Seat No.	

SC-167

Total No. of Pages : 2

T.E. (Computer Science & Engineering) (Part - II) (Semester - VI) Examination, November - 2019

OPERATING SYSTEM - II

Sub. Code : 66859

Day and Date : Thursday, 14 - 11 - 2019

Time : 10.00 a.m. to 1.00 p.m.

Total Marks : 100

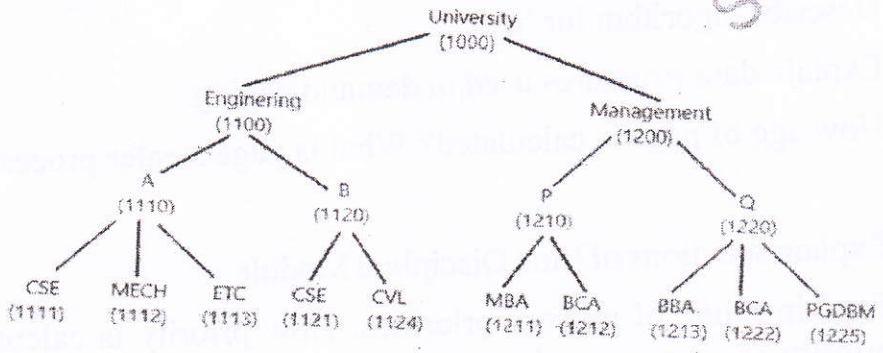
Instructions :
1) **Figures to the right indicate full marks.**
2) **Solve any two questions from Q.1 to Q.3.**
3) **Solve any two questions from Q.4 to Q.6.**

Q1) a) Draw and Explain Block diagram of Unix Kernel. **[7]**

b) Explain following system calls in detail: **[8]**

i) Open ii) Read iii) Chmod iv) Mount

c) Describe the working of namei algorithm. Consider the following File System and explain how namei algorithm will respond in following situations /* no. in ( ) are representing inode no.*/ **[10]**



i) Current working directory is root (University) and pathname is "/ Engineering / A / CSE"

ii) Current working directory is B and pathname is "/ B / ETC"

iii) Current working directory is root (University) and pathname is "../ Management / Q / BCA

P.T.O.

Q2) a) Explain buffer retrieval algorithm. Is sleep action in scenario 4 and scenario 5 are same? Justify your answer [8]

b) How inode structure is maintains address of data blocks? Consider the Unix with block size 512 bytes and address size 16 bits, What will be the maximum file size supported by system? [8]

c) What is Context of process? Why context switch is permissible only in asleep state of process? Explain using example. [9]

Q3) a) Explain the File System Layout. What is remembered inode? [7]

b) What are different data structures associated with file subsystem? [6]

c) List the I/O parameters saved in U-area while executing read system call? also Explain their purpose [6]

d) What is the purpose of pipe system call? How it is differ from named pipe? [6]

Q4) a) With the help of state transition diagram explain life cycle of process [9]

b) What is Region? Describe algorithm for allocate region [8]

c) What is signal? Explain checking and handling of signal [8]

Q5) a) Describe algorithm for 'exit' [9]

b) Explain data structures used in demand paging [8]

c) How age of page is calculated? What is page stealer process? [8]

Q6) a) Explain functions of Line Discipline Module [7]

b) Explain range of process priorities. How priority is calculated? How priority of process can be controlled? [6]

c) What is swapping? How swapping device is managed? [6]

d) Describe how size of region can be changed (GrowReg algorithm) [6]

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