

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE- SEMESTER-VIII (OLD) EXAMINATION – WINTER 2020****Subject Code:181101****Date:21/01/2021****Subject Name:Data Communication And Networking****Time:02:00 PM TO 04:00 PM****Total Marks: 56****Instructions:**

1. Attempt any FOUR questions out of EIGHT questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Draw the ISO- OSI model and describe the critiques of OSI and TCP/IP reference models. **07**
(b) What is the Public Switched Telephone System? Also discussed in details working of PSTN system using diagram. **07**
- Q.2** (a) Explain flooding and shortest path routing. **07**
(b) What is channel allocation problem? Compare pure ALOHA and Slotted ALOHA. **07**
- Q.3** (a) Explain error correction techniques in detail. **07**
(b) Explain the Leaky bucket algorithm and Token bucket algorithm in detail. **07**
- Q.4** (a) Explain bit map protocol and binary countdown protocol in detail. **07**
(b) What is constrain on the window size for selective repeat and Go back n protocol? Justify the answer with example. **07**
- Q.5** (a) Differentiate IPv4 and IPv6. Explain Header of IPv6 with diagram. **07**
(b) Explain in detail X.25 and Frame relay. **07**
- Q.6** (a) Explain the SMTP and HTTP protocol. **07**
(b) Explain DNS in detail with example **07**
- Q.7** (a) Discuss various social issues related to security over Internet. **07**
(b) Enlist the function of the transport layer and explain each in brief. Compare UDP and TCP. **07**
- Q.8** (a) What are the elements of transport layer and explain each of them in brief. **07**
(b) Which are the methods used for Digital Signature? Explain them in detail. **07**
