Bachelor of Computer Applications 4th Semester
1048
SOFTWARE PROJECT MANAGEMENT
Paper—BCA-15-403
Time Allowed: Three Hours] [Maximum Marks: 65
Note:— Attempt one question each from Sections (A to D).
Question 9 (Section E) is compulsory. All questions carry equal marks.

SECTION—A
1. What is project management? Explain the duties and responsibilities of project manager in project management. 13
2. Describe principles of modern software management. 13

SECTION—B
3. Describe the framework of project management with the help of examples. 13
4. Explain the concept of project monitoring and controlling. 13

SECTION—C
5. What is process instrumentation? Discuss seven core metrics in detail. 13
6. What is process automation? Explain with help of the examples. 13
SECTION—B

3. What are the conditions that characterize deadlock? Explain the occurrence and avoidance of deadlock graphically among 3 processes and 3 resources. Discuss Banker's algorithm for deadlock avoidance.

4. Consider the following page reference string:
   1, 2, 3, 4, 2, 1, 5, 6, 7, 1, 2, 3, 7, 6, 5, 2, 1, 2, 3, 6.
   How many page faults would occur for the following page replacement algorithms assuming 3 and 5 frames?
   (a) LRU
   (b) Optimal.

SECTION—C

5. (a) Explain the use of the following wildcard characters in file name generation giving an example of each one. "*", "?", "[", and "]
   (b) What is a regular expression? Explain the use of regular expression with the 'grep' filter and the -n, -c, -v options of 'grep', by taking examples.

6. Explain the following Linux commands with examples: chmod, umask, tee, cut, sort, who.

SECTION—D

7. (a) What is a Linux file system? Explain mounting and un-mounting of file system.
   (b) Explain the procedure in Linux to create hard disk partitions and formatting these partitions.

8. (a) Describe the working and usage of the 'vi' editor in Linux with the help of Add, Delete, Copy, Find and Replace commands.
   (b) Explain the use of 'tar' command to take backups in Linux.
9. (a) What is meant by non-preemptive scheduling?
(b) Differentiate between multiprogramming and multiprocessor.
(c) Why do we need mapping from logical address to physical address space?
(d) Explain how process is managed on Linux platform.
(e) How do you change group ownership in Linux?
(f) What is a Linux kernel? 5\times2, 3\times13
SECTION-D

7. What is project network diagram? Discuss and compare PERT and CPM.

8. What is cost management? Explain the role of COCOMO model.

SECTION-E

(Compulsory Question)

9. Write short notes on the following:
   (a) Project schedule
   (b) Cost budgeting
   (c) Scope control
   (d) Project integration
   (e) Scope verification
   (f) Team effectiveness.