

Thursday 14-11-2019

W-18767-2019

10:00 AM-01:00 PM

Max. Marks: 60

- NB** - 2) Answer ANY TWO questions from Q 1, 2, 3 in Section I.
3) Answer ANY TWO questions from Q 5, 6, 7 in Section II.
4) All question CARRY EQUAL marks.
5) Answers to Both the sections should be written in SAME answer book.
6) Draw a labeled diagram WHEREVER necessary.

SECTION - I

Q.1) Answer the following (6 Marks X 2=12)

- a) Explain command language users view and system call users view of operating system.
- b) Define terms:
 - i) Throughput ii) Turnaround time iii) Waiting time iv) Response time
 - v) Seek time vi) Latency time

Q.2) Answer the following (6 Marks X 2=12)

- a) Differentiate between logical address space and physical address space.
- b) What are the four conditions necessary for the deadlock? Explain in detail.

Q.3) Explain the following (6 Marks X 2=12)

- a) Describe various means of authenticating a user with example.
- b) Explain the principles of I/O hardware and I/O software.

Q.4) Write short notes on the following : Attempt ANY THREE (4 Marks X 3=12)

- a) Virtual machine
- b) Thrashing
- c) Segmentation
- d) Safe and unsafe state
- e) File types

SECTION - II

Q.5) Answer the following (12 Marks X 1=12)

Consider the following case.

| Processes | In-time (am) | Run time (min.) |
|-----------|--------------|-----------------|
| P1 | 10.00 | 10 |
| P2 | 10.07 | 3 |
| P3 | 10.09 | 4 |
| P4 | 10.11 | 7 |

Calculate average waiting and average turnaround time in case of:

- a) FCFS b) SJF c) SRTN

Q.6) Answer the following (12 Marks X 1=12)

System refers the pages in the following sequence.

0,3,2,0,2,1,3,2,1,2,0,3,2,3,0,1,2

Explain the LRU algorithm in detail and find page to be replaced at the end using LRU with Matrix.

Q.7) Answer the following (12 Marks X 1=12)

Suppose that a disk drive has 2000 cylinders, numbered 0 to 1999. The head is currently serving a request at cylinder 143 and moving inside. The queue of pending requests are kept in FIFO order. 86, 1470, 913, 1774, 948, 1509, 1022, 1750, 130, 1998, 70.

Starting from the current head position, Calculate the total distance (in cylinders) that the disk arm moves to satisfy all the pending requests, for each of the following disk scheduling algorithms.

- 1) FCFS 2) SSTF

BACHELOR OF COMPUTER APPLICATIONS (CBCS - 2018 COURSE) B.C.A.

Sem-III: WINTER- 2019

SUBJECT: SOFTWARE ENGINEERING (UE)

Saturday 16-11-2019

10:00 AM-01:00 PM

W-18768-2019

Max. Marks: 60

N.B.:

- 1) Q 4 from Section I is COMPULSORY.
 - 2) Answer ANY TWO questions from Q 1, 2, 3 in Section I.
 - 3) Answer ANY TWO questions from Q 5, 6, 7 in Section II.
 - 4) All question CARRY EQUAL marks.
 - 5) Answers to Both the sections should be written in SAME answer book.
 - 6) Draw a labeled diagram WHEREVER necessary.
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SECTION - I

Q.1) Answer the following: (6 Marks X 2 = 12)

- a) Write the difference between Software and Program.
- b) Write the difference between Waterfall Model and Prototyping Model.

Q.2) Answer the following: (6 Marks X 2 = 12)

- a) What is requirement engineering? Explain the types of requirement engineering.
- b) What is data dictionary? Explain the advantages of data dictionary.

Q.3) Explain the following: (6 Marks X 2 = 12)

- a) What is quality? Explain the concept software quality assurance plan.
- b) What is Maintenance? Explain the different categories of Software Maintenance.

Q.4) Write short notes on the following: Attempt ANY THREE (4 Marks X 3 = 12)

- a) Software Engineering
- b) Rapid application development model
- c) Traditional methods of Requirement Elicitation
- d) Structured Chart

SECTION - II

Q.5) Answer the following: (6 Marks X 2 = 12)

- a) What is feasibility study? Explain different types of feasibility study.
- b) What is Software Configuration Management (SCM)? Explain SCM process.

Q.6) Answer the following: (6 Marks X 2 = 12)

- a) Prepare Software Requirement Document for a "College Admission System".
- b) Draw ERD, Context flow diagram level-0 DFD and level-1 DFD for Online Examination System.

Q.7) Explain the following: (6 Marks X 2 = 12)

- a) Describe Formal Technical Review from the Quality Assurance point of view.
- b) Explain the reuse oriented model of maintenance.

BACHELOR OF COMPUTER APPLICATIONS (CBCS - 2018 COURSE) B.C.A.

Sem-III: WINTER- 2019

SUBJECT: STATISTICS (UE)

Thursday 21-11-2019
10:00 AM-01:00 PM

W-18770-2019
Max. Marks: 60

N.B.:

- 1) Attempt any **THREE** questions from Section –I and any **TWO** questions from Section –II.
- 2) Figures to the right indicate **FULL** marks.
- 3) Answers to both the sections should be written in **SAME** answer book.
- 4) Use of non-programmable **CALCULATOR** is allowed.
- 5) Use graph papers **WHEREVER** necessary.

SECTION-I

Q.1 Define Statistics. Explain scope of statistics in Economic and computer science. (12)

Q.2 Draw histogram and frequency polygon for the following data: (12)

| | | | | | | |
|----------------|-------|-------|-------|-------|-------|-------|
| Age in years | 10-20 | 20-30 | 30-40 | 40-50 | 50-60 | 60-70 |
| No. of persons | 40 | 150 | 260 | 300 | 220 | 35 |

Q.3 Calculate Mean, Median and Mode for the following data: (12)

| | | | | | | |
|-----------|------|-------|-------|-------|-------|-------|
| Classes | 0-10 | 10-20 | 20-30 | 30-40 | 40-50 | 50-60 |
| frequency | 12 | 18 | 27 | 20 | 17 | 6 |

Q.4 Find the standard deviation for the following data: (12)

| | | | | | | | |
|-----------|------|-------|-------|-------|-------|-------|-------|
| Classes | 0-10 | 10-20 | 20-30 | 30-40 | 40-50 | 50-60 | 60-70 |
| frequency | 2 | 13 | 24 | 35 | 30 | 25 | 20 |

Q.5 Write short notes on any **TWO** of the following: (12)

- a) Quartiles
- b) Ogive curves
- c) Regression

SECTION-II

Q.6 Compute the Karl Pearson's coefficient of correlation from the following table and comment on result. (12)

| | | | | | |
|---|---|----|----|---|---|
| X | 6 | 2 | 10 | 4 | 8 |
| Y | 9 | 11 | 5 | 8 | 7 |

Q.7 Obtain two regression equations for the following data: (12)

| | | | | | | | | | | |
|---|----|----|----|----|----|----|----|----|----|----|
| X | 25 | 28 | 35 | 32 | 31 | 36 | 29 | 38 | 34 | 32 |
| Y | 43 | 46 | 49 | 41 | 36 | 32 | 31 | 30 | 33 | 39 |

Also estimate X when Y = 56.

Q.8 Explain various components of Time Series Analysis. (12)

Saturday 23-11-2019

10:00 AM-01:00 PM

W-18771-2019

Max. Marks: 60

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 - 2) Answer ANY TWO questions from Q 1, 2, 3 in Section I.
 - 3) Answer ANY TWO questions from Q 5, 6, 7 in Section II.
 - 4) All question CARRY EQUAL marks.
 - 5) Answers to Both the sections should be written in SAME answer book.
 - 6) Draw a labeled diagram WHEREVER necessary.
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SECTION - I

Q.1) Answer the following: (12 Marks X 1 = 12)

What is magnetic media? Describe different types of magnetic storage devices.

Q.2) Answer the following: (6 Marks X 2 = 12)

- a) What is Hypermedia? Describe characteristics of Hypermedia.
- b) What is sound? Differentiate between MIDI and Digital Audio.

Q.3) Explain the following: (12 Marks X 1 = 12)

Write the different communication modes used in multimedia communication and explain it.

Q.4) Write short notes on the following: Attempt ANY THREE (4 Marks X 3 = 12)

- a) Multimedia authoring tools
- b) Dithering process.
- c) Multimedia in schools
- d) Digital Video Standards

SECTION - II

Q.5) Answer the following: (12 Marks X 1 = 12)

State and explain various applications of multimedia.

Q.6) Answer the following: (6 Marks X 2 = 12)

- a) Describe importance of Image in multimedia along with its characteristics.
- b) Discuss steps to create animated scene in detail.

Q.7) Explain the following: (6 Marks X 2 = 12)

- a) Describe in detail concept of HDTV and HD video.
- b) What is text? Explain the types of text in detail.
