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| [Time:2.30 Hrs] | | [Marks:75] |
| Please check whether you have got the right question paper. | | |
| N.B: | 1. All question are compulsory. 2. Figures to the right indicate full marks. 3. Students answering in the regional language should refer in case of doubt to the main text of the paper in English. | |

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| Q.1 | Attempt <u>any three</u> of the following: a. What is operating system? Explain role of operating system as a resource manager. b. Explain fifth generation operating system. c. Explain the process of a system call. d. What are various types of operating systems? Explain any two. e. Explain process state with suitable diagram. f. Explain FCFS scheduling algorithm with an example. | 15 |
| Q.2 | Attempt <u>any three</u> of the following: a. Explain difference between logical address and physical address. b. Explain the process of virtual memory. c. Explain the process of paging. d. What is segmentation? Why is it required? e. Explain various file access mechanisms. f. Explain Unix File System. | 15 |
| Q.3 | Attempt <u>any three</u> of the following: a. Write a short note on Direct Memory Access. b. Explain programmed I/O in detail. c. Write a short note on RAID. d. Explain disk arm scheduling algorithm. e. Write a short note on deadlock prevention. f. Explain two-phase locking and starvation in deadlock. | 15 |
| Q.4 | Attempt <u>any three</u> of the following: a. Explain requirements of virtualization. b. Explain type1 and type 2 hypervisors. c. Explain memory virtualization. d. Write a short note on virtual appliances. e. Explain characteristics of cloud. f. Write a short note on distributed systems. | 15 |

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| Q.5 | Attempt <u>any three</u> of the following: a. Explain architecture of Linux. b. Explain any five file commands in Linux with example. c. Explain features of Android. d. Explain various file systems used in Android. e. Write a short note on security in Windows. f. Explain memory management in Windows. | 15 |
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