Hall Ticket Number:

Code No. : 233

VASAVI COLLEGE OF ENGINEERING *(Autonomous)*, HYDERABAD

M.C.A. II Year I-Semester (Main & Backlog) Examinations, Nov./Dec.-2016

Operating Systems

Time: **3** hours Max. Marks: **70**

*Note: Answer **ALL** questions in **Part-A** and any **FIVE** from **Part-B***

Part-A (10 × 2 = 20 Marks)

1. List Operating System services.
2. Describe the differences among short-term, medium-term and long-term scheduling.
3. Explain the difference between logical and physical addresses.
4. Explain Thrashing.
5. Define a Deadlock. List the necessary conditions of a Deadlock.
6. Define the terms – Mutual Exclusion & Busy Waiting.
7. Briefly explain the concept of Streams.
8. Explain about RAID.
9. What is kernel Synchronization in Linux?
10. Describe the booting process in Windows XP.

Part-B (5 × 10 = 50 Marks)

11. Suppose the following jobs arrive for processing at the times indicated. What is the average turnaround time for these jobs and draw the Gantt Chart.

Job	Burst Time	Arrival Time
1	8	0.0
2	4	0.4
3	1	1.0

a) FCFS [3]
b) Shortest-Job-First [4]
c) Round-Robin. [3]

12. a) What is Segmentation? Explain the Hardware used for address mapping and the implementation of Segment table. [6]
b) Explain why it is easy to share reentrant module using segmentation. [4]

13. a) Differentiate between critical and conditional critical regions. [4]
b) Describe the Bankers Algorithm. [6]

14. a) Describe table storage implementation [3]
b) Explain the Disk Scheduling Algorithms SCAN and LOOK with a suitable example. [7]

15. a) Explain the design principles of Linux. [5]
b) Explain the Security in Linux. [5]

16. a) List and explain CPU scheduling criteria. [3]
b) Explain different File Allocation Methods. [7]

17. Answer any ***two*** of the following:
a) Resource Allocation Graph. [5]
b) The Critical section problem. [5]
c) Windows XP Architecture. [5]

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