PURBANCHAL UNIVERSITY

Time-bound Home Exam 2020

Bachelor in Information Technology (B.I.T.)/Fifth Semester/*Final*

Time: 03:00 hrs. (+2 Hrs. for Submission) Full Marks: 60 /Pass Marks: 24

BIT372CO: Data Communication *(New Course)*

Instructions:

Dear Students!

- *This model of examination is for you as the end of your current semester. This examination allows you to write answer from your own place of residence. Follow the following instructions without fail.*
- *Do not write your name in the answer-sheet(s)*
- *All the answer-sheets should be sent to college through your approved email in which you have received your question paper.*
- *Do not write questions in the answer-sheet but mention clearly the question number.*
- *All the scan/photos of answer-sheets should be clearly visible. Any blur scan/photo will not be considered for evaluation. Responsibility lies with the students to make sure that scan/photos of the answer-sheet are of readable quality.*
- *Leave 1 inch margin on each side of the answer-sheet.*
- *Clearly mention your Roll no, subject, program, semester, page number at the right-top of each page as instructed by the Office of the Examination Management.*
- *Make sure that you send your answer-sheets within the given time. Any email received after the given time will not be acceptable.*
- *You are strictly advised to write with your own handwriting and that you are not using any unfair means to answer the questions.*
- *Do not consult during the examination period to any other person in answering the questions.*
- *Do not post any pictures of taking examination or your answer-sheets in any social-media. Found that may be taken action from University.*

The figures in the margin indicate full marks.

Group A

Answer TWO questions. **2×12=24**

1(a) Explain briefly the different layers of OSI model. 6

(b) What do you mean by line of sight transmission? Explain. 6

2(a) What do you mean by signal encoding? If a message signal 1000000001100000010 is to be transmitted, encode it using 6

(i) Bipolar-AMI (ii) B8ZS (iii) HDB3

(b) Explain with diagram the difference between circuit switching and packet switching data transmission methods. 6

3(a) Differentiate between synchronous and asynchronous data transmission. 6

(b) A message signal M(x)= 1110 is to be transmitted from a source device. Calculate the hamming code at the receiving end if the data was transmitted without any error. Use even parity. 6

Group B

Answer SIX questions. **6×6=36**

4. A Message signal M(x)= 11100101010 is to be transmitted using divisor value of 1100. Calculate the CRC at receiving end if the most significant bit was flipped during transmission.
5. Explain with diagram the difference between Go Back-N and Selective Repeat.
6. What do you mean by multiplexing? Explain with diagram FDM and TDM.
7. What do you mean by congestion? Explain the effect of congestion.
8. What do you mean by CDMA? Explain about different IEEE 802.11 standards.
9. What do you mean by IP address? Describe about IPv4 header.
10. What is modulation? Explain the need of modulation
11. Write short notes on any TWO:

(a) VPN (b) ASK (c) Routers and Switch