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Question Paper Code: 43105

B.E. / B.Tech. DEGREE EXAMINATION, DEC 2020

Third Semester

Civil Engineering

14UCE305-FLUID MECHANICS

(Regulation 2014)

Duration: One hour

Maximum: 30 Marks

PART A - (6 x 1 = 6 Marks)

(Answer any six of the following questions)

1. A parent process calling _____ system call will be suspended until children processes terminate.
(a) wait (b) fork (c) exit (d) exec
2. The state of a process is defined by
(a) the final activity of the process
(b) the activity just executed by the process
(c) the activity to next be executed by the process
(d) the current activity of the process
3. Which scheduling policy is most suitable for a time-shared operating system
(a) Shortest-job First. (b) Priority
(c) Round-Robin. (d) First-Come-First-Serve
4. Bernoulli's theorem deals with the law of conservation of
(a) Mass (b) Momentum (c) Energy (d) None of these
5. A set of techniques that allow to execute a program which is not entirely in memory is called
(a) demand paging (b) virtual memory
(c) auxiliary memory (d) secondary memory

6. Continuity equation can take the form

(a) $A_1V_1 = A_2V_2$ (b) $\rho_1A_1 = \rho_2A_2$ (c) $\rho_1A_1V_1 = \rho_2A_2V_2$ (d) $P_1A_1V_1 = P_2A_2V_2$

7. In pipe flow the critical Reynolds number is about

(a) 640 (b) 5×10^5 (c) 2000 (d) 64000

8. The point through which the buoyant force acting is called

- (a) Centre of pressure (b) Centre of gravity
(c) Centre of buoyancy (d) None of these

9. _____ allows modules to tell the rest of the kernel that a new driver has become available.

- (a) Module management (b) Conflict resolution
(c) Driver registration (d) All the above

10. The computational technique used to compute the disk storage address of individual records is called

- (a) hashing (b) bubble memory
(c) dynamic reallocation (d) key fielding

PART – B (3 x 8= 24 Marks)

(Answer any three of the following questions)

11. Describe the various types of system calls with an example of each. (8)

12. Explain the FCFS, Preemptive and Non-Preemptive versions of Shortest Job First and Round Robin (time-slice2) scheduling algorithms with Grantt Chart for the four processes given. Compare their average turn around and wait time. (8)

Process	Arrival Time	Burst time
P1	0	10
P2	1	6
P3	2	12
P4	3	15

13. Consider the following page reference string:

2, 3, 4, 2, 1, 5, 6, 4, 1, 2, 3, 7, 6, 3, 2, 1. Calculate the number of page faults would occur for the FIFO and LRU, Optimal page replacement algorithms with frame size of 4 and 5. (8)

14. Classify the different file allocation methods with neat diagram. Mention the advantages and disadvantages. (8)
15. Explain in detail the design principles, kernel modules, process management, scheduling in LINUX system. (8)