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**BCA SEM I**

**21-22**

**Question Papers**

# F.Y.B.C.A. Semester I (CBCS) Examination, January 2022. Subject:-Basic Mathematics. Center:- Dharbandora

2022  
I

Instructions:-

1. All Question are Compulsory, however an internal choice is available
2. The figure to the right indicates maximum marks allotted to the question.

\* Required

1. Email \*

2. Password: \*



Candidate Examination Details

3. Exam Seat No. (In figures) \*

4. Exam Seat No. (In words) \*



Kindly find below the question paper for Basic Mathematics

Question Paper

Roll No: \_\_\_\_\_

Total No of Questions: 06

Total No of pages: 04

**B.C.A Semester End Examination**  
**BASIC MATHEMATICS**  
**Semester-I**  
**CBCS**

Duration: 2 hours

Marks: 60

- Instructions:**
1. Attempt all questions
  2. Figures to the right indicate full marks.
  3. Use of Non-programmable calculators is allowed.

**Q.1.A] Fill in the blanks:** (5×1=5)

- (a) The greatest common divisor of 258 & 60 is \_\_\_\_\_.
- (b) Area of parallelogram with base 5cm & height 3cm is \_\_\_\_\_ cm<sup>2</sup>.
- (c) If A and B are matrices having order 2×3 and 3×2 then the order of matrix AB is \_\_\_\_\_.
- (d) For a G.P  $9, \frac{9}{2}, \frac{9}{4}, \frac{9}{8}$  the value of  $a$  and  $r$  is \_\_\_\_\_ & \_\_\_\_\_.
- (e) The magnitude of unit vector is \_\_\_\_\_.

**B] Fill in the blanks:** (5×1=5)

- (a) Area of square having side 12cm is \_\_\_\_\_.
- (b) The  $n^{\text{th}}$  term of an A.P is \_\_\_\_\_.
- (c) If  $\sin \theta = \frac{5}{12}$ , then  $\operatorname{cosec} \theta$  is \_\_\_\_\_.
- (d) The equation of line parallel to the X-axis is \_\_\_\_\_.
- (e) The vectors  $\vec{a}_1$  &  $\vec{a}_2$  are perpendicular to each other iff \_\_\_\_\_.

**Q2] Answer the following:**

- A. The ages of Rita and Rina are in the ratio 5:7 and the difference between their ages is 12 years. Find the ages of both of them. (2)

17 JAN 2022

Examination

B. The height of a cylinder is 8cm and the radius of the base is 5cm. Find the area of the curved surface of the cylinder.

C. Find the inverse of the matrix  $A = \begin{bmatrix} 1 & 3 & 3 \\ 1 & 4 & 3 \\ 1 & 3 & 4 \end{bmatrix}$  using matrix inversion method. (5)

OR

D. Solve the following equations using Cramer's rule. (5)

$$3x + 3y - z = 11$$

$$2x - y + 2z = 9$$

$$4x + 3y + 2z = 25$$

Q3] Answer the following questions:

A. If  $A = \begin{bmatrix} 3 & 2 \\ 1 & 5 \end{bmatrix}$  find the matrix  $X$  such as that  $A - 3X = \begin{bmatrix} 3 & 5 \\ -8 & 2 \end{bmatrix}$ . (2)

B. For the G.P 2,10,50,250 ..... find  $T_6$  and  $S_6$ . (3)

C. Use De Moivre's theorem to prove the following. (5)

$$\sin 2\theta = 2\sin\theta \cos\theta \quad \&$$

$$\cos 2\theta = \cos^2\theta - \sin^2\theta$$

OR

D. Find the fifth roots of unity. (5)

Q4] Answer the following questions.

A. Find the argument and modulus of the complex number  $= -1 + \sqrt{3}i$ . (2)

B. Find the radius of a circle whose area is equal to the sum of the areas of two circles whose radii are 5mts and 12mts. (3)

C. Examine the continuity of the function  $f$  at  $x = 3$ . (5)

$$f(x) = \begin{cases} x^2 + 1, & 0 \leq x < 3 \\ 3x + 1, & 3 \leq x \leq 6 \end{cases}$$

OR

D. Evaluate the limit  $\lim_{x \rightarrow 2} \frac{x^5 - 32}{x^2 - 4}$ . (5)

Q5] Answer the following questions:

A. Let  $f(x) = 4x - 5$  &  $g(x) = -\frac{x}{2}$  find  $(f \circ g)(x)$ . (2)

7. Page 3

B. Using trigonometry prove that  $\frac{\sec^2 \theta \cos^2 \theta}{\sec \theta \cos \theta} = \tan \theta + \cot \theta$  (3)

C. Simplify  $[1 - \{1 - (1 - x^2)^{-1}\}^{-1}]^{-1}$ . (5)

OR

D. If  $a^2 + b^2 = 7ab$  prove that  $[\log_{\frac{1}{3}}(a)b] = \frac{1}{2}(\log a + \log b)$  (5)

Q6] Answer the following:

A. Solve the following equation and also state the nature of the roots of the equation  $5x^2 + 6x + 1 = 0$ . (2)

B. Find the area of parallelogram whose adjacent sides are given by vectors  $a = \hat{i} - 2\hat{j} + 3\hat{k}$  and  $b = 3\hat{i} - 2\hat{j} + \hat{k}$ . (3)

C. Find the equation of line through (2, 1) and perpendicular to the line through (-3, -4) and (-1, 2). (5)

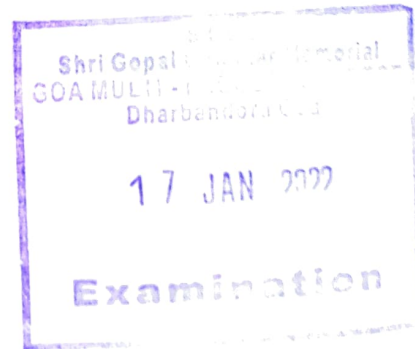
OR

D. In what ratio does the point (4, -2) divide the segment from (-1, 8) to (13, -20). (5)

XXXXXXXXXXXXXXXXXX

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# F.Y.B.C.A Semester I (CBCS) Examination, SEMESTER END EXAM JANUARY 2022. Subject: Environmental studies

### Instructions

- 1) Q1. Short note question (Answer any five out of Seven)
- 2) Q2. Short note Question ( Answer any Four out of Six)

\* Required

Email \*

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2. Password \*

\_\_\_\_\_

fill with proper details

### Candidate Examination Details

3. Exam Seat Numbers (In words) \*

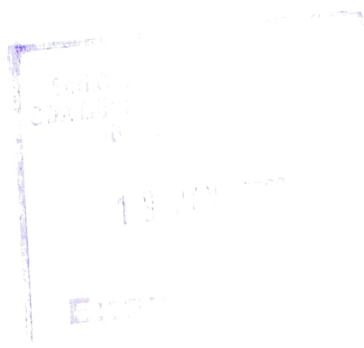
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4. Exam Seat Numbers (In Figures) \*

\_\_\_\_\_

5. Examination \*

\_\_\_\_\_



6. CBCS \*

Mark only one oval.

CBCS

7. Semester: \*

Mark only one oval.

Semester I

8. Date \*

Example: January 7, 2019

QUESTION PAPER

## QUESTION PAPER

**Q.1.A Answer following questions ANY-5****10 marks**

1. Explain the term Biodiversity Hotspot.
2. What is vulnerable species? Write any two examples..
3. State any two threats for all grassland ecosystems.
4. Why is energy considered as a resource, explain with two examples?
5. How many Botanical gardens are there in India. Also name the biggest Botanical garden of India.
6. List any four ways to conserve resources.
7. What are the different types of Forest?

**Q.2. A. What are the threats for energy resources? Also write the ways to conserve energy resources****5mks****Or****A. Discuss the values of Biodiversity.****5mks****B. State the threats for biodiversity****5mks****Q.3. A. Submit a brief note Bio geographic zone of India.****5mks****Or****A. Write an elaborate note on Aquatic ecosystem.****5mks****B. Explain with two suitable examples how Environmental studies is****Multidisciplinary in nature****5mks***Mark only one oval.* Option 1

UPLOAD YOUR ANSWER PAPERS HERE



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# FYBCA Semester I Examination Jan 2022. Subject- Business Accounting Center: Dharbandora-Goa

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1. Email \*

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## Candidate Examination Details

Provide Correct Information

3. Seat No (In figures) \*

4. Seat No. (In Words) \*

5. Examination \*

6. Semester I \*

Mark only one oval.

Semester I



3. 1. Kindly go through the attachment

Roll No:

Total No. of Questions: 06 Total No: of pages: 05

**B.C.A. Semester End Examination**

Title of the Paper with Paper No: **BUSINESS ACCOUNTING (BCA102)**

Semester No: I

CBCS

Duration: 02 Hrs.

Maximum Marks: 60

Instructions:

1) All questions are compulsory.

2) Figures to the right indicate maximum marks.

**Q1.A** Fill in the blanks

(1x5=5)

- i. The amount invested by owners into business is called \_\_\_\_\_.
- ii. Assets = \_\_\_\_\_ + Owner's equity.
- iii. The \_\_\_\_\_ shows financial position of the business as on a particular date.
- iv. A \_\_\_\_\_ is a record for a transaction.
- v. \_\_\_\_\_ are the owners of the company.

**Q1.B** Give one word or a term used to describe the following

(1x5=5)

- i. Assets like brand value, copy rights, goodwill
- ii. Book of Prime Entry or the book of original entry
- iii. Decrease in the value of asset over the period of time
- iv. Current assets minus current liabilities.
- v. Analysis and interpretation of financial statements

**Q2. A** Pass the necessary journal entries for the following transactions

(10)

Miss Chandrima Das started business with cash Rs. 20,000

Purchased a Machinery for cash Rs. 5,000

Sold goods for cash Rs. 7,000.

Purchased goods from Dip for Rs. 7,000

Paid Expenses Rs. 500

## 9. Kindly go through the attachment

Paid Wages for Rs. 1,700  
 Sold goods to Anirban for Rs. 3,000  
 Received Commission Rs. 500

OR

**Q2.B** On 1.4.2010 Laxmi Ltd. purchased a machinery for Rs. 1,10,000. The expected life of the machine is 4 years. Desiring to replace the machine on the expiry of its life, the company establishes a Sinking Fund. Investments are expected to realize 5% interest. At the end of the life of the machine the investments were sold for Rs. 2,50,000. Sinking Fund table shows that Rs. 1,2320 invested each year will produce Rs. 1 at the end of 4 years at 5%.

Show the necessary ledger accounts in the books of Laxmi Ltd.

(10)

**Q3.A** You are required to prepare profit and loss account statement from the following trial balance of Mehul Company Ltd. for the year ended 31st March, 2012

(10)

Mehul Company Ltd.

Trial Balance as at 31st March, 2012

Particulars	Rs.	Particulars	Rs.
Stock	68,000	Equity Shares Capital (Shares of ₹ 10 each)	2,50,000
Furniture & Fixtures	50,000	11% Debentures	50,000
Discount	4,000	Bank Loans	64,500
Loan to Directors	8,000	Bills Payable	12,500
Advertisement	2,000	Creditors	15,600
Bad Debts	3,500	Sales	4,26,800
Commission	12,000	Rent received	4,600
Purchases	2,31,900	Transfer fees	1,000
Plant and Machinery	86,000	P&L a/c	13,900
Rentals	2,500	Provision for depreciation on plant and machinery	14,600
Current Account	4,500		
Cash	800		
Interest on Bank Loan	11,600		
Preliminary Expenses	1,000		
Wages	90,000		
Consumables	8,400		
Debentures Interest	2,000		
Freehold Land	1,54,600		
Tools and Equipments	24,500		
Goodwill	26,500		
Debtors	28,700		

10. kindly go through the attachment

Bills Receivables	15,300		
Dealer Aids	2,100		
Transit Insurance	3,000		
Trade Expenses	7,200		
Distribution Freight	5,400		
	<b>8,53,500</b>		<b>8,53,500</b>

OR

**Q3.B** From the following is the trial balance of Vishal Ltd., prepare the Balance Sheet of the company as on 31 March 2015 as per Schedule III of the Companies Act (10)

**Trial Balance as on 31st March 2015**

Debit	Rs	Credit	Rs.
Wages & Salaries	300000	Equity share capital	5200000
Cash at bank	200000	General Reserve	60000
Furniture	750000	Loan from SBI	600000
Premises	4100000	Provision for taxation	700000
Patents	1000000	Short term loan from bank	500000
Trade Receivables	350000	Profit & loss account	50000
8 % Debentures	400000	Bills Payable	80000
Stock in trade	200000	Sundry creditors	110000
	<b>7300000</b>		<b>7300000</b>

**Q 4. A** From the following information of XYZ Ltd prepare cash flow statement for the year ended 31-12-2014 using direct method: (10)

Purchase of land Rs 48000

Receipts from customers Rs.380000

Issue of shares Rs.80000

Dividend paid Rs.15000

Purchase of building Rs 280000

Sale of Machinery Rs.25000

Cash payment to suppliers Rs 750000

Issue of debentures Rs 100000

Investment in shares Rs 40000

Interest paid Rs 5000

Income tax paid Rs 10000

Cash at the beginning of the year Rs 60000

OR

**Q4. B** Prepare a statement of changes in working capital from the following information: (10)

11. kindly go through the attachment

	2004	2005	Assets	2004	2005
<b>Liabilities</b>				85,000	85,000
Share capital	1,50,000	1,80,000	Land and building	54,000	70,000
Profit and loss a/c	35,000	12,000	Plant and machinery	30,500	50,000
<b>Loans</b>	2,000	15,000	stock	25,500	45,000
Creditors	17,000	23,000	Debtors	5,000	2,000
Bills payable	3,000	1,000	Bills receivable	7,000	9,000
			Cash		
	<b>2,07,000</b>	<b>2,61,000</b>		<b>2,07,000</b>	<b>2,61,000</b>

**Q5. A** Pioneer company Ltd issued for public subscription 20,000 equity shares of Rs.10 each at par payable Rs.2 per share on Application, Rs 3 per share on allotment and the balance on First and Final Call. Applications were received for 30,000 shares. The directors decided to reject application of 10,000 shares and their application money being refunded in full. All the amounts due on allotment and first and final call were duly received. Show the Journal entries in the books of the company. (10)

OR

**Q5. B** From the following Balance sheet of Earth Co. Ltd as on 31-3-2012 and 31-3-2013, prepare a Comparative Balance sheet. (10)

Particulars	Note No.	31-3-2012	31-3-2013
<b>I. Equity &amp; Liabilities</b>			
1. Shareholder's Funds			
a) Share capital		3,75,000	4,90,000
b) Reserves & Surplus		86,000	44,000
<b>2. Non-Current Liabilities</b>			
a) Long term borrowings		2,22,000	2,68,000
b) Long term provisions		70,000	35,000
<b>3. Current liabilities</b>			
a) Short term borrowings		26,000	39,000
<b>Total</b>		<b>7,79,000</b>	<b>8,76,000</b>
<b>II. Assets</b>			
<b>1) Non-Current Assets</b>			
a) Fixed assets			
i) Tangible assets			
n) Intangible assets		3,32,000	4,00,000
b) Non-current investments			
<b>2. Current assets</b>		1,70,000	1,12,000
a) Inventories			
b) Trade receivables		33,000	66,000
c) Cash & cash equivalents		69,000	1,00,000
<b>Total</b>		<b>85,000</b>	<b>78,000</b>
		<b>7,79,000</b>	<b>8,76,000</b>

**Q6.A** Write short notes

i) Objectives of Accounting

(5x2=10)



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12. kindly go through the attachment

ii Types of Accounts

**OR**

(5x2=10)

**Q6.B Write short notes**

- i. Depreciation and its objectives
- ii. Cash flow and Fund flow statement

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FYBCA Semester I Examination Jan 2022. Subject- Business Accounting Center: Dharbandora

13. Upload your Answer sheet \*

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# F.Y.B.C.A. Semester I (CBCS) Examination, January 2022. Subject:-Computer Organisation and Architecture Center:-Dharbandora-Goa

Instructions:-

1. All Question are Compulsory.
2. The figure to the right indicates maximum marks allotted to the question.

\* Required

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\_\_\_\_\_

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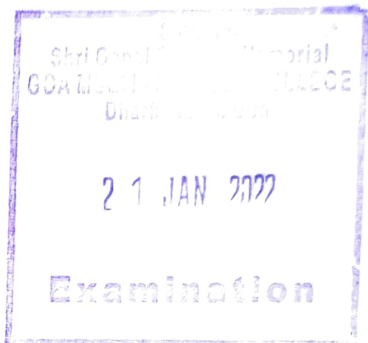
3. Roll Number : \*

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4. Date: \*

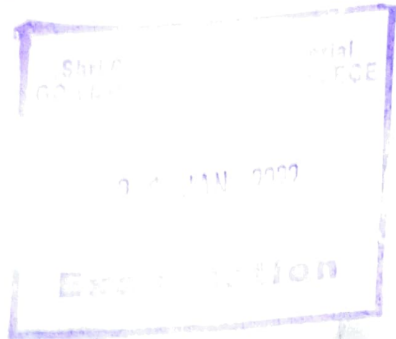
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Example: January 7, 2019





5. Page No :1



Roll No:

Total No. of Questions: 06

Total No: of pages: 02

**B.C.A. Semester End Examination**  
**Computer Organization and Architecture (CAC-102)**  
 Semester No: I  
CBCS

Duration: 2 Hrs

Maximum Marks: 60

Instructions:

- i) All questions are compulsory.
- ii) Figures to the right indicate full marks.

Q 1 A) Complete the statements by using appropriate word(s)

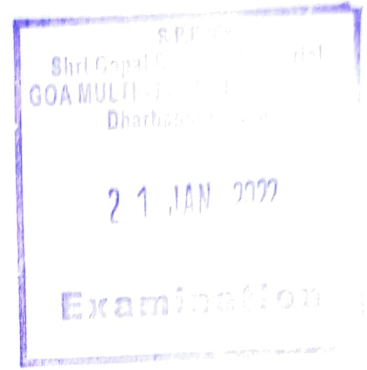
(5x1=05)

1. \_\_\_\_\_ are the functional, or atomic, operations of a processor.
2. \_\_\_\_\_ provides storage internal to the CPU
3. \_\_\_\_\_ contains the address of the next instruction-pair to be fetched from memory.
4. The collection of 8 bits is called as \_\_\_\_\_.
5. \_\_\_\_\_ is widely used for peripheral connections.

(5x1=05)

B) Choose the correct alternative from those given below.

1. What characteristic of RAM memory makes it not suitable for permanent storage?
  - i) Slow
  - ii) Unreliable
  - iii) Volatile
  - iv) Non-volatile
2. Cache memory acts between \_\_\_\_\_
  - i) CPU and ROM
  - ii) RAM and ROM
  - iii) CPU and Hard Disk
  - iv) CPU and RAM
3. Cycle stealing is related to \_\_\_\_\_
  - i) Interrupt initiated I/O mode
  - ii) DMA transfer
  - iii) Programmed I/O
  - iv) None of the above



4. The 2's complement of 10010100 is
- 01101100
  - 01110000
  - 01101011
  - 01101100
5. RAID stands for
- Reliable Array of Independent Disks
  - Redundant Array of Independent Disks
  - Redundant Allocation of Independent Disks
  - Redundant Allocation of Important Disks
- Q.2. A) Mention the basic functions of a computer. (02)
- B) Mention any three microinstructions involved in Fetch Cycle. (03)
- C) Perform the following conversions (05)
- Convert  $(144)_{10}$  decimal to binary.
  - Convert  $(111001)_2$  binary to decimal.
- Q.3. A) State and briefly explain any two classes of interrupts. (02)
- B) Explain the following types of addressing modes with the help of an example (03)
- Direct
  - Indirect
- C) Differentiate between SRAM and DRAM. (05)
- Q.4. A) Write a short note on input devices (02)
- B) Write a note on Bus Interface Unit in 8086 microprocessor. (03)
- C) Explain the concept of Direct Memory access. (05)
- Q.5. A) Write a note on Accumulator register (02)
- B) Differentiate between programmed I/O and interrupt driven I/O (03)
- C) Explain RAID levels in detail. (05)
- Q.6. A) Write a note on cache memory (02)
- B) Differentiate between Physical and Virtual Address Space (03)
- C) Explain the components of Control Unit diagram. (05)
-

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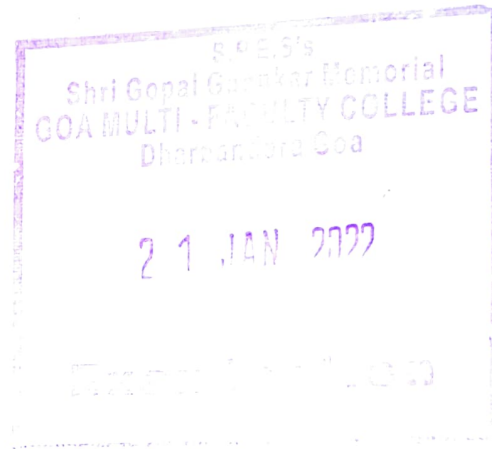
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7. Upload Answersheets here: \*

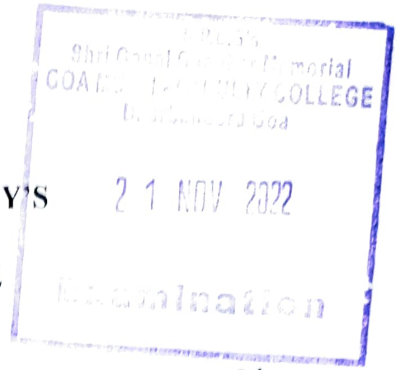
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Dharbandora-Goa



Roll No: \_\_\_\_\_

Total No. of Questions: 06

Total No. of pages: 04

B.C.A Semester End Examination  
Business Accounting  
Semester I

Duration: 02 Hrs.

Maximum Marks: 60 Marks

- Instructions:**
- 1) All Questions are Compulsory.
  - 2) Figures to the right indicate maximum marks allotted.
  - 3) Provide sufficient margin space in the answer-book for recording marks.
  - 4) Enter the appropriate main & sub-question numbers in the answer-book.

Q1. A. Fill in the blank with an appropriate answer from the given option. (5 Marks)

1. The prime factor of accounting is to \_\_\_\_\_
  - a) Record economic data.
  - b) Classifying and recording business transactions.
  - c) Attain non-economic goals.
  - d) Provide the informational basic for action.
2. Accounting principles are generally based on \_\_\_\_\_
  - a) Convenience in recording.
  - b) Subjectivity.
  - c) Practicability.
  - d) Convenience and Subjectivity.
3. The amount brought in by the proprietor in the business should be credited to \_\_\_\_\_
  - a) Cash Account
  - b) Drawing Account
  - c) Capital Account
  - d) Expenses Account
4. Sales are equal to \_\_\_\_\_
  - a) Cost of goods sold + Profit.
  - b) Cost of goods sold – Gross Profit
  - c) Gross profit – Cost of goods sold.
  - d) Only Profit
5. Profit and loss on Depreciation Fund Investment account is transferred to the \_\_\_\_\_
  - a) Assets Account
  - b) Profit and Loss Account
  - c) Depreciation Fund Account
  - d) Depreciation Fund Investment Account.

Q1.B. Answer the following Question:

- a) Accounting as a financial information.
- b) Types of subsidiary account.
- c) Annuity method of Depreciation.
- d) Balance Sheet.
- e) Kinds of shares.

(5 Marks)



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Q2.A. Kishan Ltd. issued 15,000 shares of Rs. 100 each at a premium of Rs. 10 per share. payable as follows: (10 Marks)

- On application Rs. 30
- On allotment Rs. 50 (including premium)
- On first and final call Rs. 30

All the shares subscribed and the company received all the money due. With the exception of the allotment and the call money on 150 shares. These shares were forfeited and reissued to Neha as fully paid of Rs. 90 per share.

Give journal entries in the books of the company.

OR

Q2.X. Arushi Computers Ltd. issued 10,000 equity shares of Rs. 100 each at 10% discount. The net amount payable as follows: (10 Marks)

- On application Rs. 20
- On allotment Rs. 30 (Rs. 40 – Discount Rs. 10)
- On first call Rs. 30
- On final call Rs. 10

A shareholder holding 200 shares did not pay final call. And his shares were forfeited. Out of these 150 shares were reissued to Ms. Sonia at Rs. 75 per shares.

Give journal entries in the books of the company.

Q3.A. The following is the Trial Balance of M/s Ray Trader as at 31<sup>st</sup> March, 2021. You are required to prepare final account under Companies Act, 2013. (10 Marks)

Particular	Dr. (Rs.)	Cr. (Rs.)	Particular	Dr. (Rs.)	Cr. (Rs.)
Share Capital		2,16,000	Income from investment		500
Stock on 1 <sup>st</sup> April, 2020	93,600		Cash at bank	23,000	
Sales and Sales Return	17,200	5,79,200	Discount received		8,560
Purchases and Purchases Return	4,86,200	11,600	Investment	10,000	
Carriage Inward	37,200		Furniture and fittings	13,600	
Rent and Taxes	11,400		Discount allowed	5,080	
Salaries and Wages	18,600		General Expenses	7,820	
Sundry Debtors	48,000		Audit fees	1,400	
Sundry Creditors		29,600	Insurance	1,200	
Bank Loan		40,000	Travelling expenses	4,660	
Bank Interest on Bank Loan	3,800		Postage and telegram	1,740	
Printing and Stationary	40,200		Cash in hand	20,760	
			Fixed deposits with SBI	40,000	
				<b>8,85,460</b>	<b>8,85,460</b>

Additional information:

- 1) Closing stock as on 31<sup>st</sup> March, 2021 was valued at Rs. 20,000
- 2) Depreciate furniture and fitting at 10% p.a.

OR

Q3.X. the following is the Trial balance of Tendulkar Tyres Ltd. as on 31. 03.2018. (10 Marks)

Particular	Dr. (Rs.)	Cr. (Rs.)	Particular	Dr. (Rs.)	Cr. (Rs.)
Stock on 1.4.2017	45,000		Building	35,000	

Sales		3,25,000	Discount Received		2,300
Purchases	2,40,000		Bank	50,000	
Share Capital		1,30,000	Provision for doubtful debts		1,500
Wages	10,000		Debtors	45,000	
Salaries	15,000		Bills Receivable	10,000	
Discount Allowed	3,000		Cash	8,000	
Creditors		35,000	Sales return	2,000	
Rent and Rates	2,000		Purchases Return		4,200
Trade Expenses	15,000		Furniture	18,000	
				4,98,000	4,98,000

Prepare final account under the companies act 2013 after taking into consideration of the following adjustment:

- 1) Stock on 31.3.2018 Rs. 40,000.
- 2) Salaries outstanding Rs. 2,000 and wages prepaid Rs. 1,000.

Q4.A. Pass necessary journal entries in the books of P Basak Ltd. for the month of January, 2022.

1 <sup>st</sup> Jan.	Started business with Rs. 2,00,000 in the bank and Rs. 40,000 cash.	<b>(10 Marks)</b>
5 <sup>th</sup> Jan	Bought shop fitting Rs. 40,000 and a van Rs. 60,000 both paid by cheque.	
6 <sup>th</sup> Jan	Paid Rent by cash Rs. 5,000	
10 <sup>th</sup> Jan	Cash Sales Rs.1,00,000	
22 <sup>nd</sup> Jan	Paid wages of assistant in cheque Rs. 10,000	

**OR**

Q4.X. Pass necessary journal entries in the books of PK Ltd. for the month of February, 2022.

10 <sup>th</sup> Feb	Started business with Rs. 2,00,000 in the bank and Rs. 40,000 cash.	<b>(10 Marks)</b>
15 <sup>th</sup> Feb	Bought stationary, paid in cash Rs. 200	
16 <sup>th</sup> Feb	Paid Rs. 20,000 into the bank	
20 <sup>th</sup> Feb	Paid insurance by cheque Rs. 3,000	
22 <sup>nd</sup> Feb	Purchased furniture Rs. 4,000	

Q5.A. Y and Z Ltd. acquires a 5 years lease for Rs. 4,000. It is decided to provide for the renewal of the lease immediately after 5 years by setting up a depreciation fund. It is expected that investment will fetch interest at the rate of 5% p.a. Sinking Fund tables show that Rs. 0.180975 invested each year will produce Rs. 1 at the end of 5 years at 5% p.a.

At the expiry of the lease, the depreciation fund investment is sold for Rs.3,120.

Prepare Depreciation Fund Account and Depreciation Fund Investment Account. **(10 Marks)**

Q5.X. A company purchased a second-hand machine on 1<sup>st</sup> January, 2014 for Rs. 40,000. On 1<sup>st</sup> July 2015 it purchased another machine for Rs. 10,000 and on 1<sup>st</sup> July, 2016 it sold off the first machine for Rs. 28,000 and bought another for Rs. 25,000. On 1<sup>st</sup> July 2017, the second machine was also sold off for Rs. 3,000. Depreciation was provided on machinery at the rate of 10% on written down value method.

Give machinery account for four years commencing from the acquisition of the first machine.

**(10 Marks)**

Q6.A. From the Journal Entries, show the respective ledger accounts in the books of Mr. Mohit.

**(10 Marks)**

Date	Particular		L.F.	Dr. Amount	Cr. Amount
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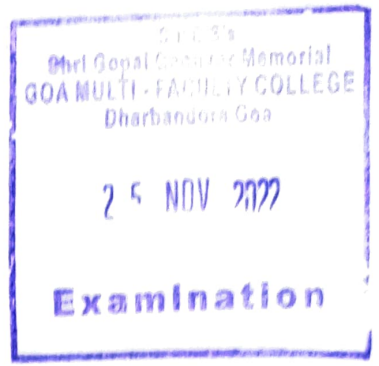
1/6/2022	Cash A/c	Dr.		50,000	
	Land A/c	Dr.		10,000	
	To Capital A/c				60,000
	(Being owner started business by assets)				
4/6/2022	Purchases A/c	Dr.		30,000	
	To Bilal and Co. A/c				20,000
	To Cash A/c				10,000
	(Being purchased by cash and by credit)				
5/6/2022	Cash A/c	Dr.		10,000	
	To Sales A/c				10,000
	(Being goods sold)				
10/6/2022	Bilal and Co A/c	Dr.		20,000	
	To Cash A/c				18,000
	To Discount A/c				2,000
	(Being payment to Bilal and Co)				
15/6/2022	Cash A/c	Dr.		6,000	
	Discount A/c	Dr.		500	
	To Rehman and Sons A/c				6,500
				1,26,500	1,26,500

**OR**

Q6.X. From the Journal Entries, show the respective ledger accounts in the books of Mr. Rajesh.

**(10 Marks)**

Date	Particular		L.F.	Dr. Amount	Cr. Amount
1/8/2022	Office Supplies A/c	Dr.		30,000	
	To Aditya A/c				30,000
	(Being supplies purchase on credit)				
4/8/2022	Cash A/c	Dr.		50,000	
	To Bank Loan A/c				50,000
	(Being Bank Loan obtained)				
8/8/2022	Utility Bills A/c	Dr.		4,000	
	To Cash A/c				4,000
	(Being Utility bill paid)				
10/8/2022	Drawing A/c	Dr.		5,000	
	To Cash A/c				5,000
	(Being withdraw of cash by owner)				
15/8/2022	Aditya A/c	Dr.		30,000	
	To Cash A/c				30,000
	(Being cash paid)				
				1,19,000	1,19,000



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Roll No:  
Total No. of Questions: 03

Total No. of pages: 02

**B.C.A Semester End Examination**  
**ENVIRONMENTAL STUDIES**  
**Semester I**  
**CBCS**

Duration: 01 Hrs.

Maximum Marks: 30

Instructions:

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

Q.1.A. Answer any **Five** of the following.

(5x1=5)

- a. Name the other term for desert plants.
- b. Write any two factors that affects water resources.
- c. Define the term Environment.
- d. Expand the Acronym MoEF and BNHS.
- e. Name any two National Parks of India.
- f. List any two ways to conserve Natural Resources.
- g. Define Biodiversity.

Q.1.B. Answer any **Five** of the following.

(5x1=5)

- i. State any methods of controlling floods.
- ii. List out types of Aquatic ecosystem.
- iii. Give at least two examples of endangered species of mammals.
- iv. Define food chain with suitable example.
- v. Mention any two problems caused by dams.
- vi. State any two indirect use of forest.
- vii. What is Ex-situ conservation? Give example

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Q.2.A. Elaborate on various causes of land degradation. (05)

B. What are the threats to Biodiversity. (05)

OR

Q.2. C. Mention the equitable use of resources for sustainable lifestyle. (05)

D. Explain water cycle with the help of diagram. (05)

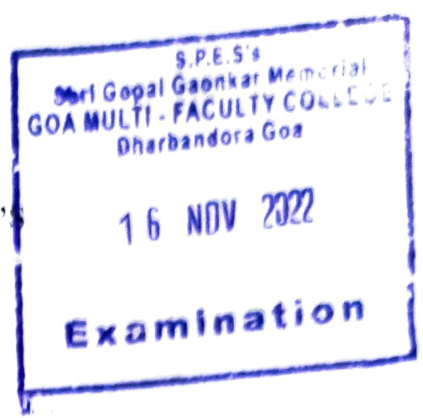
Q.3.A. Why it is necessary to create awareness. (05)

B. Mention the types of Biodiversity and add a note on Biogeographic Zones of India. (05)

OR

Q.3.C. what are the threats to the forest ecosystem? Mention the methods of conservation. (05)

D. Write a short note on In-situ conservation of forest with reference to field visit. (05)



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Roll No:

Total No. of Questions: 06

Total No. of pages: 02

**B.C.A. Semester End Examination**

**Problem Solving and Programming Concepts (CC-101)**

**Semester No: I**

**CBCS**

Duration: 2 Hrs.

Maximum Marks: 60

**Instructions:**

1. All questions are compulsory.
2. Figures to the right indicate full marks.

Q.1.A) Complete the statements by using appropriate word(s) (5x1=05)

1) The format specification used to print a character is \_\_\_\_\_.

- a) %d
- b) %s
- c) %f
- d) %c

2) The function used to count the number of characters present in a string is \_\_\_\_\_.

- a) strepy()
- b) strlen()
- c) strcount()
- d) strcmp()

3) The correct way to declare and initialize a 2-D array with 4 columns is \_\_\_\_\_.

- a) `int a[][]={{1,2,3,4},{5,6,7,8}};`
- b) `int a[][]={1,2,3,4,5,6,7,8};`
- c) `int a[][4]={{ 1,2,3,4},{5,6,7,8}};`
- d) `int a[2][]={ 1,2,3,4,5,6,7,8};`

4) The function used to read a line of string is \_\_\_\_\_.

- a) gets()
- b) puts()
- c) read()
- d) write()

5) Which of the following is allowed in a C Arithmetic instruction

- a) []
- b) {}
- c) ()
- d) None of the above



(5x1=05)

B) Answer the following:

1) Write the C equivalent to the Arithmetic expression:  $x = m^2 + 4mn + n^2$

2) Write the names of the following C operators.

- i) !
- ii) ||

3) Define the term constant in C.

4) A 2-D array defined as float array[4][2] will have \_\_\_\_\_ number of elements.

5) Give any one benefit of documentation.

Q.2.A) Write a note on Semantic error. (02)

B) Write a note on first generation of computer language. (03)

C) Explain the steps involved in computer problem solving (05)

Q.3 A) Give any two benefits of using functions in C. (02)

B) Explain the working of for loop using appropriate example. (03)

C) Write an algorithm to generate Fibonacci series. (05)

Q.4.A) State rules for constructing integer constant in C. (02)

B) Draw a flowchart to print the cubes of 1 to 20 numbers. (03)

C) What is an array? Show how array can be defined, initialized, input and output. Give suitable example. (05)

Q.5. A) Write an algorithm to check whether entered number is even or odd. (02)

B) Draw a flowchart to check whether the entered number is positive or negative. (03)

C) What is recursive function? Explain with suitable example. (05)

Q.6. A) Compare entry loops and exit loops using appropriate example. (02)

B) State the usage of : a) printf( )      b) scanf( )      c) puts( ) (03)

C) Explain the usage of following storage classes (05)

1) static

2) extern

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Roll No:

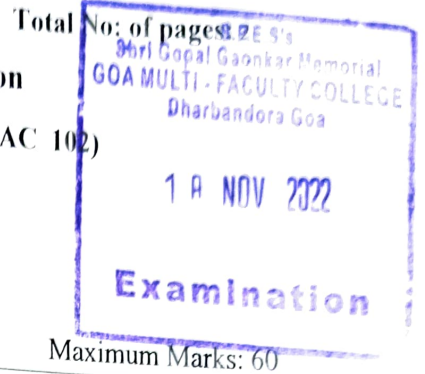
Total No. of Questions: 06

B.C.A. Semester End Examination  
Computer Organization and Architecture CAC 102)

Semester No: 1

CBCS

Duration: 2 Hrs.



Instructions: i) All questions are compulsory  
ii) Figures to the right indicate full marks.

Q1 A) Fill in the blanks.

1. In \_\_\_\_\_ addressing operand is (implicitly) on top of stack. (5 X 1=5)

2. In \_\_\_\_\_ interfaces there are multiple lines connecting to the I/O module and the peripheral.

3. \_\_\_\_\_ reads instructions from memory, does interpretation and changes in a series of signals to activate other parts of the computer.

4. \_\_\_\_\_ is the program that controls the execution of application program and acts as an interface between user of the computer and the computer hardware.

5. \_\_\_\_\_ contains the 8-bit opcode instruction being executed.

B) Expand the Acronym:

(5 X 1=5)

1. MBR
2. CPU
3. ALU
4. PC
5. RAID

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Q2 Answer the following: (02)

A) Explain the term 'Micro-operations'. (03)

B) Mention the conditions that can halt the program execution. (05)

C) Neatly draw the Instruction Cycle State Diagram without Interrupts. (05)

Mention the Labels appropriately

Q3 Answer the following: (02)

A) Mention ANY TWO advantages of a Hard Drive (03)

B.) Briefly explain the working of cache read operation (05)

B) Explain the advantages of Infini-band switch

Q4 Answer the following: (02)

A) Mention the objectives of Operating system (03)

B) Briefly explain problems associated with input/output operations. (05)

C) Explain the Fetch Cycle of instruction cycle.

Q5 Answer the following: (02)

A). Explain ANY TWO functions of CPU. (03)

B). Briefly explain elements of machine instruction. (05)

C). Briefly explain following RAID levels. (05)

1.RAID 0

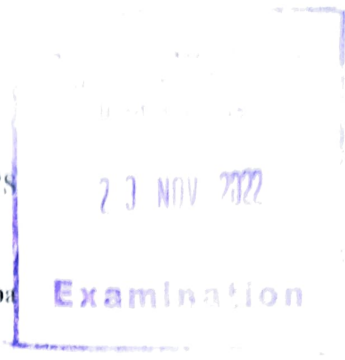
2.RAID 1

Q6 Answer the following: (02)

A) Explain ANY TWO I/O module functions. (03)

B) Briefly explain Register Addressing. (05)

C) Explain Direct mapping in Cache Memory. (05)



Roll No:

Total No. of Questions: 6

Total No. of pages: 3

**B.C.A. Semester End Examination**

Basic Mathematics (CC-103)

Semester I

CBCS

Duration: 2 hours

Max. Marks: 60

- Instructions:
- i. Attempt all the questions. Internal choice has been provided for Q1-Q4
  - ii. Figures to the right indicate full marks.
  - iii. Use of calculators is NOT allowed.

Q.1. A. Answer the following:

(5x1=05)

- 1. If the roots of a quadratic equation are real and distinct, the value of the discriminant is \_\_\_\_\_.
- 2. If  $f(x) = 2x - 5$ , then  $f(f(x)) =$  \_\_\_\_\_.
- 3. The value of  $(2 + 6i)(-3 - 2i)$  is \_\_\_\_\_.
- 4. The equation of the circle with radius 5 and center at the origin is \_\_\_\_\_.
- 5. The general equation of a line is given as \_\_\_\_\_.

B. Answer the following:

(5x1=05)

- 1. The distance between (6,8) and (9,12) is \_\_\_\_\_.
- 2. 13<sup>th</sup> term of the arithmetic progression 2,4,6,8, .... is \_\_\_\_\_.
- 3. Slope point form of a line is given as \_\_\_\_\_.
- 4.  $\begin{vmatrix} -12 & 13 \\ -15 & 11 \end{vmatrix} =$  \_\_\_\_\_.
- 5. HCF and LCM of 1440 and 240 is \_\_\_\_\_.



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**Q.2. Answer the following:**

A. Find the equation of the straight line passing through the points (1,5) and (4,1). (02)

B. Find the coordinates of the centre of the circle whose endpoints of diameter are (1, 3) and (4,0). (03)

C. Find  $A^{-1}$ , if  $A = \begin{bmatrix} 1 & 6 & 3 \\ 0 & 3 & 9 \\ 5 & 1 & -2 \end{bmatrix}$  (05)

**Q.3. Answer the following:**

A. Evaluate  $\frac{2 \log 3 + \log 9}{2 \log 9}$  (02)

B. If two cubes of edge 5 cm each are joined end to end, find the surface area of the resulting cuboid. (03)

C. If  $A = \begin{bmatrix} 1 & 2 & 2 \\ 2 & 1 & 2 \\ 2 & 2 & 1 \end{bmatrix}$ , Find the value of  $A^2 - 4A$  (05)

**Q.4. Answer the following:**

A. Evaluate  $\frac{(\log 15 + \log 5)}{(\log 90 - \log 2)}$  (02)

B. Calculate the coordinates of the point P which divides the line segment joining A(-3, 3) and B(2, -7) internally in the ratio 2 : 3 (03)

C. Check whether the points A(2,0), B(3,5) and C(1,-3) are collinear. (05)

**Q.5. Answer the following:**

A. Find the volume of a cylinder of height 7 cm, and radius 3 cm. (02)

B. In what ratio does the point P(2, -4) divide the line segment joining the points

A(-3, 4) and B(4, -9)? (03)

C. If  $P = \begin{bmatrix} 1 & -3 & 8 \\ 2 & 7 & 7 \\ 3 & 6 & 10 \end{bmatrix}$ ,  $Q = \begin{bmatrix} 3 & -3 & 1 \\ 6 & 0 & 1 \\ 3 & 5 & 7 \end{bmatrix}$ ,

Verify whether  $|PQ| = |P||Q|$  (05)

**Q.6. Answer the following:**

A. Evaluate  $\frac{(2x+3i)}{(2x-3i)}$  **(02)**

B. Evaluate  $\frac{\left(\frac{1}{9}\right)^2 \times (125)^{\frac{2}{3}} \times 3^5}{5^2}$  **(03)**

C. Find the values of x, y and z if  $\begin{bmatrix} x-y & 1 \\ 2 & 2x+5y \\ x-z & y+z \end{bmatrix} = \begin{bmatrix} 5 & 1 \\ 2 & 24 \\ 4 & 5 \end{bmatrix}$  **(05)**

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