

**P.E.S. College of Engineering, Mandya - 571 401***(An Autonomous Institution affiliated to VTU, Belagavi)***First Semester, M. Tech - Computer Science and Engineering (MCSE)****Semester End Examination; April / July - 2021****Network Programming**

Time: 3 hrs

Max. Marks: 100

**Course Outcomes***The Students will be able to:**CO1: Understand client/server communication through transport layer protocols..**CO2: Develop applications that communicate with each other using TCP.**CO3: Develop applications that communicate with each other using SCTP.**CO4: Evaluate Socket Programming APIs.**CO5: Explain key management and routing sockets.***Note: I) Answer any FIVE full questions, selecting ONE full question from each unit.****II) Any THREE units will have internal choice and remaining TWO unit questions are compulsory.****III) Each unit carries 20 marks.**

Q. No.	UNIT - I	Marks	BLs	COs	POs
1a.	Mention the acronym of POSIX. List and describe different POSIX standards.	10	L2	CO1	
b.	Illustrate the use of netstat, ping and if config commands.	10	L3	CO1	
<b>UNIT - II</b>					
2 a.	Explain different functions used to pass socket address structure from process to kernel and kernel to process with a diagram and example.	10	L2	CO2	
b.	Illustrate different functions which operate on multi byte fields.	10	L3	CO2	
<b>OR</b>					
2 d.	With a diagram, explain the socket functions for elementary TCP client/server.	10	L2	CO2	
e.	Explain connect and bind function with example.	10	L2	CO2	
<b>UNIT - III</b>					
3 a.	Briefly describe different I/O models available in UNIX.	10	L2	CO3	
b.	Explain the get and set option functions that affect a Socket.	10	L2	CO3	
<b>OR</b>					
3 d.	Describe the issues that must be considered by users of one-to-many style.	10	L2	CO3	
e.	Illustrate how head of live blocking happens with example?	10	L3	CO3	
<b>UNIT - IV</b>					
4 a.	Define daemon process. Describe different ways used to start a daemon.	10	L2	CO4	
b.	With a diagram, explain the steps performed by inetd daemon.	10	L2	CO4	

**OR**

- 4 d. How Ancillary data can be sent and received? Explain the steps used to build and process ancillary data by showing the structures and macros. 10 L2 CO4
- e. Write a code snippet to create a UNIX domain socket, binds a pathname to it and then calls getsockname and prints the bound pathname. 10 L3 CO4

**UNIT - V**

- 5 a. Illustrate, how ARP cache operation is done using an example? 10 L3 CO5
- b. Describe the steps that will be performed on out of band data at receiver's side. 10 L2 CO5

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