

Goa Vidyaprasarak Mandal 's
GOPAL GOVIND POY RAITURCAR COLLEGE OF COMMERCE AND
ECONOMICS, PONDA -GOA

B.COM. (SEMESTER –I) SUPPLEMENTARY EXAMINATION
(New Course), MAY/JUNE 2014

FOUNDATION COURSE ACCOUNTING [COMMERCE PAPER – I]

Duration: 2 Hours

Marks: 80

- Instructions: a) Q.No. 1 is compulsory
b) Answer any three question from Q.No. 2 to Q.No. 6
c) Figures to the right indicate marks.

Q.No.1) On 1st January 2010, M/s Raja Ltd. purchased from M/s. Dola & Co. five air coolers under Hire Purchase system.

The cash price of each was ₹ 20000.

₹ 25000 being paid on delivery and the balance in three installments of ₹ 30000 each at the end of each year.

M/s Dola & Co. charges 10 % interest p.a. on the yearly balances.

The buyer depreciates television sets @ 20% p.a. on W.D.V method

Prepare in the books of hire purchaser :

- A) Assets a/c
- B) Hire – vendor's a/c
- C) Interest a/c
- D) Depreciation a/c

Marks: 20

Q.No. 2) Bicholim Ltd. owned a patent from Vaidya Mining Co. for the purpose of manufacturing and selling safety locks. Following were the terms and conditions of lease:

- i) The lessee has a right to recoup each years short workings within a period of next two years.
- ii) The minimum rent fixed at ₹ 50000 p.a.
- iii) Royalty of Rs.5 per item sold.

Following was the sale for the respective years;

Year	output
2009	8000
2010	9000
2011	11000
2012	18000

Prepare in the books of Bicholim Ltd.:

- Analytical Table
- Royalty a/c
- Shortworkings a/c
- Landlords a/c

Marks: 20

- Q. No.3) Proctor Company offered for public subscription 20,000 shares of ₹ 10 each at ₹ 11 per share. Money was payable as follows :
- ₹ 3 on application
 - ₹ 4 on allotment (including premium)
 - ₹ 4 on first and final call.

Applications were received for 22,000 shares and the directors made pro-rata allotment.

Mr. Rohan, an applicant for 120 shares, could not pay the allotment and call money. Mr. Rajan, a holder of 200 shares, failed to pay the call money. All these shares were later forfeited.

Out of the forfeited shares, 150 shares (the whole of Rohan's shares included) were issued to Rama at ₹ 9 per share.

Pass the journal entries for recording the above transactions and prepare the Balance Sheet.

Marks: 20

- Q.No. 4) The Balance sheet of Amig Ltd. as at 31 December 2012 was as follows :

Liabilities	₹	Assets	₹
Share Capital		Fixed Assets	
1000 Redeemable Pref. Shares ₹ 100 each fully paid	1,00,000	Land & Buildings	2,00,000
18000 Equity shares of ₹10 Each fully paid	180,000	Plant	60,000
Reserves & Surplus		Furniture	4,000
Securities Premium	20,000	Current Assets	
General Reserve	40,000	Stocks	60,000
P/L A/C	50,000	Debtors	30,000
Current Liabilities	60,000	Investment	56,000
		Bank	40,000
	4,50,000		4,50,000

The Company decided to redeem its preference shares at a premium of 5% on 31 Jan 2013. A fresh issue of 2000 equity shares of ₹ 10 each was made at ₹ 12 per share payable in full on 31 Jan 2013. These were fully subscribed and all the money was duly collected. All the investments were sold realising ₹ 54,000. The directors wish that only a minimum reduction should be made in the revenue reserves. Give the journal entries and draw the Balance Sheet. Marks: 20

Q.No. 5.A) Aarti Ltd. issued shares of ₹10 each at 10% premium payable as follows:

	₹
On application	2
On allotment	3 (including premium)
On first call	2
On final call	4

Prita who was holding 50 shares did not pay his allotment and first call and his shares were forfeited. Sara who was holding 30 shares, did not pay first call and his shares were also forfeited. Journalise transactions relating to only the forfeiture of shares. Marks : 5

Q.No. 5.B) Write a note on Bonus Shares.

Marks : 5

Q.No.5.C) Toyota manufacturing co. purchased machinery from Real Agency on 1st January 2008 on Installment system by paying ₹ 20000 on delivery and the balance in three installments of ₹ 20000 each payable at the end of each year including interest at 5% p.a.

The cash price of the machine was ₹ 74500.

The company charged depreciation @ 10% p.a. on Straight Line Method.

Prepare in the books of buyer:

- Machinery a/c
- Goa Agency a/c

Marks: 10

Q.No. 6) Write short notes on:

- Recoupment of shortworkings.
- Buy back of shares.
- Installment system of accounting.
- Conditions for redemption of preference shares.

Marks: 20

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GVM's
**GOPAL GOVIND POY RAITURCAR COLLEGE OF COMMERCE &
 ECONOMICS, PONDA – GOA**

**B.COM. (SEMESTER-I) SUPPLEMENTARY EXAMINATION
 (New syllabus), MAY/JUNE 2014
 COST ACCOUNTING**

Duration : 2 hours

Marks: 80

- Instructions:** 1) Question No.1 is compulsory.
 2) Answer any THREE questions from Q.II to Q.VI
 3) Figures to the right indicate full marks.

Q.1) From the following information prepare stores ledger under FIFO and LIFO method.

Jan 2	Purchased 4000 units @ ₹ 4.00 per unit.	
Jan 20	Purchased 500 units @ ₹ 5.00 per unit.	
Feb 5	Issued 2000 units.	
Feb 10	Purchased 6000 units @ ₹ 6.00 per unit	
Feb 12	Issued 4000 units	
March 2	Issued 1000 units	
March 5	Issued 2000 units	
March 15	Purchased 4500 units @ ₹ 5.50 per unit.	
March 20	Issued 3000 units	(20)

Q.2. (A) From the following information calculate :

- | | |
|-------------------------|-------------------------|
| (a) Maximum Stock level | (b) Minimum Stock level |
| (c) Re order level | (d) Average Stock level |

Reordering quantity 1500 units.

Normal usage 1500 units per week

Minimum usage 750 units per week

Maximum usage 2250 units per week.

Reorder period 2 to 3 weeks. (10)

(B) From the following data calculate Material turnover ratio of Material A & B.

Opening stock of Material A – ₹ 7000	Material B – ₹ 2000
Material purchased A – ₹ 115000	Material B – ₹ 110000
Closing stock of materials A – ₹ 2000	Material B – ₹ 12000 (10)

Q3. (A) The following details are available in respect of a consignment of 1250 kgs of material X:

- Invoice price – ₹ 20 per kg.
- Excise Duty – 25% on invoice price.
- Sales Tax – 8 % on invoice price including Excise duty.
- Trade Discount – 10% on invoice price.
- Insurance – 1% of aggregate net price.
- Delivery Charges – ₹ 250.
- Cost of containers @ ₹ 60 per container for 50 kgs. of material. Rebate is allowed @ ₹40 per container if returned within six weeks.
- One container load of materials was rejected on inspection and not accepted.
- Cost of unloading and handling @ 0.25% on the cost of materials ultimately accepted.

On the basis of the above, you are required to find out the landed cost of per kg of material 'X', however the containers were returned back on time. (15)

(B) From the following particulars, calculate the Economic Order Quantity

Annual requirement: 1600 units

Cost of material per unit: ₹ 40

Cost of placing and receiving one order: ₹ 50

Annual carrying cost of inventory: 10% of inventory value.

(5)

Q4) Rahul manufacturing company submits to you the following details about the various expenses incurred by it during the year 31st December 2013.

Particulars	Amount (₹)
Raw materials	33000
Productive wage	35000
Unproductive wages	10500
Factory rent and taxes	7500
Factory lighting	2200
Factory heating	1500
Motor power	4400
Haulage	3000
Directors fees (work)	1000
Directors fees (office)	2000
Factory Cleaning	500
Sundry Office expenses	200
Factory Stationary	750
Office stationary	900
Loose tools written off	600

Rent and taxes	500
Water supply	1200
Factory insurance	1100
Office insurance	500
Legal expenses	400
Direct expenses	3000
Rent of warehouse	300
Depreciation of Plant and machinery	2000
Depreciation of office buildings	1000
Depreciation of Delivery vans	200
Bad debts	100
Advertising	300
Sales department Salaries	1500
Upkeep of delivery	700
Bank charges	50
Commission of Sales	1500

Classify the above expenses under the various heads of cost, showing separately the total expenditure under each head. Also show separately those expenses which shall not be included in calculating the cost. (20)

Q5.(A) Enter the following transactions adopting the WEIGHTED AVERAGE method of pricing out issues.

January 2014

- 1st Opening balance – 50 units @ ₹ 3 per unit.
5th Issued out 2 units to production.
7th Purchased 48 units @ ₹ 4 per unit.
9th Issued out 20 units to production.
19th Purchased 76 units @ ₹ 3 per unit.
24th Received back into stores 19 units out of 20 units issued on 19th January.
27th Issued out 10 units to production. (10)

(B) What is cost Accountancy? Explain the advantages and disadvantages of cost accountancy system. (10)

Q6) Write short notes on **any four** of the following : (4 x 5 = 20)

- (a) Costing as an aid to management.
(b) Bin Cards. (d) Installation of costing systems
(c) ABC analysis (e) classification and codification.

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Goa Vidyaprasarak Mandal 's
GOPAL GOVIND POY RAITURCAR COLLEGE OF COMMERCE
AND ECONOMICS, PONDA -GOA

B. COM.(SEMESTER-I) EXAMINATION (NEW SYLLABUS),
MAY/JUNE 2014

ENVIRONMENTAL STUDIES

Duration: 90 minutes

Marks: 40

INSTRUCTIONS TO THE CANDIDATES

1. All questions are compulsory.

2. Figures to the right indicate marks.

- Q. 1 (a) What is importance of Environmental Study? (4)
(b) *Environmental Study is multi-disciplinary in nature*
--- Comment. (4)

OR

- Q. 1 (x) What are uses of forests? (4)
(y) What are ways to conserve water? (4)

- Q. 2 (a) What are solar energy devices? (4)
(b) What are uses of dams? (4)

OR

- Q. 2 (x) What are uses of land? (4)
(y) Outline the advantages and disadvantages of mining
in Goa. (4)

- Q. 3 Write short notes, Any Two: - (2x4=8)

- (i) World food problems;
(ii) Role of an individual in conservation of natural resources;
(iii) Ecological succession;
(iv) Producers, consumers & decomposers.

- Q. 4 (a) What is food chain? (4)
(b) What is energy flow in the Ecosystem? (4)

contd...2/-

OR

(x) Outline the biogeographical classification of India. (4)

(y) What are values of biodiversity? (4)

Q. 5 (a) Why India is called a mega-biodiversity Nation? (4)

(b) What are threats to biodiversity? (4)

OR

(x) What are endangered and endemic species of India? (4)

(y) What are ways to conserve biodiversity? (4)

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ECONOMICS, PONDA –GOA

B.COM. (SEMESTER-I) SUPPLEMENTARY EXAMINATION
(NEW SYLLABUS), MAY/JUNE 2014
INFORMATION TECHNOLOGY

Duration: 2 hrs.

Marks: 80

Q1. Answer the following (Any 4): (4x4)

- Write a short note on Application of I.T. in automobiles.
- Write a short note on Application of Multimedia in televisions.
- Explain the concept of human-computer interaction.
- State 2 points of difference between Bitmap and vector Drawn image types of multimedia.
- Explain any 4 data types used in I.T.

Q2. Answer the following (Any 4): (4x4)

- State 2 point of Difference Between IDE and SATA.
- Convert the following into decimal format:
 - $(100100)_2$
 - $(01110101)_2$
- Give Full Form For:
 - MPEG
 - EDI
 - SATA
 - GUI
- Explain Business-2-Consumer E-commerce with examples.
- Explain Intellectual Property Rights and Plagiarism.

Q3. A. Explain the concept of Electronic Markets with diagram. (6)

B. Explain the 6 stages of Multimedia Production. (6)

OR

x. What are system programs? Explain. (6)

y. How to identify fake/Phishing Emails. (6)

Q4. A. Explain Types of Software Piracy. (6)

B. What are the Risk Management for Electronic Payment System. (6)

OR

contd...2/-

X. Which are the 2 Low Level Languages. Explain. (6)

Y. Which are the 2 ways of virtualization in operating system. (6)

Q5. a. Explain the relationship between hardware and software. (6)

b. Explain any 2 elements of multimedia. (6)

OR

x. Write a short note on any 1 bank website. (6)

y. Explain symmetrical and asymmetrical compression technique of multimedia. (6)

Q6. a. State any 3 points of difference between windows and unix operating system. (6)

b. Explain optical memory and flash memory. (6)

OR

x. What are the disadvantages of M-commerce over E-commerce. (6)

y. Explain the features of authoring tools. (6)

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**Goa Vidyaprasarak Mandal's
GOPAL GOVIND POY RAITURCAR COLLEGE OF COMMERCE AND
ECONOMICS, PONDA GOA**

**B.COM. (SEMESTER-I)(New course) SUPPLEMENTARY EXAMINATION,
MAY/JUNE 2014
FINANCIAL ACCOUNTING**

Time: 2 hours

Marks: 80

- Instructions :**
- 1) Question No. 1 is compulsory.
 - 2) Answer any three questions from Q.No.2 to Q.No.6.
 - 3) All working notes shall carry marks.

Q.No.1)

(20)

ABC Ltd Purchased a machine at ₹ 4,00,000 on 1/1/2010 and spent ₹ 50,000 on its installation. The scrap is estimated at ₹ 20,000. It was decided to replace the asset at the end of four years by investing in a sinking fund earning an interest at the rate of 5 % p.a. For the purpose an investment was made in shares. As per sinking fund table, an annual investment of ₹ 1,05,000 minimum is required to made. At the end of four years, the shares realized a value of ₹ 4,75,000 and the actual scrap realized ₹ 15,000. You are required to prepare for the four years.

- 1) Machinery A/c
- 2) Depreciation Fund A/c
- 3) Depreciation Fund Investment A/c

Q.No.2)

(20)

Ms. Soniya does not maintain proper books of accounts. From the following information, prepare a Trading and profit and loss A/c for the year ended 31st December 2013 and Balance sheet as on that date.

Assets and liabilities	As on 1.1.2013	As on 31.12.2013
Debtors	4,500	6,250
Stock	2,450	3,300
Furniture	250	375
Creditors	1,500	1,125

Analysis of the other transactions:

Particulars	Amount
Cash collected from debtors	15,200
Cash paid to creditors	11,000
Salaries	3,000
Rent	375
Office expenses	450
Drawings	750
Fresh capital introduced	500
Cash sales	375
Cash purchases	1250
Discount received	175
Discount allowed	75
Returns inward	250
Returns outward	200
Bad debts	50
Cash at the beginning of the year	1250

Q.No.3)

(20)

Rajesh and Jayesh sharing profits in the ratio 5:3 decided to convert their partnership into limited company under the name of Rajay Ltd. The balance sheet as at 31st March 2014 was:

Liabilities	Amt	Assets	Amt
Capital Accounts:		Camera	18,000
Rajesh	22,000	Motor car	8,000
Jayesh	15,000	Copy rights	2,000
General Reserve	6,000	Stock	17,000
Rajesh's Loan	4,000	Bills Receivable	12,000
Bank Overdraft	8,000	Debtors	3,000
S. Creditors	5,000		
	60,000		60,000

Additional Information:

- 1) The assets were revalued as follows : Goodwill ₹ 9,200; Camera ₹ 20,000; and other assets at book value.
- 2) Stock realized ₹ 17,000 and Bank overdraft and creditors were disbursed at book values.

- 3) Rajesh's loan was transferred to his capital account
- 4) Purchase consideration was discharged by issue of 5% Debentures ₹ 4,000; 180 preference shares of ₹ 10 each; 960 equity shares of ₹ 50 each and balance in cash.
- 5) Both classes of shares to be distributed among partners in the profit sharing ratio.

You are required to prepare in the books of Old firm;

- i. Realisation A/c
- ii. Partners capital A/c
- iii. New company's A/c
- iv. Cash/bank A/c

Q.No.4)

(20)

A) M/S Denmark, Pisurlem, Goa maintains an analytical petty cash book which is closed on weekly basis. Their petty cash transactions for the month of January 2014 are given below :

2014

Jan 1 – Paid ₹ 3200 to Mr. Fernandes for purchase of rainwear for staff as per bill no. 623.

Jan 7 – Paid salaries to Mr. Divan for the month of December 2008, ₹ 1600.

Jan 9 – Payment of Telephone bill ₹ 2500 as per bill no. 67898.

Jan13 – Paid ₹ 450 to Mr. Shah for hire of his taxi no. GAOI-P-4546 for official visit to Panjim & Back.

Jan17—Purchase of stationer ₹.1000 from M/S Ideal book Stores as per their bill no.2286.

Jan20—Paid to Dr. Dev as per his bill no. 396 towards medical expenses of the staff ₹ 300

Jan25—Paid to Kamat restaurant ₹ 800 for providing refreshment to staff as per bill no.123.

Jan26—Purchase of files pens and pencils from bill no. 2290, ₹ 600.

Jan28—Paid ₹ 500 to Mr Baban as labour charges for one week as per bill no.K234.

All above transactions are entered on Petty cash book folio no.306.

Prepare Petty cash book and Petty cash vouchers. (No vouchers to be prepared if bills are available)

Q.No.5) (20)

On 1st January 2011, Uma cooperative housing society purchased a lease of premises for ₹ 1,30,000. It was decided to take an insurance policy for the replacement of the lease at the end of three years, annual premium being ₹ 40,000 The insurance policy matures at ₹ 1,32,000 at the end of third year.

You are required to prepare ;

- i. Lease of Premises A/c
- ii. Depreciation Fund A/c
- iii. Depreciation Fund Insurance Policy A/c

Q.No.6) (20)

A) Write short Notes on: (5x3)

- i. Convention of Consistency
- ii. Accounting standard for valuation of fixed assets
- iii. Importance of setting accounting standards.

B) Prepare a voucher based on following Information: (5x1)

On January 2013, Mr. Sandesh Traders from Mulgao, Mapusa Goa purchased goods of ₹ 25,000 on credit from Mr. Jayesh; and of ₹ 10,000 from Mr. Mukesh. The transaction is entered on journal folio no. 234.

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PONDA-GOA

B.COM. (SEMESTER –I) SUPPLEMENTARY EXAMINATION (New syllabus),
MAY/JUNE 2014

GENERAL MANAGEMENT

TIME: 2 HOURS

MARKS: 80

Instructions:

1. All questions are compulsory however internal choice is available.
2. Questions carrying four marks may be answered in about 100 words.
3. Questions carrying 12 marks may be answered in about 400 words.
4. Figures to the right indicate full marks.

Q.1) Answer any FOUR of the following: (4x4 =16)

- a) Functional area of financial Management
- b) Scientific Approach to Management
- c) Behavioural Theory
- d) Logistics Management
- e) Types of Managerial Decisions (Any 4)
- f) Supply Chain Management

Q.2) Answer any FOUR of the following: (4x4 =16)

- a) Definition of Management (Any 2)
- b) American Style of Management
- c) Importance of Decision Making Process
- d) Event Management
- e) Rationality in decision Making
- f) Quantitative Approach to management

Q.3.a) What is meant by the term Management? (12)
Explain its importance to the modern business.

OR

Q.3.b) How does Management differ from Administration? (12)

Q.4.a) Explain the features of European Management practices. (6)

b) What do you understand by Situational Approach to management? (6)

OR

contd...2/-

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Q.4.c) Discuss in brief the contribution of Fayol to management thought. (6)

Q.5.a) Which are the basic steps in the process of Decision Making? (12)

OR

Q.5.b) Explain the role of creativity in Decision Making. (6)

c) Explain the necessary steps in the process of effective Decision Making. (6)

Q.6. a) Bring out the causes of stress and the measures to overcome it. (12)

OR

Q.6. b) What is Disaster Management? Explain its importance and the control mechanism. (12)

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**B.COM. (SEMESTER-I) SUPPLEMENTARY EXAMINATION
(NEW SYLLABUS), MAY/JUNE 2014
MANAGERIAL ECONOMICS**

Duration : 2 hours

Marks: 80

Instructions:

- i) All questions are compulsory however internal choice is available.
- ii) Answer questions from Q.3 to Q.6 each in not more than 400 words.
- iii) Figures to the right indicate marks.

Q.1 Answer **any 4** of the following questions in not more than 100 words:

(4x4 = 16)

- i) Explain the meaning and significance of managerial economics.
- ii) Describe the responsibilities of managerial economist.
- iii) Incremental cost concept.
- iv) Any 4 determinants of demand.
- v) Explain law of supply.
- vi) Explain cross elasticity of demand.

Q.2 Answer **any 4** of the following questions in not more than 100 words:

(4x4 = 16)

- i) Explain the production function .
- ii) Write a note on law of returns to scale.
- iii) Explain role of technology in production process.
- iv) Give 2 internal diseconomies of scale.
- v) Marginal, Average and Total cost.
- vi) What are costs of joint products?

Q.3 a) Explain opportunity cost and discounting principle.

(12)

OR

Q.3 b) Explain the relation of managerial economics with other subjects.(12)

contd...2/-

Q.4 a) Explain the law of demand. Explain change vs variation in demand. (12)

OR

Q.4 b) Explain price, advertising and income elasticity with formulas. (12)

Q.5 a) Explain the law of variable proportions. (12)

OR

Q.5 b) Write a note on external economies of scale. (12)

Q.6 A) Write short notes on any 3 of the following: (12)

a) Total fixed cost, total variable cost curves.

b) determinants of cost function.

c) 3 cost classifications

d) 3 internal economies of scale

OR

Q.6 B) solve the following cost problem and find the TC, AC and MC costs. (12)

Total fixed cost	Total variable cost	Total cost	Average cost	Marginal cost	output
100	0				0
100	30				1
100	60				2
100	90				3
100	120				4
100	150				5
100	180				6
100	210				7

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B.COM. (SEMESTER-I) SUPPLEMENTARY EXAMINATION,
MAY/JUNE 2014
ENGLISH

Time: Two Hours

Marks: 80

-
- Q.No. 1) Do as directed.
- a) Correct the following sentences (4)
- You was right.
 - Mumbai is one of the biggest city in India
 - She has forgot.
 - Everyone shall improve.
- b) Change the Voice (4)
- Close the door.
 - He was employed by MRF.
 - Who has written this essay?
 - I shall call him.
- c) Change into reported speech (2)
- Sagar said, "I do not need any help".
 - I said, "I want some proof here."
- d) Change into direct speech. (2)
- Eliza requested her father not to argue then.
 - Her father asked if that was an order
- e) Use any two of the following expressions in sentences of your own. (2)
- Daggers drawn, once in a blue moon, call it a day,
- f) Remove the negative without hurting the meaning. (2)
- He is not as tall as Sita.
 - I don't accept this.
- g) Punctuate the following paragraph (4)
- agra is near delhi and it is a big city once it was the capital of the mughals do you know that

Q.No.2. A) Read the following passage and answer the questions given below.

Dr. Rajendra Prasad was an Indian nationalist and the first President of the republic of India. He was actively involved in the freedom struggle and was a trusted coworker of Mahatma Gandhi. Dr. Rajendra Prasad hailed from Bihar. He completed his education in Calcutta. He was drawn to the freedom struggle in his college days but he continued his education and after completing his degree in law started practising in Calcutta and Patna. He also served as an important minister in the first Govt. He was also involved in the drafting of our constitution. It was his brother who initiated him in the freedom movement. He had accompanied Gandhiji when Champaran agitation was going on. During the times of devastating floods he served as a volunteer. Dr. Rajendra Prasad had also tried to bridge the gap between Gandhiji and Netaji. Dr. Rajendra Prasad has written several books. He also wrote his autobiography which is an account our freedom struggle. After his retirement he was awarded Bharat Ratna, the highest civilian award.

This great son of India was very simple despite his achievements and positions.

Questions:

- 1) Which place did Dr. Rajendra Prasad come from? (1)
- 2) Who initiated him into freedom Movement? (1)
- 3) Which award was conferred on him after retirement? (1)
- 4) Find out the words from the paragraph which are similar in meaning to the following words.
Patriot, bring together, accomplishments, (3)
- 5) Write three sentences about Dr. Rajendra Prasad. (3)
- 6) Give a suitable title to the paragraph. (1)

Q.2 B) Write a letter to the editor of a local newspaper about the irregular water supply in your area. (10)

OR

B) Write a letter of condolence to a friend who lost his father recently. (10)

Q.3 C) Read the following Paragraph and make a précis of it to one third of its original length and give a suitable title. (10)

This was my third interview in third attempt so I was expecting it and when I got the call for personality interview I started making opinions on certain current issues and discussed with colleagues on my service issues i.e. postal Services. I had the experience of past two interviews

and therefore I knew that there is no use in joining any coaching for topics. In fact ,I even filled up a form of a reputed class but then did not move ahead because of certain reasons I took up two mock interviews which proved futile. However I still feel that aspirants must take up a few mock interviews. On the interview day I dressed up in light cream shirt , greenish grey colour trousers and matching tie. At the reception, I had to wait for long because I was the last candidate to be interviewed. In the hall there were many candidates who were appearing for the first time and were very nervous. I kept on talking to them and helped them to be cool. I was very relaxed at that time.. When I entered the interview room, I found the members and Chairman to be so friendly in looks that I felt comfortable. But my interview was a stressed one because the members kept on asking me questions on different fields randomly and abruptly.

Q.3.D) Draft an advertising copy for a washing machine. (10)

OR

Q.3.D) Draft a classified ad for a company who wants a sales girl in their company and another ad for a second hand car on sale.

Q.4.A) With the help of the following points develop a story (10)

Thirsty crow finds a pot, water is at bottom, throws stones inside, water comes up, drinks.

Q.4. B) Write a composition in 300 words on any one of the following subjects. (10)

- 1) Corruption free India
- 2) Protect our environment
- 3) Our village Jatra or Feast

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Goa Vidyaprasarak Mandal's
GOPAL GOVIND POY RAITURCAR COLLEGE OF COMMERCE AND ECONOMICS
PONDA - GOA
B.COM. (SEMESTER I) SUPPLEMENTARY EXAMINATION (NEW COURSE)
MAY/JUNE 2014

MATHEMATICAL TECHNIQUES

Duration: 2 hours

Marks: 80

INSTRUCTIONS : i) Attempt all questions
ii) Figures to the right indicate full marks.

Q.1. Attempt the following: (5 x 4 = 20)

- a) Construct the truth table for $p \rightarrow \sim (q \wedge r)$.
- b) Find r if ${}^8P_5 + 5 {}^8P_4 = {}^9P_r$.
- c) If the sum of the first 25 terms of an A.P. is 1700 and the first term is 8, find the common difference.
- d) If $A = \begin{bmatrix} 7 & -5 \\ 8 & 3 \end{bmatrix}$ and $B = \begin{bmatrix} -6 & -4 \\ 5 & 1 \end{bmatrix}$ find X such that $3A - 4B + 2X = O$.
- e) A, B and C started a business with a total capital of ₹ 100000. At the end of the year the profits received by A, B and C were ₹ 2000, ₹ 3000 and ₹ 5000 respectively. Find the amount of capital invested by B.

OR

Q.1. Attempt the following: (5 x 4 = 20)

- p) Show that $p \vee \sim (p \wedge q)$ is a tautology.
- q) There are 6 boys and 4 girls. Find the number of ways in which they can be seated in a line so that no two girls are together.
- r) Find the value of n if $3 + 7 + 11 + \dots$ upto n terms = 210
- s) Find x, y, z, a, b and c if $\begin{bmatrix} 1 & 2 \\ 3 & 2 \end{bmatrix} \begin{bmatrix} x & y & 3 \\ 3 & -1 & z \end{bmatrix} = \begin{bmatrix} 7 & 0 & 7 \\ a & b & c \end{bmatrix}$
- t) A, B and C are partners in a firm and their respective capitals are ₹ 45,000, ₹ 60,000 and ₹ 80,000. If the profits at the end of the year amount to ₹ 14,800, find the share of each in the profit.

Q.2. Attempt the following:

(5 x 4 = 20)

a) In a group of 50 people, 35 speak Konkani and 25 speak both Konkani and Marathi and all the people speak at least one of the two languages. How many speak only Marathi and not Konkani? How many speak Marathi?

b) A committee of 4 is to be selected from 5 boys and 6 girls. In how many ways can this be done so that at least one boy is in the committee?

c) Solve $\begin{vmatrix} x & 1 & 1 \\ 1 & x & 1 \\ 1 & 1 & x \end{vmatrix} = 0$.

d) A person pays ₹ 975 in monthly installments such that each installment is less than the previous installment by ₹ 5. If the first installment is ₹ 100, in how many months will the entire amount be paid?

e) 75 men can finish a piece of work in 48 days. How many more men should be engaged to complete the work in 30 days?

OR

Q.II. Attempt the following:

(5 x 4 = 20)

p) If $A = \{2, 4, 7, 9\}$, $B = \{1, 5, 7\}$ and $X = \{x/x \in \text{IN}, x < 10\}$ is the universal set, verify that i) $B' - A' = A - B$
ii) $B - A = B \cap A'$.

q) Find n and x if ${}^{16}C_5 + {}^{16}C_6 + {}^{17}C_7 + {}^{18}C_8 + {}^{19}C_9 = {}^nC_x$.

r) Find x, if $\begin{vmatrix} x & 2 & 1 \\ 3 & 0 & 1 \\ 4 & -5 & 2 \end{vmatrix} = 0$.

s) Find $1 + 5 + 9 + \dots + 37$.

t) If 20 men can build a compound wall in 45 days, how many men will be required to do it in 25 days?

Q.3. Attempt the following:

(5 x 4 = 20)

a) Test the validity of the following argument:

“I am at home or I did not cook. If I did not cook then I am fasting. I cooked. Therefore I am not fasting.”

b) Out of six teachers and five boys, a committee of six is to be formed. In how many ways can it be formed so as to have at most 2 teachers?

- c) If $A = \begin{bmatrix} 4 & 1 \\ 2 & 3 \end{bmatrix}$ and $A + 2B = A^2$, find the value of B.
- d) Find $7 + 77 + 777 + \dots$ to n terms
- e) On a certain rainy day, 28% of the students were present. If number of absentees was 54, find the total number of students in the class.

OR

Q.III. Attempt the following:

(5 x 4 = 20)

- p) Are the statements $\sim (p \leftrightarrow q)$ and $(p \wedge \sim q) \vee (\sim p \wedge q)$ logically equivalent?
- q) Find the value of n if ${}^n C_6 : {}^{n-3} C_3 = 33 : 4$.
- r) If $A = \begin{bmatrix} 0 & 3 \\ 2 & -1 \end{bmatrix}$, $B = \begin{bmatrix} 1 & 0 & 2 \\ 1 & -2 & 1 \end{bmatrix}$, $C = \begin{bmatrix} 1 & -2 & 0 \\ 3 & -1 & 2 \end{bmatrix}$ find $A(B + C)$.
- s) If the fifth term of a G.P. is 81 and its second term is 24, find the sum of the first four terms.
- t) In an examination, a candidate must get 40% marks to pass. A candidate who got 200 marks failed by 40 marks. What are the maximum marks?

Q.4. Attempt the following:

(5 x 4 = 20)

- a) How many permutations can be made with the letters of the word BHARAT? In how many of them are B and H together ?
- b) Solve the equations $2x + y - 19 = 0$ and $x = 6y - 10$ using Cramer's rule.
- c) If $A = \{1, 3, 5, 8, 9, 10, 12, 15\}$, $B = \{2, 3, 4, 6, 8, 9, 10, 11, 13\}$ and $C = \{1, 2, 5, 8, 9, 14\}$ and the universal set $X = \{1, 2, 3, \dots, 15\}$, verify that $A \cup (B \cap C) = (A \cup B) \cap (A \cup C)$.
- d) If the first term of a A.P. is 5 and its fifth term is 17, find the n^{th} term and the sum of the first n terms.
- e) A firm allows 25% trade discount and a further discount for cash payment at 10%. Find the list price of an article with net selling price of ₹270.

OR

Q.IV. Attempt the following:

(5 x 4 = 20)

- p) How many permutations can be made with the letters of the word COLLEGE? How many of them begin with O and end with G?

q) Solve the equations $\frac{4}{x^2} + \frac{9}{y^2} = 4$, $\frac{12}{x^2} - \frac{6}{y^2} = 1$ using Cramer's rule.

r) In a group of 65 people, 40 like cricket and 10 like both tennis and cricket. How many like tennis only? How many like tennis?

s) Find three numbers in A.P. such that their sum is 9 and their product is -165 .

t) A firm allows 20% discount on list price and a further 5% discount for cash payment. What is the net selling price of an article which is marked at ₹240?

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