate the web search, personalization, and user experience on the WWW.	K5	CO4
5	20	Analyze the commitment of top management on SHE.	K6	CO5

Z-Z-Z END