Roll No: | | | | | | | | | | | | | |

BTECH
(SEM V) THEORY EXAMINATION 2023-24
ELECTRONICS SWITCHING

TIME: 3 HRS **M.MARKS: 100**

Note: 1. Attempt all Sections. If require any missing data, then choose suitably.

SECTION A

1. Attempt *all* questions in brief.

Q no.	Question	Marks	CO
a.	Explain the classification of switching system.	2	1
b.	Discuss the limitations of Manual switching system.	2	1
c.	Enlist the key elements of Digital switching.	2	2
d.	Explain the advantages of Time division switching.	2	2
e.	Define the term Blocking and Queuing.	2	3
f.	Describe the term Grade of Service for a loss system.	2	3
g.	Explain the features of CCITT signaling system no. 7.	2	4
h.	Classify different types of signaling techniques.	2	4
i.	Enlist the advantages of ATM.	2	5
j.	Explain the term Statistical Multiplexing.	2	5

SECTION B

2. Attempt any *three* of the following:

a.	Using block diagram describe distribution frames in Strowger exchange also discuss their significance.	10	1
b.	Differentiate between three stage STS and TST switching. Determine the implementation complexity a 2048-channnel STS switch implemented for 16 TDM links with 128 channels on each link. The desired maximum blocking probability is 0.002 for channel occupancies of 0.1.	10	2
c.	Illustrate different type of Blocking models and delay system.	10	3
d.	Demonstrate Stored Program Control and its classification in detail.	10	4
e.	(i) Describe ATM switching. Also discuss how it is different from TDM circuit switch. (ii) Explain X.25 in brief.	10	5

SECTION C

3. Attempt any *one* part of the following:

a.	Elaborate- (i) Register Translator Sender system. (ii) General trunking electronic switching	10	1
b.	Differentiate between Message, Circuit, and Packet Switching.	10	1

4. Attempt any *one* part of the following:

a.	Demonstrate Space Division Switching in detail.	10	2
b.	Illustrate Two-dimensional switching in detail. Also draw the structure of TSSST switch.	10	2

5. Attempt any *one* part of the following:

a.	Illustrate the different terms related to Network traffic load. And find out the load offered to the network by the subscriber and the average subscriber traffic, when over a 20-minute observation interval, 40 subscriber initiate calls. Total duration of the calls is 4800 seconds.	10	3
b.	Derive the equation of Grade of service and blocking probability of lost call cleared service (LCC).	10	3

6. Attempt any *one* part of the following:

a.	Illustrate principle, advantages and disadvantages of common channel signaling.	10	4
b.	Demonstrate various modes of dual processor architecture.	10	4

7. Attempt any *one* part of the following:

a.	Elaborate Routing control and flow control.	10	5
b.	(i) Explain layered mechanism of TCP/IP model. (ii) Discuss Banyan Network Switch.	10	5