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CHHATRAPATI SHIVAJI MAHARAJ UNIVERSITY

Examination January-2024

Program Name: BCA /B.Sc(CS/IT)/BCA DATA SCIENCE/BCS(BIOINFORMATICS)

Specialization:

Semester: III

Course Name: Operating Systems

Seat No.

Date:

Candidate Signature:

TIME: 3Hrs

Maximum Mark(s):70

Note: Instruction for Candidate:

- Attempt all Questions from Section A and Section B.
- Each question from Section A carries 2 mark and 10 mark for Section B question.
- No Choice for Section A question but internal choices are available for Section B Questions.

Section A

Q.No.	Question	
1	What are the different algorithms used in scheduling processes?	[10*2=20]
2	Explain: i) Symmetric Multiprocessor ii)Asymmetric Multiprocessor.	[2]
3	Draw the system model of deadlock.	[2]
4	Define Process and its four sections.	[2]
5	Draw the Memory layout of Resident monitor.	[2]
6	Define Contiguous and Non-contiguous memory allocation.	[2]
7	Draw the I/O interface.	[2]
8	Define multi programming. Mention the formula of 'Degree of multi programming'.	[2]
9	State different types of RAM and ROM.	[2]
10	~~Draw the system model of deadlock.~~ why layering is done in OS?	[2]

Section B

Q.No.	Question	
11.1	Draw and explain layered structure of OS with advantages and disadvantages.	[5*10=50]
11.2	Explain components of OS in detail. (or)	[10]
12.1	Describe Kernel I/O subsystem in detail.	
12.2	(or) Draw &Explain RAID3, RAID5 & RAID6 in detail with advantages and disadvantages.	[10]
13.1	Explain in detail, with drawbacks and benefits : Static Partitioning memory allocation technique & Dynamic Partitioning memory allocation technique.	[10]
13.2	(or) Write a detailed note on: 1) Basic Bare machine. 2) Resident Monitor.	[10]
14.1	Explain Critical Section problem with any two of the following solutions:- i) Peterson's Solution ii) Dekker's Solution iii) Test and set Operation.	[10]
14.2	(or) Explain Dining Philosophers problem with its solution algorithm.	[10]

Given:

Process	P1	P2	P3	P4	P5
Arrival Time	4	0	6	3	1
Burst Time	1	5	3	2	1

15 1

Calculate following terminologies with the help of Shortest Remaining Time First Algorithm
1) Completion Time 2) Turnaround time 3) Waiting Time 4) Response Time
6) Average turnaround time 7) Average Waiting time.

(or)

Given:

Process	P1	P2	P3	P4	P5
Arrival Time	4	0	6	3	1
Burst Time	1	5	3	2	1

15 2

[10]

Calculate following terminologies with the help of Shortest Job First Algorithm
1) Completion Time 2) Turnaround time 3) Waiting Time 4) Response Time
6) Average turnaround time 7) Average Waiting time.

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Examination January-2024

Seat No.

Date:

Candidate Signature:

Program Name:BCA /BSC(CS/IT)/BCA
DATA SCIENCE
Specialization:
Semester:III

Time:3 hrs

Course Name: CSAB3020 - OBJECT ORIENTED PROGRAMMING WITH C++

Maximum Mark(s):70

Note: Instruction for Candidate:

- Attempt all Questions from Section A and Section B.
- Each question from Section A carries 2 mark and 10 mark for Section B question.
- No Choice for Section A question but internal choices are available for Section B Questions.

Section A

[10*2=20]

Q.No	Question	
1	What is c++?	[2]
2	What are arrays?	[2]
3	What are data types?	[2]
4	What are pointers?	[2]
5	What do you mean by attributes?	[2]
6	What are functions?	[2]
7	What is method overloading?	[2]
8	What are the access modifiers?	[2]
9	What are virtual functions?	[2]
10	what is function call?	[2]

Section B

[5*10=50]

Q.No	Question	
11.1	Explain concepts of oops(object,class,inheritance….etc) with real examples.	[10]
	(or)	
11.2	Explain advantages and disadvantages of oops.	[10]
12.1	Explain the structure of c++ programme in detail.	[10]
	(or)	
12.2	Explain different types of operators with examples in detail.	[10]

13.1 What is data abstraction discuss in detail and give its advantages and disadvantages?

(or)

13.2 Give 10 Difference between Procedural programming and OOPS. [10]

14.1 Write c++ program to add 2 numbers and to find the greatest of two numbers. [10]

(or)

14.2 Explain the concept of exception handling and discuss its advantages and disadvantages. [10]

15.1 Design a program to find the circumference of a circle.Use the formula :$C=2\pi r$,where pi=3.1416 and also give the flowchart. [10]

(or)

15.2 Write a programme that converts an input inches into its equivalent centimeters. One inch = 2.54 cm. Also draw the flowchart. [10]

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Examination January-2024

Seat No.
Date:
Candidate Signature:

Time:3hrs

Program Name: BCA/BSC(CS/IT)/BCA(DATA SCIENCE)/ B.Sc. Bio-informatics

Specialization:

Semester: III

Course Name: CSAB3040 - SOFTWARE TESTING AND QUALITY ASSURANCE

Maximum Mark(s):70

Note: **Instruction for Candidate:**

- Attempt all Questions from Section A and Section B.
- Each question from Section A carries 2 mark and 10 mark for Section B question.
- No Choice for Section A question but internal choices are available for Section B Questions.

Section A

Q.No	Question	[10*2=20]
1	Define Software Testing and explain why it is essential in the software development Process.	[2]
2	List down the phases of Software Development Life Cycle.	[2]
3	What are the goals of Software Testing ?	[2]
4	What do you mean by Software Test Case?	[2]
5	Why it is necessary to perform Unit testing in Software Testing ?	[2]
6	Define integration testing.	[2]
7	What do you understand by Software metrics?	[2]
8	What is Defect in Software Testing?	[2]
9	What do you understand by SQA(Software Quality Assurance)?	[2]
10	List the types of Software Reviews.	[2]

Section B

Q.No	Question	[5*10=50]
11.1	Describe the Software Development Life Cycle (SDLC) and its various phases. How does the SDLC contribute to the overall quality of a software product?	[10]
	(or)	
11.2	Differentiate between Quality Assurance (QA), Quality Control (QC).	[10]
12.1	Explain different types of Software Testing with advantages & Disadvantages.	[10]
	(or)	
12.2	Explain the different techniques used in White Box Testing in details.	[10]
13.1	Explain Strategic Approach to Software testing.	[10]
	(or)	
13.2	Explain Unit testing in details with objective,Advantages & Disadvantages.	[10]

14.1 What are Goals of Defect Management Process (DMP)? [1

(or)

14.2 Define software metries and explain their significance in the software development life cycle. [10]

15.1 Explain the major activities involved in Software Quality Assurance. [10]

(or)

15.2 Explain Software Reviews in details along with objective & advantages. [10]

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Examination January-2024

Seat No.

Date

Candidate Signature

Time:3 hrs

Program Name: BCA/BSC(CS/IT)/BCA(DATA SCIENCE)

Specialization:

Semester: III

Course Name: MGTG3100 - FINANCIAL ACCOUNTING & MANAGEMENT

Maximum Mark(s):70

Note: Instruction for Candidate:

- Attempt all Questions from Section A and Section B
- Each question from Section A carries 2 mark and 10 mark for Section B question
- No Choice for Section A question but internal choices are available for Section B Questions

Section A

Q.No	Question	[10*2=20]
1	Explain Trade Discount.	
2	Write short note on.	[2]
	(1) Bad debts	
	(2) cash discount	[2]
3	What is Accounting Process?	
4	What do you mean by opening entry?	[2]
5	Explain the term journal.	[2]
6	Explain Money measurement concept.	[2]
7	What do you mean by voucher?	[2]
8	Explain Gains and Expenses.	[2]
9	Define accounting.	[2]
10	What is Net profit?	[2]

Section B

Q.No	Question	[5*10=50]
11.1	On 1st April 2022, Sharma's assets and liabilities stood as follows- ASSETS - cash 6000,Bank 17000, stock 3000,Bills Receivable 7,000,Debtors 3000,Building 70,000,Investments 30,000,Furniture 4,000. LIABILITIES- bills payable 5000,creditors 9000,Ram's loan 13,000. PASS the opening Entry in the books of Sharma.	[10]
	(or)	
11.2	Difference between trading account and Profit and loss account.	[10]

12.1 Journalize the following transactions, post to the ledger: [10]

2021

Nov. 01 Business started with

(i) Cash 1,50,000

(ii) Goods 50,000

Nov. 03 Purchased goods from Harish 30,000

Nov. 05 Sold goods for cash 12,000

Nov. 08 Purchase furniture for cash 5,000

Nov. 10 Cash paid to Harish on account 15,000

Nov. 13 Paid sundry expenses 200

Nov. 15 Cash sales 15,000

Nov. 18 Deposited into bank 5,000

Nov. 20 Drew cash for personal use 1,000

Nov. 22 Cash paid to Harish in full settlement of account 14,700

Nov. 25 Good sold to Nitesh 7,000

Nov. 26 Cartage paid 200

Nov. 27 Rent paid 1,500

Nov. 29 Received cash from Nitesh 6,800 Discount allowed 200

Nov. 30 Salary paid 3,000

(or)

12.2 Explain the characteristics of Balance sheet. [10]

13.1 How will you classify the following into personal, Real and Nominal Accounts- [10]

1)Investment

2)Freehold premises.

3)salary account

4) loose tools Accounts.

5) Purchase account.

6)Capital account.

7) Sales account

8) Royalty account

9) Accrued Interest.

10) Dividend Received

(or)

13.2 Differentiate between Financial Accounting and Management Accounting. [10]