

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VIII (OLD) EXAMINATION – WINTER 2018

Subject Code: 181101

Date: 19/11/2018

Subject Name: Data Communication And Networking

Time: 02:30 PM TO 05:00 PM

Total Marks: 70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Explain the OSI reference model with the diagram. Also enlist its critique in various applications. **07**
(b) Explain the four levels of addresses in TCP/IP protocols. **07**
- Q.2** (a) Explain HDLC Protocol with modes of operation, Frame structure and Frame types. **07**
(b) Explain ATM Reference Model in detail. **07**
- OR**
- (b) Explain the Go-Back-N and selective repeat protocols in brief. Comment on the effects of errors caused in communication due to different window sizes. **07**
- Q.3** (a) What is the major difference between error detecting and error correcting codes? Show how Hamming code is used to correct burst errors. **07**
(b) Explain Bluetooth protocol architecture and list its application. **07**
- OR**
- Q.3** (a) Write the functions of Medium Access Control sub layer. And Compare pure ALOHA and slotted ALOHA. **07**
(b) What is the Public Switched Telephone System? Also discussed in details working of PSTN system using diagram. **07**
- Q.4** (a) Differentiate the IPv4 and IPv6 in detail. **07**
(b) Write a short note on services provided by the TCP at Transport layer. **07**
- OR**
- Q.4** (a) Write a short note on HTTP. **07**
(b) Explain the Transport Service Primitives. Explain using diagram, connection establishment and release using these primitives. **07**
- Q.5** (a) What is Domain Name System? Describe in details the Resource records and Name server for the Domain Name System. **07**
(b) What is cryptography? Explain symmetric key algorithm in detail. **07**
- OR**
- Q.5** (a) Discuss the social issues connected with network security. **07**
(b) What is congestion? Write congestion prevention policies for network and transport layers. **07**
