

SUB - Foundation course - II
2016 - 17

QP Code : 04013

(2½ Hours)

[Total Marks : 75]

- N.B. : (1) All questions are compulsory.
(2) Figures to the right indicate full marks.

1. (a) Choose the correct alternative : (any eight)

8

- (i) Economic liberalization was a bold decision by the Prime Minister _____
(Narsimha Rao, Rajiv Gandhi, Atal Bihari Bajpai)
- (ii) The term _____ refers to freedom to business enterprises from excessive government control.
(Globalization, Liberalization, Disinvestment)
- (iii) Abolition of _____ is provided under Article 17 of the Indian Constitution.
(Caste, Child Labour, Untouchability)
- (iv) Human rights are derived from the principle of _____ law.
(Judicial, Natural, Administrative)
- (v) Acid rain is one of the harmful effect of _____ pollution.
(Air, Water, Soil)
- (vi) _____ Gas protects us from UV rays emitted by sun.
(Ozone, Carbon dioxide, Nitrogen)
- (vii) _____ is a situation in which two or more parties feel themselves in opposition.
(Stress, Conflict, Frustration)
- (viii) _____ refers to behaviour that is intended to cause harm or pain to others.
(Conflict, Prejudice, Aggression)
- (ix) _____ helps to develop the power of concentration.
(Physical exercise, Meditation, Social support)
- (x) Maslow originally identified _____ set of needs.
(Two, Three, Five)

(b) Write True or False (any seven) :—

7

- (1) Migration from rural to urban area is more common in developing countries.
- (2) IT has made communication expensive and complex.
- (3) Human Rights have universal application.
- (4) Under Fundamental Rights enshrined in Indian constitution all minorities-religious or linguistic groups can set up their own educational institutions.
- (5) Natural environment provides renewable sources of energy.
- (6) Environmental degradation does not affect marine life.

[TURN OVER

- (7) Eustress is the term used to describe positive stress.
- (8) Regionalism causes intergroup conflicts.
- (9) All individuals need not have the same set of needs.
- (10) There should be proper time management so as to avoid work overload.

2. What is liberalization ? Discuss the advantages of liberalization.

15

OR

2. What is migration ? Explain the causes of migration.

3. Discuss the concept of human rights and explain the significance of human rights.

15

OR

3. What are Fundamental rights ? Explain the importance of these rights to the citizens of India.

4. Explain the impact of environmental degradation on human life.

15

OR

4. What is stress ? Explain the causes of stress.

5. Explain how the agents of socialization play an important role in shaping the personality of an individual.

15

OR

5. Write short notes on (any three)

- (i) Right to Constitutional remedies
- (ii) Impact of Globalization on Employment
- (iii) Components of sustainable development
- (iv) Causes of aggression
- (v) Maslow's theory of self actualization.

[TURN OVER

(3 Hours)

[Total Marks : 100]

N.B.

Please check whether you have got the right question paper.

- (1) Strictly avoid resorting to any unfair means during the examination.
- (2) **Figures** in brackets to the **right** indicate full marks **allotted** to the question.
- (3) Working notes should form part of your answers.
- (4) **All** six questions are **compulsory**, although, there are internal options in case of questions 2 to 6.
- (5) Use of simple calculator is **allowed**.

1. (a) Fill in the blanks with most appropriate words (any 10) :—

(10)

- (i) Opening balance of Petty Cash is shown on _____ side of Branch Account.
- (ii) Goods Sent to an consignee for sale is called as _____.
- (iii) Good sent on consignment is credited to _____ Account.
- (iv) Goods costing 2,00,000 were sent on consignment at cost plus 25%. Invoice value of the goods will be _____.
- (v) Ownership of the goods sent on consignment remains with the _____.
- (vi) Proforma invoice is prepared by _____.
- (vii) _____ branches do not maintain complete books of accounts.
- (viii) Under Branch Debtors System, depreciation of branch fixed assets is not shown in _____ Account.
- (ix) Branch Account is prepared under _____ method of Branch Accounting.
- (x) In fire insurance, the insured gets compensation proportionate to _____ incurred, in case of sufficient insurance.
- (xi) Slow moving goods are called as _____ goods.
- (xii) Credit purchase can be ascertained from _____ Account.

(b) State whether the following statements are True or False (any 10) :—

(10)

- (i) Single Entry System is suitable to small organization.
- (ii) Credit sales can be ascertained from Debtors Account.
- (iii) Under Single Entry System, closing capital is ascertained by preparing opening statement of affairs.
- (iv) The relationship between consignor and consignee is that of Principal & Agent.
- (v) In case of del-credere commission, bad debt loss is borne by the consignee.
- (vi) Consignment is same as sales.
- (vii) Discount allowed to customers is not recorded in Branch Account.
- (viii) Dependent branch depends on customers for supply of goods and expenses.
- (ix) Under Stock and Debtors system, Branch Stock account is a real account.
- (x) Rate of gross profit need not be consistent for deciding the stock on the date of fire.
- (xi) Average clause has no effect on calculation of claim.
- (xii) In case of overvaluation of stock, it should be brought down to cost.

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2. Following details were extracted from the information given by Mr. Kedarnath for the year ended 31st March 2017 : (15)

(a) **Cash and Bank Account**

Receipt	₹	Payment	₹
To Balance b/d	10,000	By Cash Purchases	47,000
To Cash Sales	120,000	By Creditors	250,000
To Debtors	300,000	By Bills payable	30,000
To Bills Receivables A /c	20,000	By Salaries	50,000
To Interest Received	6,000	By Printing and Stationery	22,000
To Loan received	40,000	By Insurance	15,000
		By Sales Commission	24,000
		By Furniture Purchased	30,000
		By Balance c/d	28,000
	496,000		496,000

(b)

Particulars	Balance on 31-03-16 ₹	Balance on 31-03-17 ₹
Furniture	20,000	50,000
Cash & Bank Balance	10,000	28,000
Stock	30,000	40,000
Debtors	50,000	60,000
Bills Receivables	7,000	8,000
Creditors	20,000	30,000
Bills payable	4,000	12,000

(c) Other details :—

- Provide Depreciation on Furniture at the rate 10% p.a. Furniture was purchased during the year on 1st August 2016.
- Insurance Prepaid was ₹ 1,000/-
- Bills Receivable dishonoured during the year ₹ 400/-

You are required to prepare :

- Trading & Profit & Loss Account for the year ended 31st March, 2017.
- Balance Sheet as on 31st March, 2017.
- Working Notes are necessary to substantiate your answer.

OR

[TURN OVER]

2. Following information is given to you by Mr. Hariharan :

(15)

(a) Opening Statement of Affairs as on 1st April 2016

Liabilities	₹	Assets	₹
Capital	100,000	Laptop	50,000
Creditors	50,000	Closing Stock	30,000
Loan from friends	15,000	Debtors	40,000
		Bills Receivable Account	8,000
		Cash and Bank Balance	37,000
	165,000		165,000

(b) Following Information was available with respect to Cash and Bank Transactions :

Particulars	₹
1 Received from Debtors	1,10,000
2 Paid to Creditors	60,000
3 Cash Purchases	15,000
4 Cash Sales	20,000
5 Salaries	18,000
6 Office Expenses	20,000
7 Commission Received	4,000
8 New Laptop Purchased	50,000
9 Bills Receivable Matured and Received	15,000
10 Bills Payable Paid	5,000

(c) Following additional Information was also made available to you :

(i) Credit Purchase	70,000
(ii) Credit Sales	150,000
(iii) Depreciation to be Charged on computer	25% p.a.
(iv) Laptop purchased during the year was purchased on 1st October, 2016	
(v) Bills Receivable Drawn	18,000
(vi) Bills Payable Accepted	7,000
(vii) Closing Stock	12,000
(viii) Discount allowed to customers	1,000

You are required to prepare :

- Trading and Profit & Loss Account for the year ended 31st March, 2017.
- Balance Sheet as on 31st March, 2017.
- Working Notes to substantiate your answer.

[TURN OVER

Debtors on 01-01-2016	55,000
Cash paid by customers	1,84,500
Discount and commission to customers	1,360
Bad debts	390
Rent Rates and Taxes	1,200
Salesmen Expences and wages	3,650

[TURN OVER

4. M/s Diamond Cements Ltd. of Nagpur consigned to Suyesh Brothers of Bhopal, 5,000 Cement bags costing ₹ 80/- per Bag. M/s Diamond Cements Ltd. paid ₹ 4,500/- for railway freight, ₹ 2,500/- for insurance and ₹ 2,200/- for sundry expenses. (15)

On receipt of consignment, Suyesh Brothers accepted a Bill for ₹ 2,00,000/-

Suyesh Brothers sent an Account sales which shows as:

- (1) Cash Sales of 4,000 bags @ ₹ 95 each.
- (2) Expenses paid by Suyesh Brothers were :
 - (a) Godown rent ₹ 2,000/-;
 - (b) Selling expenses ₹ 6,000/-.
 - (c) Suyesh Brothers remitted the balances due by bank draft after deducting their expenses and commission at 2% on gross sales.

Prepare Consignment Account and Consignee's Account in the books of M/s Diamond Cements Ltd.

OR

4. The Hero Cycles Ltd., Mumbai appointed Ganesh Cycles of Chandrapur as their selling agent on the undermentioned terms and conditions: (15)

- (a) Supplied cycles to be sold at invoice price or over.
- (b) Ganesh cycles an authorized agents at Chandrapur, is entitled to a commission of 12.5% on the invoice price and 25% of any surplus amount realized.
- (c) On 1st January, 2016; 1,500 bicycles were consigned to Ganesh cycles of Chandrapur. Each bicycle costing Rs. 60 including freight and invoiced at ₹ 80/- each.
- (d) A bill for ₹ 25,000/- is drawn on Ganesh Cycles, Chandrapur as an advance.
- (e) Before 31st-December, 2016, Ganesh Cycles sold 1,000 bicycles at an average price of ₹ 95 per cycles.
- (f) Consignee made the following expenses :

For advertisement and selling expenses ₹ 4,500/-, Godown Rent, Insurance etc. ₹ 3,000/-.
- (g) Bank draft was received from Ganesh Cycles towards the balance.

Prepare Consignment Account, Consignee's Account and Goods sent on Consignment Account in the books of Hero Cycles Ltd.

5. On 30th September, 2016, a fire destroyed major part of stock of M/S. Fireprone & Co. Stocks costing ₹ 5,20,000/- could be salvaged but not saved their stock ledgers. A fire insurance policy was in force under which the sum insured was ₹ 12,00,000. (15)

You are given the following data from the available records :

- (a) Total of sales invoices during the period April to September, 2016 amounted to ₹ 90,60,000/-. An analysis showed, that goods of the value of ₹ 9,00,000/- had been returned by customers before the date of fire.
- (b) Opening stock on 1st April, 2016 was ₹ 6,60,000/- which was over-valued by 10%.
- (c) Purchases between 1st April 2016 and 30th September, 2016 were ₹ 65,00,000/-.
- (d) Normal Gross Profit Rate was $33\frac{1}{3}\%$ on sale.

Prepare a statement of insurance claim.

OR

[TURN OVER

5. On 31st May, 2016, a fire occurred & partly damaged the stock of goods of Vulnerable Traders, (15)
Stock having a cost of ₹ 1,00,000/- being salvaged. The stocks were insured against fire to the extent of ₹ 4,50,000/-.

The following particulars could be obtained from the books and records saved :

Particulars	₹
Balance as per Balance Sheet as on 31-12-2015 :	
Stock (as undervalued by 10%)	2,70,000
Debtors for Goods	75,000
Creditors for Goods	45,000
Transactions between 1-1-2016 to 31-05-2016 :	
Cash received from debtors	6,00,000
Cash Discount allowed to debtors	15,000
Goods returned by debtors	6,000
Cash paid to creditors	11,10,000
Cash discount from creditors	12,000
Goods returned to Creditors	3,000
Cash sales	6,36,000
Goods donated (at cost)	15,000
Debtors for goods as on 31-05-2016	1,74,000
Creditors for goods as on 31-05-2016	90,000

All sales were made at a Gross Profit of 25% on Sale price.
Draw a statement of claim for loss of stock.

6. (a) What is Branch ? What are the features of Dependent Branch and give format of Branch Account in Branch Debtors System. (10)
(b) What is consignment and its necessity ? Give format of Consignment Account. (10)

OR

6. Write short note on any four of the following :— (20)
(a) Memorandum Trading Account
(b) Account Sale
(c) Normal Loss and Abnormal Loss
(d) Stock Debtors Method of Branch Accounts
(e) Average Clause
(f) Average Gross Profit Ratio.

F Y B Com
SEM-II
SUB- Commerce -II
2016-17

Q.P. Code :04937

[Time: Three Hours]

[Marks:100]

Please check whether you have got the right question paper.

- N.B:
1. All questions are compulsory.
 2. Figures to the right indicate full marks
 3. Answer to each question must begin on a new page.

Q.1 A) Fill in the blanks with the appropriate option given in the bracket: (any 10)

10

1. Following is an example of service -----(insurance, bread, car)
2. Goods and services are -----(same/different/simple)
3. Consumers expect -----service from the service provider (Quick/delayed/improper)
4. A Store layout must offer -----to the customers (Inconvenience/Problem/convenience)
5. B2B stands for -----online transactions (business to better/busy to busy/business to business)
6. KPO stands for -----(know point outsourcing/Knowledge point outsourcing/knowledge process outsourcing)
7. ATM stands for -----(Automatic time money/Automated teller Machine/Auto tell Money)
8. In debit card, the amount gets-----from the bank balance of the customer.
(increased/deducted/added)
9. E-commerce ----- cost in the long run (increase/reduce/does not impact)
10. -----is an element of logistics(Transportation/discounts/promotions)
11. E- commerce facilitates interaction between the customer and the organizations via -----
(internet/store/bank)
12. -----are those cards which are used by the customers without having a bank account.
(credit/Debit/Transit)

B) State whether the following statements are true or false : (any 10)

10

1. Services sector play an important role in the growth of a nation.
2. When customer expectations are met, customer is dissatisfied.
3. There are no challenges faced by service sector.
4. Local kirana store is an example of unorganized sector.
5. Vegetable vendors on the footpath are an example of organized sector.
6. Franchise is a contract between two parties from the same or different country.
7. Foreign direct investment in organized retail sector does not help in its growth.
8. ATM card facilitates withdrawal of cash from the bank account anytime.
9. Logistics helps in moving a product or service from consumer to manufacturer.
10. Indians prefer to enjoy the touch and feel shopping experience which is absent in e-retailing.
11. The B2B transactions increase the distribution cost.
12. There are no cases of fraud in the case of e-commerce transactions.

Q.2 A) Define services. Explain its characteristics.

08

B) Explain in brief the elements of service marketing mix

07

OR

C) Describe the process involved in delivery of services.

08

D) Elaborate on the scope of services.

07

P.T.O

Q.P. Code :04937

- Q.3 A) Explain the factors responsible for the growth of retailing in India. 08
B) Describe various non-store formats of retailing in India. 07
OR
C) Explain the different store formats of retailing in India. 08
D) What are the various activities involved in mall management? 07
- Q.4 A) What is meant by internet Banking? Explain its advantages. 08
B) Define debit card? Discuss the merits and limitations of a debit card. 07
OR
C) Explain the advantages and disadvantages of credit card. 08
D) What are the challenges faced by Logistics sector in India? 07
- Q.5 A) What is E-commerce? Explain its scope. 08
B) Elaborate on the various functions of E-commerce. 07
OR
C) How is on-line marketing research beneficial to Indian companies? 08
D) Write a note on Business to Consumer (B2C) online transactions. 07
- Q.6 A) What is Business Process outsourcing? Explain its advantages and disadvantages. 10
B) Explain the guidelines to be kept in mind for planning store design and layout. 10
OR
Q.6 Write short notes on :(Any 4) 20
a) Resource Planning.
b) Legal process Outsourcing.
c) FDI in retailing.
d) Service Development cycle.
e) Retail franchising.
f) Privatization of Insurance Sector.
-

SUB- Business Economics-II

2016-17

Q.P. Code :04843

[Time: Three Hours]

[Marks:100]

Please check whether you have got the right question paper.

- N.B:
1. All questions are compulsory.
 2. All questions have internal choice.
 3. Draw neat diagrams wherever necessary.
 4. Use of simple calculator is permitted.
 5. Figures to the right indicate full marks.

1. A. Select the best answer from the given options and rewrite the statement. (Any Ten).

10

- i. Perfectly competitive firms face _____ demand curves.
 - a. horizontal
 - b. positively sloped
 - c. vertical
 - d. negatively sloped
- ii. The firm will choose to shut down when _____.
 - a. revenues no longer cover variable costs
 - b. losses are larger than fixed costs
 - c. both a and b
 - d. neither a nor b
- iii. Economists call a market that has only one producer: _____.
 - a. perfect competition
 - b. monopoly
 - c. monopolistic competition
 - d. oligopoly
- iv. Group equilibrium in monopolistic competition assumes _____.
 - a. uniformity
 - b. symmetry
 - c. both a and b
 - d. none of the above
- v. Oligopoly is a form of market in which there exists _____.
 - a. a single firm
 - b. two firms
 - c. few firms
 - d. many firms
- vi. Paul Sweezy's model has a _____ demand curve.
 - a. vertical
 - b. horizontal
 - c. diagonal
 - d. kinked
- vii. Mark-up pricing is _____ for a firm trying to enter a market.
 - a. not suitable
 - b. suitable
 - c. appropriate
 - d. eligible
- viii. Under marginal cost pricing _____.
 - a. $P = MC$
 - b. $P = MR$
 - c. $P = AC$
 - d. all of the above
- ix. Price discrimination is used in the case of _____.
 - a. bus tickets
 - b. electricity charges
 - c. sports events
 - d. all of the above

- x. Investment to replace obsolete equipment is generally done for _____
 a. expansion of production capacity
 b. expansion into new markets
 c. diversification into new production lines
 d. none of the above
- xi. Payback period method is more suitable to _____
 a. the short run
 b. the long run
 c. both a and b
 d. neither a nor b
- xii. A project is profitable if the IRR is _____
 a. greater than the market rate of interest
 b. less than the market rate of interest
 c. equal to the market rate of interest
 d. all of the above
1. B. **State whether the following statements are True or False (Any Ten).**
- The necessary condition for profit maximization is that MC is equal to MR.
 - The equilibrium price of the monopolist is always higher than that of the firm in perfect competition.
 - The monopoly firm is a price maker.
 - The demand curve for a firm in monopolistic competition is vertical.
 - An oligopoly market has only one seller.
 - Cartels control price and supply of products.
 - Companies use transfer pricing to avoid taxes.
 - Full cost pricing provides a guaranteed profit.
 - Multiple product pricing is based on product relationships.
 - When NPV is positive the project is rejected.
 - Payback period method favours projects with quick recovery.
 - The IRR method rejects a project if the market rate of interest is greater than the IRR.

10

2. Attempt A and B or C and D

A. Describe the characteristic features of perfect competition.

08

B. Explain equilibrium of a monopoly firm earning supernormal profit in the short run.

07

OR

C. Explain the equilibrium of the firm and industry in the long run under perfect competition.

08

D. Read the paragraph below and answer the following questions.

07

More than 90% of personal computer users in the world use the Windows Operating System. This is ensured by barriers to entry such as heavy advertising and frequent introduction of new variants of the software. There are no other close substitutes of the Windows Operating System.

i). Name the market structure being described in the paragraph above.

ii). Describe the characteristic features of the market identified by you in question(i)

3. Attempt A and B or C and D

A. Discuss selling costs as a feature of monopolistic competition.

08

B. Using a diagram explain why prices are rigid in oligopoly.

07

OR

- C. Analyze equilibrium of a firm in monopolistic competition in the short run. 08
 D. Read the paragraph below and answer the following questions. 07

In Mumberg there are few sellers who are dominant firms in the electronics market. The remaining sellers make their decisions on the basis of decisions taken by the dominant sellers in the market. This results in rivalry and the firm which is successful is the one that can predict the rival's reaction to its own action. For analysis of the market situation the firm may use game theory.

- i) Name the market structure being described in the paragraph above.
 ii) Describe the characteristic features of the market identified by you in question (i).

4. Attempt A and B or C and D

- A. Describe the conditions under which price discrimination is possible. 08
 B. Write a note on marginal cost pricing. 07

OR

- C. Explain the multiple product pricing method. 08
 D. i) Examine the merits and demerits of the full-cost pricing method. 07
 ii) Assuming a desired mark-up of 14%, if average variable cost is Rs. 65 and average fixed cost is Rs.25, calculate the full cost price of product Z of firm Zip Zap Zoom.

5. Attempt A and B or C and D

- A. What is capital budgeting? Explain its importance. 08
 B. Write a note on the Net Present Value method. 07

OR

- C. Explain the IRR method. 08
 D. In the following table are four projects with their initial investments and their annual cash inflows. Calculate the payback period for each project and rank the projects. 07

Project	Initial Investment	Annual Cash Flow
A	30,000	7,500
B	20,000	4,000
C	15,000	7,500
D	10,000	10,000

6. Attempt A and B OR Write short notes on any four.

- A. Explain the equilibrium of firms in the short run in perfect competition under conditions of differential cost. 10
 B. Debate the role of advertising. 10

OR

6. Write short notes. (Any Four). 20

- i) Sources of monopoly power
 ii) Excess capacity
 iii) Distinction between monopolistic competition and perfect competition
 iv) Degrees of price discrimination
 v) Transfer pricing
 vi) Steps in capital budgeting

SUB - Business communication - II
2016-17

Q.P. Code :03755

[Time: Three Hours]

[Marks

- N.B:
1. Please check whether you have got the right question paper.
 2. All questions are compulsory.
 3. Figures to the right indicate full marks.

Q.1 a) Explain the following terms in 2-3 sentences (any 5) :

1. Online interview
2. Closed questions in an interview
3. Quorum
4. Agenda
5. Fliers
6. Group dynamics
7. Standing committee
8. House journal

10

b) Match the following :

A

1. Group discussion
2. Resolutions
3. Internal Public Relations
4. Skype
5. Exit interview

B

- a. Open House
- b. Interaction at the time of leaving an organization
- c. Technique for selection of a candidate
- d. Decisions taken at a meeting
- e. Video-chat

05

Q.2 Write short notes on: (any four)

1. Preparation to be made by a candidate before a selection interview
2. Appraisal interview
3. Role of the chairperson in a meeting
4. Advantages and disadvantages of meetings
5. Grievance interview
6. WASP technique of conducting an interview

20

Q.3 Answer the following questions (any two):

1. Define 'Public Relations'. Discuss the measures taken by Public Relations Department to influence external publics of an organization.
2. What are conferences? Discuss the advantages and disadvantages of conferences.
3. Define 'committees'. Discuss the importance and the types of committees in an organization.

20

Q.4 Attempt the following letters (any four) :

1. Your college wishes to setup a new computer lab and needs to buy 50 computers. Write a letter of inquiry to Bharat Computers enquiring about price list and other details.
2. A to Z stationery store had ordered a variety of pens from Star Pen Dealers. On receiving the delivery of the consignment they found that an entirely different set of articles has been sent to them. Draft their complaint and claim letter asking for replacement of goods.
3. Write a sales letter promoting any one of the following products:
 - i) A washing machine
 - ii) A new brand of toothpaste

20

(P.T.O)

4. Dr. M.Tharu of Mumbai ordered a mobile phone from 'Trade line'-an online shopping portal and made the payment by credit card. The product never got delivered to him and the online shopping site has not responded to his complaints.
Write a letter to Consumer Grievance Redressal Cell making a complaint about the issue & seeking adequate compensation.
5. You had applied for a passport two months back and have not received any updates about it. Write an RTI query asking about the status of your application, the process of issuing a passport and the time taken for the same.

Q.5 Draft a Business proposal to be sent to Prim and Proper Finishing School for starting a Basic computer certificate course in their campus on a revenue sharing basis. 10

OR

After receiving many complaints from students and teachers about the college canteen food of Excellent College, a committee of students and teachers was set up by the Principal to study the hygiene of the college canteen.

Draft the covering letter and committee report making suitable recommendations.

Q.6 Draft the Notice and Agenda of the 5th Annual General Meeting of Deepak Fertilizers Ltd. Also draft the following resolutions : 10

1. Declaration of dividend
2. Appointment of Auditors

Q.7 Summarize the following passage: 05

Australian scientists warned drivers and passengers of new cars that danger lurks within their brand new vehicles. It is not the soft fabric or the leather that encases comfortable bucket seats, or the shining new dashboard, or the designs of the sporty steering wheel that harbor the danger. It is the reassuring smell of the new car that spells danger. The odour actually contains high levels of toxic air emissions that can make the driver and the passengers ill.

A research organization in Australia conducted a comprehensive research on three cars. Drivers were asked to keep logs on how they felt and reacted to the plush interiors of their cars. The researchers also carried out observations on the reactions of the drivers and at the same time interviewed them. The results revealed that the very smell of a new car that enthralls the new owner, contains high levels of toxic emissions. What is even more alarming is the fact that these toxic emissions are present in cars even after 6 months or longer of leaving the showroom. Anecdotal evidence during the study revealed that drivers were becoming ill when they drove their new cars. A lawyer reported being ill with headaches, lung irritation, and swellings for several days after collecting a new car and driving it only for 30 minutes. The Commonwealth Scientific & Industrial Research Organization (CSIRO) is Australia's main scientific body. They conducted a research on the toxicity of the interior of new cars over a period of two year. Steve Brown, the head of the CSIRO's air quality control research unit draws parallel between the home and the car. He says, "Just as air inside our homes and work place is often more polluted than the air outside, so sitting in your new car can expose you to levels of toxic emissions that are many times beyond health guideline goals."

Q.P. Code :05536

[Time: Three Hours]

[Marks:100]

Please check whether you have got the right question paper.

- N.B:
1. All questions are compulsory.
 2. Draw diagrams / maps wherever necessary.
 3. Figures to the right indicate marks allotted to the question.
 4. Attach the map to your answer paper.

Q1.A. On the outline map of Mumbai supplied to you, mark and name the following: 10

- a) An area affected by land slides
- b) An air-port
- c) An area of mangrove vegetation
- d) The head-quarters of Western Railway
- e) Essel world
- f) Sea link
- g) A pilgrimage centre
- h) A park in South Mumbai
- i) A beach
- j) Tulsi lake

B) On the outline map of Konkan supplied to you, mark and name the following: 10

- a) Palghar district
- b) A bird sanctuary
- c) Barvi dam
- d) Thane creek
- e) Amboli ghat
- f) Sindhudurg fort
- g) Jawhar hill station
- h) Shrivardhan beach
- i) A site of deforestation in the Ratnagiri district
- j) A pilgrimage centre in the Raigad district

Q.2A) Write a detail note on effective solid waste management. 10

B) Discuss various effects of hazardous waste on environment and health. 10

OR

A) Bring out the various steps taken by Municipal Corporation of Greater Mumbai (MCGM) in solid waste management. 10

B) Give a detail classification of solid waste with suitable examples. 10

Q.P. Code :05536

- Q.3 A) Elaborate various environmental problems associated with modern agriculture. 10
B) Write the causes and effects of malnutrition? 10
OR
A) Bring out various causes and effects of ozone depletion. 10
B) Write a detail note on the following: 10
1) Corporate Social Responsibility (CSR)
2) Green consumerism.
- Q.4 A) Discuss new types of tourism with suitable examples. 10
B) What are the positive and negative impacts of tourism on culture? 10
OR
A) Describe the challenges faced by the tourism sector of India. 10
B) Write a note on eco-tourism. 10
- Q.5 A) Briefly explain the need and relevance of environmental management. 10
B) Write a note on the following: 10
1) Environmental protection acts
2) ISO 14000
OR
A) Describe 'Chipko Movement' in detail. 10
B) Discuss the application of 'Geo-spatial' technology in environmental management. 10

(3 Hours)

[Total Marks : 100

- N.B.** (1) All questions are compulsory.
(2) Figures to the right indicate full marks.
(3) Use of simple calculator is allowed.
(4) Graph papers will be provided on request.

Section I

1. Attempt any four from the following :—

- (a) Find derivative of y with respect to x . 5
(i) $y = 4x^7 - \log x + \sqrt{x}$
(ii) $y = (x + e^x)(\log x - 10)$
(b) The total cost function is given by $C = x^2 + x + 10$. 5
Find the average cost and marginal cost when x is 20.
(c) Examine the points of maxima and minima for the function $f(x) = x^3 - 6x^2 + 9x$. 5
(d) If the demand function is given by $D = 15 - 4p + p^2$. 5
Find the price elasticity of demand when price is 5.
(e) The demand function of a commodity is given by $p = 18 + D - D^2$. 5
Find the total revenue and marginal revenue function.

2. Attempt any four from the following :—

- (a) A principal amounts to ₹ 11,880/- after 4 years and to ₹ 14,040/- after 7 years. 5
Find the principal and the rate of simple interest.
(b) Amit keeps a fixed deposit of ₹ 25,000/- in a bank for 3 years. If the rate of interest is 10% per annum compounded annually, find the total amount he will receive at the time of maturity after 3 years. 5
(c) Bhavin promised to pay Ketan ₹ 3,66,025/- after 4 years. If the rate of interest is 12% per annum, find its present worth. 5
(d) Find the amount at the end of 1 year of an annuity of ₹ 5,000/- payable at each quarter with rate of interest 12% per annum. 5
(e) Rehan takes a loan of ₹ 30,000/- to be repaid in one year at 9% per annum by reducing balance interest rate. Find the Equated Monthly Instalments (EMI). 5

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Section II

3. Attempt any **four** from the following :—

- (a) Regression line of y on x is $3x - 2y - 6 = 0$ and that of x on y is $8x - 3y - 44 = 0$ 5
Find (i) Coefficient of Correlation between x and y (ii) Mean values of x and y.
(b) Calculate Spearman's Rank Correlation coefficient for following data. 5

x	42	40	52	57	36	42
y	102	100	105	103	110	105

- (c) Define Correlation and explain the method of Scatter Diagram for deciding the type of correlation. 5
(d) Calculate Product Moment Correlation from the following data : 5
 $\sum (x - \bar{x})(y - \bar{y}) = 29$; $\sum (x - \bar{x})^2 = 28$; $\sum (y - \bar{y})^2 = 42$
(e) The following data relates the Age of husband and wife. Estimate the age of wife when husband is aged 23. 5

	Husband	Wife
Mean Age	27 years	23 years
Std.Dev. of age	3 years	2 years

The Coefficient of Correlation $r = 0.93$

4. Attempt any **four** from the following :—

- (a) What is Time Series ? Describe the components of a time series with suitable examples. 5
(b) Calculate the Cost of Living Index for the year 2004 by family budget method from the following data : 5

Group	Price in 2000	Price in 2004	Expenses on
Food	100	110	40%
House- rent	85	25	15%
Clothing	80	100	20%
Fuel	40	60	10%
Miscellaneous	50	55	15%

[TURN OVER

- (c) Fit a straight line trend by the method of least squares and hence estimate the sales for 2010 from the following data : 5

Year	2005	2006	2007	2008	2009
Sales	11	15	12	13	19

- (d) For the following data construct the Fisher's Price Index Number : 5

	2014		2016	
Commodity	Price in ₹	Quantity	Price in ₹	Quantity
A	4	10	5	12
B	3	8	6	10
C	2	8	3	9
D	5	4	8	5

- (e) Find trend values by 4 yearly centered Moving averages method : 5

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Export	15	20	25	32	40	48	56	64	70	75

5. Attempt any four from the following :—

- (a) An unbiased coin is tossed 4 times. What is the probability of getting i) 3 heads, 5
(ii) at least one head.
- (b) If X is a random variable following Poisson distribution with relation 5
 $4P(X = 0) = P(X = 1)$ Obtain $P(X = 3)$.
(Given $e^{-4} = 0.0183$)
- (c) Enumerate the important properties of Normal Distribution. 5
- (d) If the weight of 10000 soldiers in a regiment is normally distribution with mean 5
72 kgs and standard deviation of 5 kgs. Find the percentage of soldiers with weights between 70 and 77 kgs.
(Given area under the standard normal curve between $Z = 0$ and $Z = +1$ is 0.3413 and between $Z = 0$ and $Z = 0.4$ is 0.1554).
- (e) The average number of phone calls per minute in a call center is 4. Find the 5
probability that during a specific minute, the number of calls is (i) only 2
(ii) less than 2.
(Given $e^{-4} = 0.0183$)