

**Question Bank**

- 4.1 What is the motivation for main memory management?
- 4.2 What is the impact of fixed partitioning on fragmentation?
- 4.3 Give the relative advantages and disadvantages of load time dynamic linking and run-time dynamic linking. Differentiate them from static linking.
- 4.4 Explain the process of linking and loading?
- 4.5 Give arguments to support variable partitioning for main memory management.
- 4.6 How would you classify the buddy system of memory allocation? Write a short critique on the scheme.
- 4.7 What is meant by virtual memory? With the help of a block diagram explain the data structures used.
- 4.8 Describe first-fit and best-fit strategies for disk space allocation, with their merits and demerits.
- 4.9 What is a page and what is a frame. How are the two related?
- 4.10 What is swapping? Why does one need to swap areas of memory?
- 4.11 Discuss virtual memory management scheme. Compare any two page replacement policies
- 4.12 Explain the software and hardware methods of implementing page lookup tables.
- 4.13 Explain how segmented memory management works. Also explain in details address translation and relocation segmented memory management
- 4.14 Give description of hard-ware support to paging.
- 4.15 What is thrashing? When does it happen and how does it affect performance?
- 4.16 What is a page fault? What action does the OS? take when a page fault occurs?
- 4.17 Write short notes on
  - a Segmentation
  - b Free space management
  - c Paging
- 4.18 What is the purpose of a TLB? Explain the TLB lookup with the help of a block diagram, explaining the hardware required.
- 4.19 Discuss the following page replacement algorithms with an example.
  - a Optimal

b LRU

- 4.20 Describe the actions taken by the operating system when a page fault occurs.
- 4.21 Compare and contrast the paging with segmentation. In particular, describe issues related to fragmentation.
- 4.22 What is portability? Differentiate between codes and object code portability.
- 4.23 Describe the first fit, best fit and worse fit strategies for disk space allocation.
- 4.24 Explain the following memory management techniques:
- a Partitioned memory allocation
  - b Segmented allocation.
- 4.25 Describe any two page replacement algorithms giving examples.