

**Vidya Vikas Mandal's**  
**Shree Damodar College of Commerce & Economics, Margao-Goa**  
**FY BCA, Semester II, End Semester Examination, April 2019**  
**Cost Accounting (BCA203)**

**Duration: 2 hrs**

**Max Marks: 50 mks**

*Instructions:*

1. All questions are compulsory
2. Start each new question on a fresh page
3. Figures to the right indicate maximum marks

**Q1. Write short notes on: (Any 5)**

**(5x2=10)**

- a) Minimum Level
- b) Piece Rate System
- c) LIFO Method
- d) Pre-determined cost
- e) Cost Accounting
- f) Service costing
- g) Labour Turnover
- h) Danger Level

**Q2) A) From the following information for the month of January 2017, prepare Cost Sheet to show the following components.**

**(10 Mks)**

a) Prime Cost    b) Factory Cost    c) Cost of Production    d) Total Cost    e) Profit

Particulars	Amount
Direct Materials	57,000
Direct wages	28,500
Factory Rent & Rates	2,500
Office Rent & Rates	500
Plant Repairs & Maintenance	1,000
Plant Depreciation	1,250
Factory Heating & Lighting	400
Factory Managers Salary	2,000
Office Salaries	1,600
Directors Remuneration	1,500
Telephone & Postage	200
Printing & stationery	100
Legal Charges	150
Advertisement	1,500
Salesman salary	2,500
Showroom Rent	500
Sales	1,16,000

**OR**

**Q2) B) a)** Write short note on FIFO Method.

(2 Mks)

**b)** From the following transactions prepare Stores Ledger Account using LIFO Method. (8 Mks)

Oct 1	Opening Stock	200 units @ Rs. 25 each
Oct 4	Purchases	200 units @ Rs. 24 each
Oct 5	Issue	250 units
Oct 10	Purchases	150 units @ Rs. 23 each
Oct 12	Issue	200 units
Oct 18	Purchases	100 units @ Rs. 24 each
Oct 22	Purchases	100 units @ Rs. 23.50 each
Oct 25	Issue	250 units

**Q3) A) a)** Write short note on Simple Average Method.

(2 Mks)

**b)** From the following transactions prepare Stores Ledger Account using Simple Average Method. (8 Mks)

Apr 1	Opening Stock	300 units @ Rs. 2 each
Apr 2	Purchases	200 units @ Rs. 2.20 each
Apr 4	Issue	150 units
Apr 6	Purchases	200 units @ Rs. 2.30 each
Apr 11	Issue	150 units
Apr 19	Issue	200 units
Apr 22	Purchases	200 units @ Rs. 2.40 each
Apr 27	Issue	150 units

**OR**

**Q3) B) a)** Write short notes on the following:

(4 Mks)

- 1) Reorder Level
- 2) Maximum Level

**b)** Calculate Minimum level, Maximum level, Re-order level from the following information. (6 Mks)

Re-order quantity	3,000 units
Re-order period of materials	4 to 6 weeks
Maximum Consumption	750 units per week
Normal Consumption	500 units per week
Minimum Consumption	250 units per week

**Q4) A) i)** Write a short note on Taylor's Differential Piece Rate System.

(2 Mks)

**ii)** Calculate the earnings of worker A and Worker B under Piece Rate System and Taylor's Differential Piece Rate System from the following particulars: (8 Mks)

Standard Production – 8 units per Hour

Normal time rate – Rs 4 per Hour

Workers work for 9 hours per day.

Differential Piece Rate to be applied as follows:

1) 80% of piece rate for below standard performance

2) 120% of piece rate for performance at or above standard

Actual Performance:

Worker A produced 54 units in a day and Worker B produced 75 units in a day.

**OR**

Q4) B) a) Write short notes on the following:

(6 Mks)

- 1) Causes of Labour Turnover
- 2) Measures to overcome Labour Turnover

b) Calculate the total earnings of a worker under Rowans Plan and also find out effective rate of earnings per hour from the following information. (4 Mks)

Standard Time – 20 Hours

Time Taken by a Worker – 16 Hours

Hourly Rate of Wages – Rs. 4

Q5) A) A product passes through 3 processes. During December 2017, 2000 units were produced with the following expenditure. (10 Mks)

Particulars	Process A	Process B	Process C
	Amount	Amount	Amount
Direct Material	4,000	6,000	4,000
Direct Wages	12,000	10,000	8,000
Direct Expenses	3,000	3,200	4,000

Overall Indirect expenses amounted to Rs. 20,000 of which Rs. 15,000 is to be allocated to all the 3 processes. These expenses are to be allocated on the basis of direct wages. Main raw material issued to Process A besides above direct material was worth Rs. 16,000. Prepare Process Account showing Cost per unit and the total cost.

OR

Q5) B) Following expenses were incurred by a contractor on contract in the year 2016. (10 Mks)

Particulars	Amount
Materials Purchased	40,000
Wages Paid	43,000
Wages Outstanding	1,000
Plant at cost	6,000
Establishment Expenses	2,000
Materials in Hand	1,500
Plant on Hand	4,000
Share Capital	20,000
Creditors	3,500

The contract price was Rs. 1,50,000. Cash received Rs. 67,500 being 75% of work certified. The cost of the work done but uncertified was Rs. 1,000. Prepare Contract A/c and Balance Sheet.



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F.Y.B.C.A, Semester II, End Semester Examination, April 2019

**Data Structures - (BCA-201)**

**Duration: 2 Hours**

**Total Marks: 50**

**Instructions:**

- 1) All Questions are **Compulsory**.
- 2) Figures to the right indicate Full Marks.
- 3) Start each new question on a fresh page
- 4) Number of pages 02

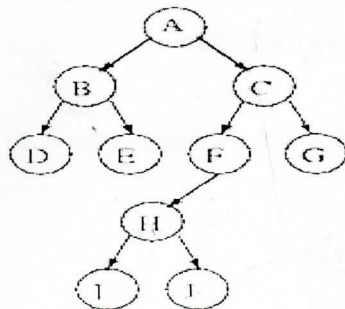
**Q1. A) Define the following in 1-2 lines.**

[5]

- |                               |                            |
|-------------------------------|----------------------------|
| a) Non linear data structure. | b) Circular linked list.   |
| c) Spanning tree              | d) PUSH operation on stack |
| e) Graph                      |                            |

**Q1. B) Answer the following based on the tree structure as given below.**

[5]



- a) Define level of tree. Obtain the level of node H .
- b) Write the pre-order traversal of the tree.
- c) Define ascendant. Name the ascendant nodes of F.
- d) Name the descendant nodes of node C
- e) Define degree of a node . Write the degree of node B

**Q2.) Answer the following.**

- i) How is linked list different from arrays ? [2]
- ii) Write an algorithm to insert an element in the an array . [3]
- iii) Apply Binary search algorithm to search a value=34 in the given array .Write the proper sequence of search involved . [5]

12	23	29	34	38
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**Q3.) Answer the following.**

- i) Explain the concept of Max heap tree and Min heap tree. [2]
- ii) For given set of data construct binary search tree . Also give the post order traversal data : 45, 67 , 20, 20, 70, 39 , 1, 45 , 100 [3]

iii) Write an algorithm to implement *enqueue* & *dequeue* operations of queue. [5]

**Q4.) Answer the following**

a) Transform the following in-fix expression to pre-fix expression showing all the steps.

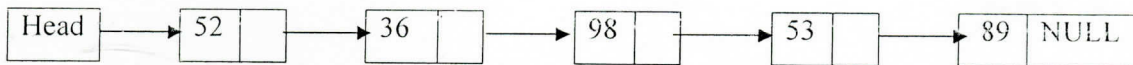
$$P / (Q - R) * S ^ 2 + T \quad [2]$$

b) Write an algorithm to insert a node at the end of the linked list. [3]

c) Consider the linked list given below and show how to do the following operations one after the other.

Take resultant list of the previous operation as input to next the operation. [5]

- Insert node with key 59 before node with key 36
- Insert node with key 63 at head
- Insert node with key 88 at tail
- Delete node with key 98
- Delete a node from head

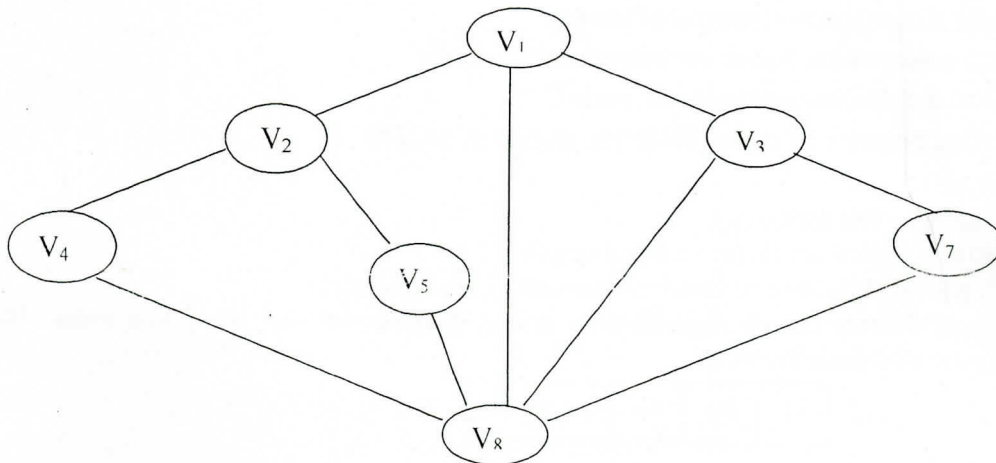


**Q5) Answer the following considering the graph shown in fig i .**

i) What is a Spanning Tree of a Graph ? If Node V<sub>8</sub> is deleted from graph with its edges, what type of data structure it changes to. Justify. [2]

ii) Give the adjacency list for the graph . [3]

iii) Explain Breadth -First Search traversal on the graph given below showing all steps. Consider V<sub>1</sub> as the source node. [5]



**Fig i**

**Vidhya Vikas Mandal's**  
**Shree Damodar College of Commerce & Economics Margao Goa**  
**F.Y.BCA, Semester II, April 2019 Semester End Assessment**  
**BCA 204 : DISCRETE MATHEMATICS**

**Duration: 2 Hours**

**Total Marks: 50**

**INSTRUCTIONS:**

- I. Figures to the right indicate maximum marks
- II. Start each answer on a fresh page.
- III. Non scientific, non programmable calculator allowed.
- IV. Graph paper will be provided on request

**1. Answer the following**

**A. Convert the following**

**[4 marks]**

- i. Hexadecimal number 5F1C to decimal form
- ii. Decimal number 824 to octal form

**B. Define the following**

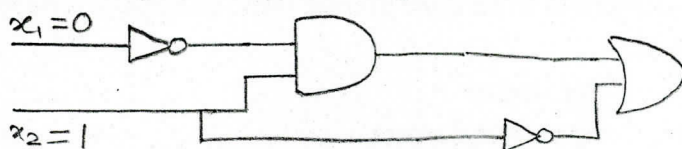
**[6 marks]**

- i. Null set
- ii. Singleton set
- iii. Cardinal number of a finite set
- iv. Subsets
- v. Power set
- vi. Difference between two sets

**2. Answer the following**

**[5x2=10 marks]**

i. Find the output for the following circuit



- ii. Construct the truth table for  $(p \wedge q) \rightarrow (\neg p \vee q)$
- iii. If  $A = \{x, y, z\}$  and  $L = \{y^3\}$ , find  $L^*$  and  $L^+$
- iv. Prove that  $x \cup x = x$  for  $x \in A$
- v. Verify whether  $f(x) = x^2$  is one one function for  $x \in \mathbb{R}$ .

**3. Answer any two of the following**

**[10 marks]**

- A. Find the term independent of  $x$  in  $(x^2 - \frac{1}{x})^9$
- B. Define an equivalence relation and hence examine whether relation  $R$  defined on the set  $\mathbb{Z}$  by  $aRb$  if and only if  $a-b$  is divisible by 5.
- C. Verify whether statements  $p \rightarrow q$  and  $\neg(p \wedge \neg q)$  are logically equivalent

4. Answer any two of the following

[10 marks]

A. Prove by mathematical induction that

$$1+3+5+\dots+(2n-1)=n^2$$

B. Find the number of words that can be formed when the letters of each of the words given below are permuted

i. COMMITTEE

ii. REPETITION

iii. INDIFFERENCE

iv. ASSASSINATION

v. EQUILLIBRIUM

C. Draw a state diagram of the finite state machine

$$M=\{A,O,S,f,g,s_0\}$$

	f		g	
	a	b	a	b
$S_0$	$S_0$	$S_1$	0	0
$S_1$	$S_1$	$S_1$	1	1

5. Answer any two of the following

[10 marks]

A. Find  $f(3)$ ,  $g(2.5)$ ,  $f(g(x))$  and  $g(f(x))$  for  $f(x)=2x$  and  $g(x)=4x+1$

B. In a consumer preference survey of an item, 15 were found to use Brand A, 20 were found to use Brand B, 5 were found to be in the habit of using both Brand A and B. draw a Venn Diagram and find number of consumers using at least one of the 2 Brands of item.

C. An organization consists of 9 members of which 4 are doctors. A selection of 4 persons is to be done among these members. Find how many selections will have

i. No doctor

ii. Exactly 2 doctors

iii. All 4 doctors

iv. At least 3 doctors



Vidya Vikas Mandal's  
Shree Damodar College of Commerce & Economics Margao-Goa  
F.Y.BCA Semester End Examination, Semester II -April 2019

**ENVIRONMENTAL STUDIES BCA 207**

Duration:1.00 Hour

Max Marks:25

Instructions: Figures to the right indicate maximum marks.

Start each question on a fresh page

All questions are compulsory

**Q.I Answer Any Five of the following:**

**(1X5=5)**

- a) Mobile source of air pollutants
- b) Disaster management
- c) Solid waste management
- d) Sustainable development
- e) Human rights
- f) Water conservation

**QII.A) State and explain effects of water pollution.**

**(5)**

**OR**

**QII.X) Discuss in detail mitigation methods of flood management.**

**(5)**

**QIII.A) State and explain components of sustainable development.**

**(5)**

**OR**

**QIII.X) Explain in detail any two methods of waste management.**

**(5)**

**Q.IV.A) Write a note on process of ozone layer depletion.**

**(4)**

**OR**

**Q.IV.X) State and explain on two problems of resettlement and rehabilitation.**

**(4)**

**QV.A) State and explain any two factors affecting for population growth.**

**(3)**

**OR**

**QV.X) Write note on value education.**

**(3)**

**QVI.A) Explain in detail any two methods of waste land reclamation.**

**(3)**

**OR**

**QVI.X) Discuss in detail any one method of rain water harvesting.**

**(3)**



Vidya Vikas Mandal's  
Shree Damodar College of Commerce & Economics, Margao-Goa  
First Year B.C.A, sem II, End semester examination – April 2019  
**Operating System Concepts (BCA-202)**

Duration: 2 hours

Total marks: 50

Instructions: 1) All questions are **compulsory**.

2) Figures to the right indicate full marks.

**Q.1. Define the following**

(5\*2=10 mks)

- a) Time slicing    b) Process creation    c) RAID
- d) Demand paging    e) Disk bandwidth

**Q.2 Answer the following**

- a) Explain any four file operations.
- b) Discuss the two main problems faced by Serial processing systems.
- c) Explain the services provided by the operating system.

2 mks

3 mks

5 mks

**Q.3 Answer the following**

- a) Briefly explain multi-level queue scheduling ?
- b) What is multiple-processor scheduling? Explain its approaches.
- c) Define Round robin scheduling. Consider the following four processes, with the length of the CPU burst given in milliseconds

2 mks

3 mks

5 mks

Process	Burst Time
$P_1$	53
$P_2$	17
$P_3$	68
$P_4$	24

Find out the average waiting time for this round robin schedule with a time quantum of 20 by giving a Gantt chart illustrating the execution of these jobs.

**Q.4 Answer the following**

- a) Define virtual memory.
- b) Explain any three different types of threats.
- c) What is segmentation? Explain the steps involved in handling a page fault with a diagram

2 mks

3 mks

5 mks

**Q.5 Answer the following**

- a) What is encryption?
- b) With a neat diagram explain the storage structure of a web O.S.
- c) What is a distributed operating system? Explain the design issues of the same.

2 mks

3 mks

5 mks

\*\*\*\*\* All the best \*\*\*\*\*