

MCA/430071

BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)

CLASS: MCA/PRE_PHD
BRANCH: MCA

SEMESTER : II/NA
SESSION : SP/2023

TIME: 3 Hours

SUBJECT: CA413 DATA COMMUNICATION & COMPUTER NETWORKS

FULL MARKS: 50

INSTRUCTIONS:

1. The question paper contains 5 questions each of 10 marks and total 50 marks.
2. Attempt all questions.
3. The missing data, if any, may be assumed suitably.
4. Before attempting the question paper, be sure that you have got the correct question paper.
5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.

Q.1(a)	Differentiate between a connection less and a connection-oriented network protocol	[5]	CO	BL
Q.1(b)	Explain the importance of the following fields in the IPv4 header:	[5]	1	3
	a) TTL	[5]	1	2
	b) Destination address			
	c) Checksum			
Q.2(a)	Deduce the relation between E_b/N_0 and SNR.	[5]	2	3
Q.2(b)	How is delay distortion different from attenuation?	[5]	2	3
Q.3(a)	What is the CRC obtained when the message $M=11111111$ is verified using $P=1001$	[5]	3	3
Q.3(b)	Differentiate between working of PCM and DPCM	[5]	3	2
Q.4(a)	Explain the working of the GBN-ARQ with a suitable diagram.	[5]	4	2
Q.4(b)	What is Time division multiplexing?	[5]	4	2
Q.5(a)	What are the different classes of IP addresses	[5]	5	1
Q.5(b)	Explain why Bellman Ford algorithm is considered superior to Dijkstra's algorithm in the case of finding Least Cost Path across an internet	[5]	5	2

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