JAYPEE INSTITUTE OF INFORMATION TECHNOLOGY
Electronics and Communication Engineering
Telecommunication Networks (15B11EC611)
Tutorial Sheet: 2

Q1. **[CO2]** Assuming bidirectional traffic a non-folded time division space switch is designed to support 32 inlets and outlets each. Find the time duration that is available for exchanging samples for one connection? What is the size of the control memory if the switch is output controlled and also determine the clock rate of the system?

Q2. [CO2] How many subscribers can be supported in bidirectional PAM switching bus if the pulse width of the PAM sample is 125ns?

Q3. [CO2] A 32×32 basic time division switch is operating in sequential read/random write mode. Find the following:
a) Number of address lines,
b) Number of data lines,
c) Size of data memory,
d) Size of control memory, and
e) Contents of the control memory for following connections of input & output:

1……....20	**2……..21**
3……22	**6…….…….15**

Q4. [CO2] A 32×32 basic time division switch is operating in sequential write/random read mode. Find the following:
a) Number of address lines,
b) Number of data lines,
c) Size of data memory,
d) Size of control memory, and
e) Contents of the control memory for following connections of input & output:

1……....20	**2……..21**
3……22	**6…….…….15**

Q5. [CO2] A 32×64 basic time division switch is operating in sequential write/ random read mode. Find the following:
a) Number of address lines,
b) Number of data lines,
c) Size of data memory,
d) Size of control memory, and
e) Contents of the control memory for following connections of input & output:

30……..50	**12……..25**
25……..22	**16…….…….64**

Q6. [CO2] A 32×64 basic time division switch is operating in sequential read/ random write mode. Find the following:
a) Number of address lines,
b) Number of data lines,
c) Size of data memory,

d) Size of control memory, and
e) Contents of the control memory for following connections of input & output:

30……..50 **12……..25**
25……..22 **16…….…….64**

Q7. [CO2] For a TSI switch with 1 trunk and 24 slots, working in sequential write/random read. For the following connections:

2----------7, 3----------4; 1----------1

Find the delay in getting a sample at the outlet.

Q8. [CO2] A TST switch supports 32 trunks of 32 channels each. A time expansion/concentration factor of 2 and a single-stage space switch are used. What is the blocking probability of the switch if the channel loading is 0.9E per channel?