(To be filled by Neutral Examiner)

It is certified that I have verified that the candidate has attempted the allocated question only

Signature of Neutral Examiner:_____ *Signature of invigilator*:_____

Name of Neutral Examiner:_____ *Name of invigilator*:_____

UID _____ UID _____

Q1 Write a program on shell script for calculating the multiplication table of 50.

Q2 Write a program to simulate the race condition in which the shared variable value is 30.

Q3 Create two threads. In one thread perform addition of two numbers and in second thread perform the subtraction of two number.

Q4 Create two processes, first is child and second is parent and simulate child as orphan.

Q5 Write a shell program to print fibonacci series.

Q6 Write a program using directory system call make a directory and display the directory name and inode number of the directory as output.

Q7 Write a program to print the series of 1 to 50 using pthread.

Q8 Write a program to using the system call to copy the content of the file which is "thecontentofthefiletonewlycreatedfile" to the two halfs.

Q9 Implement the reader writer problem using semaphore and mutex operation.

Q10 Write a program to find the mean and median of array of length 150.

– End of Question Paper –

PNR No:: 22232CSE12630

COURSE NAME : OPERATING SYSTEMS LABORATORY COURSE CODE : CSE325

Read the following instructions carefully before attempting the question paper.
1. Attempt only the question allocated by neutral examiner out of all the given questions. If some other question is attempted by the candidate, it shall lead to cancellation of the examination.
2. Submit the question paper along with the answer sheet to the invigilator before leaving the examination hall/lab.
3. Fill all the details mentioned below very carefully in the space provided.

Registration No. : _____ **Allocated to candidate:** _____ **Signature of student:** _____

Question No. _____
(To be filled by Neutral Examiner)

It is certified that I have verified that the candidate has attempted the allocated question only.

Signature of Neutral Examiner: _____ *Signature of Invigilator:* _____

Name of Neutral Examiner: _____ *Name of Invigilator:* _____

UID: _____ *UID:* _____

Q1 (A) Write a program using file manipulation system calls to find and print the largest file name (file Size wise) among 3 existing files. (B) Write a program using directory system calls to make a directory and create 10 files (file_1,....) inside the directory and list the contents of the directory.

Q2 (A) Write a program in shell programming to print grade wise result of a student. (B) Write a program using system calls to copy the contents of a file and create four files each containing 1/4 contents of the file.

Q3 (A) Write a shell script program with the following commands: i. make a directory of user provided name, ii. create 100 text files using commands , iii delete all text files starts with "vijay". (B) WAP to create two threads. One will print the multiplication of the array elements, and the other thread will print the sum of array elements.

Q4 (A) WAP to create two threads. One will print the table of given number and the other thread will find whether a number entered by the user is prime or not. (B) Write a program using systems for operations on processes to create a hierarchy of processes P1 ? P2 ? P3? P4. Also, print the id and parent id for each process.

Q5 (A). Write a program using system calls to find and print the largest file name(file Size wise) among 3 existing files. (B) WAP to demonstrate race condition between two processes.

Q6 (A) Write a program using system calls to copy the contents of a file and create two files each containing 1/2 contents of the file. (B) Write a program to write into a pipe using popen() and pclose() functions.

Q7 (A) WAP to create two threads. One will print the numbers from 50 to 1 and the other thread will find whether a number entered by the user is prime or not. (B) WAP using system calls which will read from 10th character to 20th character from a file opened in read only mode.

Q8 (A) WAP using system calls which will read from 10th character to 15th character from a file opened in read only mode. (B) WAP to solve race condition problem using lock variable.

Q9 (A) Write a program to create following hierarchy and verify the relationship between the processes. Where process P1 has 2 children P2 and P3. (B) WAP which will copy all the data from one file to another file using system calls.

Q10 (A) WAP to provide synchronization among processes using semaphore variables. (B) Write a program using directory and file manipulation system calls to copy the contents of one directory in a newly created directory, and delete the original directory.

-- End of Question Paper --

PNR No:: 22232CSE12622

COURSE CODE : CSE325
COURSE NAME : OPERATING SYSTEMS LABORATORY

Read the following instructions carefully before attempting the question paper.
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Registration No. : _____ ***Signature of student:*** _____

Question No. Allocated to candidate: 08
(To be filled by Neutral Examiner)

It is certified that I have verified that the candidate has attempted the allocated question only.

Signature of Neutral Examiner: _____ *Signature of Invigilator:* _____

Name of Neutral Examiner: _____ *Name of Invigilator:* _____

UID: _____ *UID:* _____

Q1 Implement IPC using shared memory.

Q2 Implement IPC using pipes, and messages should be transferred to parent from child.

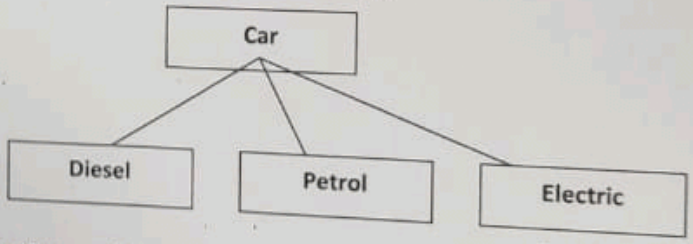
Q3 Create a file and enter content which consists of characters and numbers, write code which would retrieve only numbers and write to another file:

Q4 WAP to create two threads. One will check whether the number is Armstrong and other will print prime numbers

Q5 Write a program using directory and file manipulation system calls to copy the contents of one directory in a newly created directory.

Q6 Write a program using system calls to copy first half(content) of the file to a newly created file.

Q7 Create files and directories based on given hierarchy



a. Create file1 and file2 in directory diesel and copy them to directory Electric
b. Create file3 and file4 under directory Petrol and rename them.

Q8 Simulate Race condition in process synchronization.

Q9 Write a program displaying the use of open system call by creating a new file where you will give Read only permjssion to every user and then change the modified time and date of that file.

Q10 WAP to using fork() to produce 1 parent P1 and 4 (P2,.P3,P4,P5) child processes, where they terminate as follows: first P5, then P4 P3 P2 and parent terminates at last and verify parent child relationship

-- End of Question Paper --

PNR No:: 22232CSE12637

COURSE CODE : CSE325
COURSE NAME : OPERATING SYSTEMS LABORATORY

Read the following instructions carefully before attempting the question paper.
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2. Submit the question paper along with the answer sheet to the invigilator before leaving the examination hall/lab.
3. Fill all the details mentioned below very carefully in the space provided.

*Registration No. :*_____ *Signature of student:*_____

Question No. Allocated to candidate: 07
(To be filled by Neutral Examiner)

It is certified that I have verified that the candidate has attempted the allocated question only.

*Signature of Neutral Examiner:*_____ *Signature of Invigilator:*_____

*Name of Neutral Examiner:*_____ *Name of Invigilator:*_____

UID _____ *UID:*_____

Q1 A.Create a script program to performs the matching operation against each case value to continue the execution of commands. The default condition will be executed with no match is found. [10]
B. Write a program that performs statistical operations of calculating the average, maximum and minimum for a set of numbers. Create three threads where each performs their respective operations. [10]

Q2 A.Write a program to Create a process that has completed execution but still has an entry in the process table it is a process in the "Terminated state". [10]
B. Linux shell script program to read two integer numbers and swap two numbers and print both variables. [10]

Q3 A.Create the following hierarchy.
A ? B and C. In B create a file named file1.txt. where A,B,C are directories and file1.txt is a file. All inputs must be taken as command line arguments. [10]
B. Write a Program to remove race condition using some methods using mutex variables. [10]

Q4 A. Create a file named pqr.txt and add content in pqr.txt and content are t1t2t3t4t5abcdefghij1234567890.Write a program using system calls to copy the content of the pqr.txt to a newly created file named rqp.txt.(Occurrence of alphabets from b to e of the file) [10]
B. Write a program to creation of a child process and two way communication using pipes. [10]

Q5 A. Create a file and open the file in read/write and append mode. [10]
B. Write a shell program to check the given number is palindrome or not. [10]

Q6 A. Implement the reader writer problem using semaphore and mutex operations to synchronize n readers active in reader section at a same time, and one writer active at a time.(If n readers are active no writer is allowed to write.) [10]
B. Create two files named xyz.txt and abc.txt in current directory and add contents on both files. move all the files created by you in currently logged in user's home directory. [10]

Q7 A. Write a program using systems for operations on processes to create a hierarchy of processes P1 ? P2 ? P3. Also print the id and parent id for each process. [10]
B. Create a file named ABC.txt and add content in ABC.txt and content are A1A2A3A4A5BCDEFGHIJK1234567890.Write a program using system calls to copy the content of the pqr.txt to a newly created file named rqp.txt.(Occurrence of alphabets and numeric from G to 7 of the file). [10]

PNR No:: 22231CSE12678

COURSE CODE : CSE325

COURSE NAME : OPERATING SYSTEMS LABORATORY

Read the following instructions carefully before attempting the question paper.

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2. *Submit the question paper along with the answer sheet to the invigilator before leaving the examination hall/lab.*
3. *Fill all the details mentioned below very carefully in the space provided.*

Registration No. : 12109111 **Signature of student:**

Question No. Allocated to candidate: 02
(To be filled by Neutral Examiner)

It is certified that I have verified that the candidate has attempted the allocated question only.

Signature of Neutral Examiner: _____ *Signature of Invigilator:* _____

Name of Neutral Examiner: _____ *Name of Invigilator:* _____

UID: _____ *UID:* _____

Q1 (A) WAP to read last 10 characters from a file using system calls. (B) WAP to create one parent process and one child process also display id of both processes. [10]

Q2 (A) Write a program to create two threads. One thread prints a welcome message while the second thread adds two numbers. Both the numbers to be added are passed by the main process to the thread as arguments. (B) WAP to implement the process synchronization using mutex locks. [10]

Q3 (A) WAP to implement IPC using unnamed pipes. (B) WAP to open a file in read only mode and read the last 5 characters from the file. Print the same on terminal. [10]

Q4 (A) WAP to implement IPC using named pipe. (B) WAP to create a file with some lines of content and write "hello" into that file after 4 characters from starting using system call. [10]

Q5 (A). WAP to demonstrate race condition between two processes. [10]
(B) WAP to calculate addition of 2 numbers in parent process and display result in child process. [10]

Q6 (A) Create two threads. One thread will add two numbers (c=a+b) and the second thread will subtract the numbers (d=a-b).Both threads will return the result to the main() function and product of returned values (c*d) will be printed by the main() function. (B) Write a program to write into a pipe using popen() and pclose() functions. [10]

Q7 (A) WAP to create two threads. One will print the numbers from 1 to 10 and the other thread will find whether a number entered by the user is even or odd. (B) WAP using system calls which will read from 3rd character to 10th character from a file opened in read only mode

Q8 (A) WAP using system calls which will read from 10th character to 15th character from a file opened in read only mode. (B) WAP to implement race condition using semaphores. [10]

Q9 (A) Write a program to create following hierarchy and verify the relationship between the processes. Where process P1 has 2 children P2 and P3. (B) WAP which will copy all the data from one file to another file using system calls. [10]

Q10 (A) WAP to provide synchronization among processes using mutex locks. (B) WAP to create the following hierarchy and verify the relationship using getpid() and getppid(). P1->P2->P3 [10]

– End of Question Paper –

UID:

Q1 Implement IPC using shared memory.

Q2 Implement IPC using pipes, and messages should be transferred to parent from child.

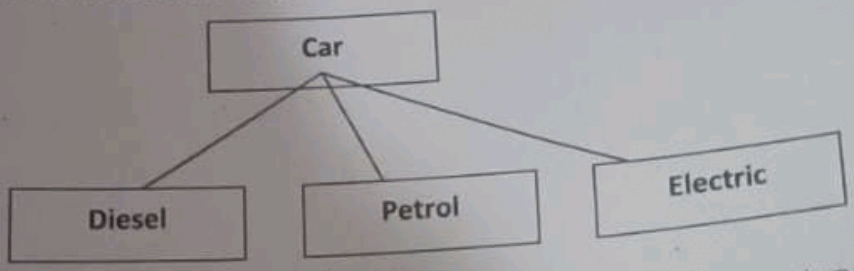
Q3 Create a file and enter content which consists of characters and numbers, write code which would retrieve only numbers and write to another file.

Q4 WAP to create two threads. One will check whether the number is Armstrong and other will print prime numbers

Q5 Write a program using directory and file manipulation system calls to copy the contents of one directory in a newly created directory.

Q6 Write a program using system calls to copy first half(content) of the file to a newly created file.

Q7 Create files and directories based on given hierarchy



a. Create file1 and file2 in directory diesel and copy them to directory Electric
b. Create file3 and file4 under directory Petrol and rename them.

Q8 Simulate Race condition in process synchronization.

Q9 Write a program displaying the use of open system call by creating a new file where yo will give Read only permission to every user and then change the modified time and date that file.

Q10 WAP to using fork() to produce 1 parent P1 and 4 (P2,.P3,P4,P5) child processes, where they terminate as follows: first P5, then P4 P3 P2 and parent terminates at last an verify parent child relationship

– End of Question Paper –