



B.E/B.TECH DEGREE EXAMINATIONS: APRIL / MAY 2023

(Regulation 2018)

Sixth Semester

COMMON TO ALL BRANCHES

U18CSR6224: TCP / IP Socket Programming Using Python

COURSE OUTCOMES

- CO1:** Ability to gain knowledge on TCP and UDP sockets
CO2: Understand and use networking features available in Python
CO3: Understand and implement fundamental network programming using API.
CO4: Ability to gain knowledge on socket and socket programming.
CO5: Understand and implement the advanced network programming concepts.

Time: Three Hours

Maximum Marks: 100

**Answer all the Questions:-
 PART A (10 x 2 = 20 Marks)
 (Answer not more than 40 words)**

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|--|-----|-------------------|
| 1. Draw the architectural diagram of the TCP/IP reference model. | CO1 | [K ₁] |
| 2. Differentiate between stateful and stateless servers. | CO1 | [K ₂] |
| 3. Which socket method is responsible for the 3-way handshake? Give its signature. | CO2 | [K ₂] |
| 4. Draw the sequence diagram of the SSL handshake process. | CO2 | [K ₂] |
| 5. List any FOUR applications that uses UDP. | CO3 | [K ₂] |
| 6. Differentiate between a process and a thread. | CO3 | [K ₂] |
| 7. What is the Twisted framework for python? | CO4 | [K ₂] |
| 8. What is the purpose of the urlopen() ? Give an example. | CO4 | [K ₃] |
| 9. What is the functionality of the join()? | CO5 | [K ₂] |
| 10. Differentiate between send() and sendto() in python | CO2 | [K ₂] |

Answer any FIVE Questions:-
PART B (5 x 16 = 80 Marks)
(Answer not more than 400 words)

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|-----|----|--|---|-----|-------------------|
| 11. | a) | List and explain the privileges and complexities that are to be implemented in a server application. | 8 | CO1 | [K ₂] |
| | b) | Discuss in detail about I/O multiplexing and the various I/O models | 8 | CO1 | [K ₁] |
| 12. | a) | Discuss about the timeline of a typical scenario that takes place between a TCP client and server by means of a block diagram. | 8 | CO2 | [K ₂] |
| | b) | Implement a simple TCP echo client server application in python | 8 | CO2 | [K ₃] |
| 13. | a) | Discuss in detail about the fork() system call with block diagrams. | 8 | CO3 | [K ₂] |
| | b) | Implement a UDP client server application in python to transfer bulk data. | 8 | CO3 | [K ₃] |
| 14. | a) | Write short notes on smtplib and httpplib. | 8 | CO4 | [K ₂] |
| | b) | Implement a socket in python to retrieve a web page. | 8 | CO4 | [K ₃] |
| 15. | a) | Explain how the select module is used to handle multiple clients in python. | 8 | CO3 | [K ₂] |
| | b) | Implement a multi-threaded server ONLY in python to handle multiple clients. | 8 | CO5 | [K ₃] |
| 16. | a) | How are html files parsed in python? Discuss with an example. | 8 | CO4 | [K ₂] |
| | b) | Develop a server to add two integers sent by a client. | 8 | CO3 | [K ₃] |
