2016

BCA

4th Semester Examination

OS LAB AND COMPUTER NETWORK LAB

PAPER—2297 (SET-2)

(PRACTICAL)

Full Marks : 100

Time : 3 Hours

The figures in the right-hand margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Questions should be distributed on lottery basis.

Answer any *two* questions taking *one* from each group. (*on lottery basis*)

Group — A

(*OS Lab*)

Answer any *one* on lottery basis : 1×25

1. Write a shell program which gets executed the moment the user logs in. It should display the message —

"Good morning" *or*

"Good afternoon" *or*

"Good evening"

depending upon the time at which the user logs in.

2. Write a shell program to list out the all Armstrong number between 1 to 999.

3. Write a shell program to find out the sum of all prime numbers between two specified numbers. List out the prime no. also.

4. Write a shell program which will copy a file to other file name. The source and destination should be given as command line argument.

5. Write a shell program to calculate factorial of given input, the output will be displayed as :

$$5 \times 4 \times 3 \times 2 \times 1 = 120$$

6. Write a shell program which takes an integer input and calculate the sum of digits and also calculate the sum as follows :

input : 234

$$\text{Sum } 1 = 2 + 3 + 4 = 9$$

$$\text{Sum } 2 = (2)^1 + (3)^2 + (4)^3$$

first digit second digit third digit

7. Write a shell program to list out the first n Fibonacci numbers (where n is given by the user).

8. Write a shell program to check whether the number if perfect or not.

9. Write a shell program to search an element from n given elements.

10. Write a shell program to check whether a given number is Armstrong number.

11. Write a shell program to find the LCM and HCF of any two given numbers.

12. Write a shell program to calculate the average of n given numbers.

13. Write a shell program to create a child process. Send SIGCHLD signal after 5 seconds.

14. Write a shell program to implement linear search algorithm.

15. Write a shell program to convert a binary number to its equivalent decimal number.

Group — B

(*Network Lab*)

Answer any *one* on lottery basis : 1×25

1. Write a program to implement connections sender to send UDP message to peer.

2. Write a program to implement modified server.

3. Write a TCP echo client program using socket.

4. Write a UDP echo server program using socket.

5. Write a socket program to print all client IP address and their relative port.

6. Write a TCP client program that behaves like a simple TELNET.

7. Write a program to implement stream server.

8. Write a UDP echo server using socket.

9. Write a program to implement character send and receive from the server.

10. Write a TCP client server program that behaves like a simple TELNET.

11. Write a UDP server program that receives a string of character from the client.

12. Write a TCP client program that asks for the time from a TCP server.

13. Write a socket program to print all client IP address and their relative port.

INSTRUCTIONS

Distribution of Marks —

Practical Note Book	:	**05**
Viva-Voce	:	**15**

Experiments —

Group – A	:	**25**
Group – B	:	**25**
Internal Assessment	:	**30**
TOTAL	:	**100**

1. Each candidates have to perform two experiments one from Group—A and another from Group–B. (Or, as per instructions given in question paper).

2. Selection of experiment will be done by lottery or drawing cards (Separately for Group—A and Group—B).

3. Normally two changes will be given for each candidate for drawing card, but not at a time (by rotation).

4. Third and the last chance may be given by deducting 2 marks (for each group).

5. Marks on PNB will be given proportionately to the number of experiments performed properly.

6. In case of any ambiguity relating to questions or evaluation, Examiners should contact to Head Examiner.