



WEST BENGAL STATE UNIVERSITY
B.A./B.Sc./B.Com. Major Part-II Examination, 2020

COMPUTER APPLICATION

PAPER: CMAV-III

Time Allotted: 2 Hours

Full Marks: 50

*The figures in the margin indicate full marks.
Candidates should answer in their own words and adhere to the word limit as practicable.
All symbols are of usual significance.*

2 marks for neatness

Answer any *three* questions from the following

16×3 = 48

1. (a) Write down the algorithm of DFS technique. 4+3+7+2
(b) What is Minimum cost spanning tree? Give Example.
(c) Explain with a suitable example, principle of operation of quick sort.
(d) What is complete graph?

2. (a) What is the cause of thrashing? How does the system detect thrashing? Once it's detecting thrashing, what can the system do to eliminate this problem? (2+3+3)
+(6+2)
(b) Explain the concept of virtual memory with merits and demerits. What is swapping?

3. (a) Distinguish between starvation and deadlock. 2+(2+3+2)
+4+3
(b) When does page fault occurs? What are the steps to handle a page fault? What are the advantages of segmentation over paging?
(c) Discuss the Shortest Job First Algorithm for process scheduling with proper example.
(d) Explain demand paging with suitable example.

4. (a) What is Data Dictionary? What is multivalued attributes? What is super key and candidate key? Explain with suitable examples. (1+2+2+1)
+(2+3+5)
(b) What is Normalization? Explain its advantages. Explain 3NF with Example.

5. (a) What is two phase locking? 4+4+(4+4)
(b) Explain ACID property of transaction.
(c) Explain the following:
(i) BCNF
(ii) Entity Relationship Diagram
6. (a) What is open source software? Write down the pros and cons of proprietary software. (2+6) +
(5+3)
(b) Differentiate between Hacking and Cracking. What do you mean by 'Ethical hacker'?

N.B. : *Students have to complete submission of their Answer Scripts through E-mail / Whatsapp to their own respective colleges on the same day / date of examination within 1 hour after end of exam. University / College authorities will not be held responsible for wrong submission (at in proper address). Students are strongly advised not to submit multiple copies of the same answer script.*

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