2016

BCA

4th Semester Examination

OS LAB AND COMPUTER NETWORK LAB

PAPER—2297 (SET-1)

(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 to list out the Leap years in between 2010 to 2030.

2. Write a shell program to print the following series (where n is given by the user) :

$$1, 2, 4, 8, 16, 32, \ldots, n$$

3. Write a shell program for Bubble Sort Algorithm, displaying at each iteration biggest element takes it's last position.

4. Write a shell program to check a number is Armstrong number or not.

5. Write a shell program to find LCM and HCF of any two numbers.

6. Write a shell program to convert an Octal number to its equivalent decimal number.

7. Write a shell program to print the following output (where n is given by the user) :

$1 = 1$

$1 \times 2 = 2$

$1 \times 2 \times 3 = 6$

$1 \times 2 \times 3 \times 4 = 24$

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

$1 \times 2 \times 3 \times 4 \times \ldots n = ??$

8. Write a shell program to create a child process. Send SIGCHLD signal after 10 secs.

9. Write a shell program to check whether a number is prime or not.

10. Write a shell program to check if a given string is palindrome.

11. Write a shell program to display the multiplication table of any given number.

12. Write a shell program to calculate the factorial of a given number.

13. Write a shell program to check whether a given number is perfect or not.

14. Write a shell program to display the Fibonacci numbers from 1 to 100.

15. Write a shell program to sort the elements from n numbers of given elements.

Group — B

(*Network Lab*)

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

1. Write a program to implement stream server.

2. Write a server procedure that sleeps for 20 seconds.

3. Write a UDP echo server program using socket.

4. Write a program to implement internative server.

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

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

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

8. Write a socket program to print all client IP addresses and their relative port.

9. Write a TCP client program that gets the time from the TCP server.

10. Write a TCP server program that receives a string of characters from the client.

11. Write a program to implement modified server.

12. Write a server procedure that sleeps for 30 seconds.

13. Write a UDP echo server program using sockets.

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.
