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|  |  |  | DATE: **19** **-04-2018 (9AM)** |  |  |  |
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| **ST. JOSEPH’S COLLEGE (AUTONOMOUS), BANGALORE-27** | | | | | | |
| **B.C.A - II SEMESTER** | | | | | | |
| **SEMESTER EXAMINATION: APRIL 2018** | | | | | | |
| **CA 2315- Operating Systems** | | | | | | |
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| **Time- 2 1/2 hrs** | |  | **Max Marks-70** | | |  |
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| This question paper has 2 printed pages  (For supplementary candidates)  Do not write the register number on the question paper  Please attach the question paper along with the answer script.  **I.Answer the following questions 10\*2=20 marks**  1. Define an operating system. 2. What is a dispatcher? 3. How is a program different from a process give three points? 4. List the four system calls for communication management. 5. Define the terms turnaround time and throughput. 6. What do you mean by aging in terms of scheduling? 7. List the necessary condition for deadlock characterization. 8. What is paging in memory management? 9. List the attributes of a file. 10. Define the terms rotational delay and seek time? | | | | | | |
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**II. Answer any five of the following questions 5\*6 =30 marks**

11. Compare and contrast between real time operating system and  
 timesharing operating system  
12.. Explain the roles of long term, short term and medium term  
 schedulers in scheduling with a neat block diagram.  
13. Write a note on direct and indirect inter-process communication.  
14. Write a detailed note on dynamic partition with a mention of its  
 storage allocation strategies.  
15. Illustrate with an example explain the 'least recently used' page replacement policy.  
16. Explain in detail the SSTF disk scheduling algorithm.

17. Explain any six external DOS Commands

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**III.Answer any two of the following questions 2\*10= 20**18.consider the following set of processes with the length of CPU bursts  
  
 **process   CPU BURST**  
                             P1             10  
                             P2               3  
                             P3               4  
                             P4               7  
 draw the Gantt’s chart illustrating the execution of these processes  
 using FCFS, SJF algorithms.

19. Explain the deadlock detection technique with a resource  
 allocation graph example.

20. Explain the concept of virtual memory management with demand  
 paging technique with a neat diagram.