_____

N.B. 1. Figures in brackets to the right indicate full marks.
2. Working notes should form part of your answers **2 to 5.**
3. Use of simple calculator is allowed.
4. All **five** questions are compulsory.

1. A): Choose the correct options from the bracket and rewrite complete sentences. **(Any Ten)** (10)
1. As per Accounting Standard 2, the term inventory covers.
   (Goods on consignment / Goods for resale / Spare parts)
2. _____ method of inventory valuation assumes that those items which have been purchased first are sold first.
   (First In First Out (FIFO) / Last In First Out (LIFO) /Weighted Average)
3. Capital expenditure means an expenditure carrying probable_____benefits.
   (Present/Past / Present and Future)
4. In Departmental accounts, salary is allocated on the basis of _____ of each department.
   (Sales Turnover /Number of Machines / Number of Employees)
5. The initial amount paid at the time of signing the hire purchase agreement is called_____.
   (Cash Price / Interest/ Down Payment)
6. Purchase of a fixed asset is a_____ expenditure.
   (Capital/Revenue / Deferred Revenue)
7. The main objective of accounting standards is to_____the different accounting policies and practices followed by different concerns.
   (Standardise / Mandate / Cancel)
8. Trade mark is a_____.
   (Current Asset/Fixed Asset/ Investment)
9. _____is an example of accounting policy.
    (Entity/ Accrual / Depreciation)
10. In Departmental accounts_____ is debited to General Profit & Loss Account
    (Audit fees/ Rent/Power and fuel)
11. Prepaid expenses are shown on_____.
    (Debit side of P & L Account/Asset Side of Balance Sheet/Liability side of Balance sheet)
12. Under hire purchase system, depreciation is provided by_____.
    (the Hire Purchaser/ Hire Vendor/both Purchaser and Vendor)

A) State whether the following statements are True or False and rewrite the same (Any ten): **(10)**
1. As per AS-1, disclosure is required if fundamental accounting assumptions are not followed.
2. Fixed assets are stated in the balance sheet at their present values.
3. Under FIFO method of inventory valuation, closing stock is valued at current cost.
4. The hire purchaser becomes the owner of goods as soon as he pays the down payment.

5. As per AS-9, revenue from sales is recognized only when the goods are invoiced and delivered.
6. Capital expenditure is shown as a liability in the balance sheet.
7. Accounting Standard 2 applies to agricultural products.
8. Gross profit is the excess of sales over the cost of goods sold.
9. The seller has a right to repossess the asset sold under hire purchase system if the hire purchaser fails to pay any installment.
10. In Departmental accounts loss by fire is treated as general expenditure and charged to general Profit and Loss account.
11. The purchaser can mortgage the asset purchased on hire purchase system.
12. Trade discounts is deducted while determining the cost of purchases.

2. From the following Trial Balance as on 31st March 2017 of Mr. Rudra prepare Manufacturing Account, Trading Account and Profit and Loss Account for the year ended 31st March, 2017 and Balance Sheet as on that date. **(20)**

Trial Balance as on 31st March, 2017

Particulars	Dr (Rs)	Cr (Rs)
Capital		80000
Drawings	10,000	
Opening Stock Raw Material	10,000	
Opening Stock Work in Progress	9,000	
Opening Stock Finished Goods	17,000	
Purchase of Raw Material	1,08,000	
Freight on Raw Materials	6,000	
Direct Wages	44,000	
Factory Rent	18,000	
Factory Power and Fuel	9,000	
Factory Supervisors Salary	10,000	
Machinery	70,000	
Sales	24,000	345000
Office Expenses	5,000	
Cash at Bank	20,000	
Selling and Distribution Expenses	7,000	
Interest	10,000	
Insurance Premium		
Creditors	1,000	18000
Bad Debts		
Provisions for Bad Debts	70,000	2000
Sundry Debtors		
Bills Payable		3000
Total	**448000**	**448000**

Following further information is provided to you:
1. Closing stock as on 31st March, 2017 was Raw material Rs.10,000, Work-in-progress Rs. 6,000, Finished goods Rs.15,000.

2. Depreciate Machinery @10% p.a.
3. During the year finished goods destroyed by fire were Rs. 5,000. Insurance company admitted the claim for Rs.3,000.
4. Provide Reserve for doubtful debts @ 5% on debtors.
5. Factory rent outstanding is Rs. 2000.

OR

2. From the following Trial Balance as on 31st March 2017 of Mr. Tridev prepare Manufacturing Account, Trading Account, Profit and Loss Account for the year ended 31st March, 2017 and Balance Sheet as on that date.   **(20)**

Particulars	Dr (Rs)	Cr (Rs)
Machinery	70,000	
Furniture	33,000	
Capital Account		90,000
Drawings	20,000	
Opening Stock Raw Material	14,000	
Opening stock - Work in Progress	4,000	
Opening Stock Finished Goods	21,000	
Purchase of Raw Material	2,50,000	
Carriage Inward on Raw Material	4,000	
Direct Wages	26,000	
Factory Rent	8,000	
Factory Power and Fuel	11,000	
Factory Electricity	8,000	
Sales		4,05,000
Postage and Telephone	8,000	
Cash at Bank	1,000	
Travelling and Conveyance	7,000	
Salaries	34,000	
Discount Allowed	6,000	
Creditors		55,000
Bad Debts	1,000	2,000
Provisions for Bad Debts		
Sundry Debtors	64,000	
Bills Payable		30,000
Commission received		8.000
	5,90,000	**5,90,000**

Following further information is provided to you
1. Closing stock as on 31st March, 2017 was Raw material 20,000, Work-in-progress 10,000, Finished goods 30,000.
2. Postage and Telephone expenses outstanding were Rs.1,000.
3. Depreciate Furniture @ 5% p.a. and Machinery @ 10% p.a.

4. Provide Reserve for doubtful debts @ 10% on debtors.
5. Debtors include 5,000 due from Mr. Amal. An amount of 3,000 is also due to him which is included in creditors, which needs to be adjusted.

3. Following figures are extracted from the books of Swati Ltd. Prepare Departmental Trading and Profit & Loss Account in columnar form and General Profit & Loss Account for the year ended 31st March, 2017 of the following three departments. **(20)**

Particulars	Department A	Department B	Department C
Purchases	2,00,000	3,00,000	8,00,000
Return Outwards	20,000	10,000	30,000
Sales	6,10,000	12,20,000	18,30,000
Return Inward	10,000	20,000	30,000
Wages	40,000	60,000	80,000
Stock on 01/04/2016	50,000	70000	10000
Stock on 31/03/2017	80000	50000	40000

Particulars	Amount
Goods transferred from Department A to:	
Department B	10,000
Department C	20,000
Goods transferred from Department B to:	
Department A	5,000
Department C	10,000
Goods transferred from Department C to:	
Department A	7,000
Department B	9,000

1. Following expenses are to be allocated equally
   a) Telephone charges Rs. 3,000;
   b) Insurance charges Rs. 6,000 and
   c) Office expenses Rs. 9,000
2. Rent 24,000 to be divided in proportion of space occupied which was as follows:
   Department A - 1/4, B-1/4 and C - 1/2.
3. Other expenses were:
   Discount allowed Rs.18,000, Legal Expenses Rs. 24,000, Bad Debts Rs.15,000.

OR

3. Sumit Ltd. has purchased and issued the materials in the following order: **(20)**

Date (March, 2022)	Particulars	Units	Cost Per Unit
1	Purchases	1,000	60
4	Purchases	1,000	70
6	Issue	1,000	-
10	Purchases	1,500	80
15	Issue	1,600	-
20	Purchases	900	90
23	Issue	1,200	-

Ascertain the value of closing stock as on 31st March, 2022 under the following methods.
(i) First in first out method, (ii) Weighted Average method.

4. M/s Amar Studio purchased a Smart-TV on hire-purchase basis from Vijay Sales on 1st January 2014. They paid 10,000 on signing the contract and agreed to pay three yearly instalments excluding interest as follows. **(20)**
   a) On 31.12 2014   Rs.30000
   b) On 31.12 2015   Rs.30000
   c) On 31.12.2016   Rs.30,000

The cash price of the smart TV was 1,00,000. Vijay Sales charged interest at 10% p.a. Depreciation 20% p.a. on W.D.V. method is charged on Smart TV.

Prepare Smart-TV Account, Vijay Sales Account and Interest account in the books of M/s Amar Studio for the years 2014, 2015 and 2016 using Full Cash Price Method.

OR

4. State with reasons whether the following expenses or incomes are Capital or Revenue. **(20)**
   1. Amount of 5,000 realized from sale of old Computer and incurred a loss of 1,000.
   2. Repairs of machinery 8,500.
   3. Replacement of defective parts of a machinery costing Rs. 5,000
   4. Cost of increasing the seating capacity of a cinema hall Rs. 10,000
   5. Legal charges paid for defending a legal suit Rs. 12,000.
   6. A second hand car purchased for 2, 00,000.
   7. Paid fees 6,000 to the Association for membership.
   8. Rs. 20,000 paid for building extension.
   9. Rent paid Rs. 2,500.
   10. Heavy advertisement expenditure for newly product Rs. 5,00,000.

5. Answer the following:
    Assumptions as per AS-1.
   (a) Explain in brief the provisions of Disclosure of Accounting Policies and Fundamental
       Accounting **(10)**
   (b) Define the term inventory. State the Items covered and excluded from the scope of
       AS-2. **(10)**

OR

5. Write short notes on any four of the following: (**20**)

1. Weighted Average Method of Stock Valuation.
2. Accounting for Hire Purchase Transactions.
3. Basis of allocating common expenses amongst departments.
4. Cost of Production.
5. Capital Expenditure.
6. Importance of Accounting Standards.

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

Q1. A) Explain the following terms in 2-3 sentences. (Any Five)   **(10)**
    1. Encoding
    2. Grapevine
    3. Moodle
    4. Non-Verbal Communication
    5. Body Language
    6. E-mail
    7. Twitter

B) Match the following   **(5)**
        Group 'A'   Group 'B'
    1. jargon   a) Whats App
    2. Smart Phone   b) Reward
    3. Positive Feedback   c) Conference, meetings, G.D. etc.
    4. Oral communication   d) Trading
    5. E-Commerce   e) Technical Language

C). Fill in the blanks choosing the best alternative from the ones given below: **(5)**
    1. ------------ is an E-learning tool.
       a) Whats App
       b) Facebook
       c) Moodle
       d) Blog
    2. Signs and ------ were mainly used when language did not exit.
       a) Letters
       b) Telegrams
       c) Symbols
       d) Cell phones
    3. A 'barrier' refers to ------------.
       a) An iron rod
       b) An obstacle
       c) A bar carrier
       d) A gymnast
    4. Kinesics is the science of ---------
       a) Culture
       b) Body language

c) Money
d) time
5. ------ scans incoming mails.
   a) Virus Protection
   b) CD
   c) Filter
   d) Censor

Q2. Write short notes on: (Any four)   **(20)**
   a) Advantages of Oral Communication.
   b) Feedback
   c) Social Media
   d) Communication Process
   e) Upward Communication
   f) Role of Internet in Business Communication

Q3. Answer the following.   (Any two)   **(20)**
   a) Explain Business Ethics. Discuss the role and importance of Business Ethics in the world today.
   b) What are physical barriers to communication? Suggest ways to overcoming them.
   c) Define listening. Discuss obstacles to listening and measures to overcome them.

Q4. Draft an application letter in response to the following advertisement.   **(10)**

"Wanted Senior Manager for an organization based in Mumbai. The applicant should be Graduate with adequate knowledge of computer. Send your application along with the resume within ten days to- box No- 1212, The Times of India, Mumbai- 400001"

Q5. Draft the following letters: (Any four)   **(20)**
   a) You wish to apply to pursue a post Graduate degree in Global Markets and Equities from Perth, Australia. Draft the Statement of Purpose.
   b) Draft a letter of recommendation for your junior who is applying for the post of an Asst. Manager (HR) at R.G. Company Ltd.
   c) You have received a job offer for an Administrative Officer in a private company. Draft your letter of acceptance of the job offer.
   d) Rohan has changed his residence from Pune to Mumbai. He has secured a post of Senior Manager at Reality International in Mumbai. Draft his letter of resignation from the post of Clerk at Poonam stores Pune.
   e) Ravi has worked extremely hard and has developed new software for his firm. His boss is suitably impressed and decides to give him a letter of appreciation to recognize his contribution. Draft a letter of appreciation.

Q6 a) Write a paragraph in about 150 words: (Any one)   **(05)**
      i)   Challenges of the 21st century
      ii)   My Ambition

b) Read the following situation carefully and answer the questions given below:

Mr. Ashok is a dedicated senior manager at ORACLE Software Pvt. Ltd. He has twenty-five years of service experience and is very loyal to the organisation. He had fixed ideas of getting done. In his enthusiasm, he constantly conveys work related orders and instructions to his subordinates. His subordinates respect his sincerely but dislike his constant interference. This has resulted in many young employees resigning from the organisation.

1. Identify and explain the problem in the given situation   (**3**)

2. Discuss the means to overcome the problem faced by the employees.   (**2**)

_____

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

1. A) Select the most appropriate answer from the option given below. (Any Ten out of Twelve). **(10)**

   1. _____ is not a function of business. (Production, Marketing, Profit earning, sales)
   2. _____is social objective of business. (Profit earning, Market share, increase productivity, employment generation)
   3. Analysis of _____ environment indicates strengths and weaknesses of the organization. (internal, external, international, national)
   4. _____ refers to transfer of any government function into private sector. (Globalization, Privatization, liberalization, organization)
   5. Business and its environment are_____. (separable, unrelated, inseparable, related)
   6. EU stands for _____. (European Union, Europe United, Europe Undivided, European Unit)
   7. Feasibility report is prepared_____ feasibility studies. (along with, after, before, for)
   8. WTO replaced _____. (GATT, GATS, GAST, GST)
   9. _____ acts as a reference guide during the execution of the project. (feasibility report, legal report, project report, feasibility study)
   10. _____ is the entrepreneur within an existing organization. (leader, intrapreneur, manager, subordinate)
   11. _____ is the one of the qualities of entrepreneur. (laziness, creativity, impatience, rigid)
   12. Entrepreneur needs to take _____ decisions. (proactive, reactive, hasty, quick)

B) State whether the following statements are True or False. (Any Ten out of Twelve).   **(10)**
   1. Business is a sociao-economic activity.
   2. Commerce is concerned with trade and aids-to-trade.
   3. Government policies are a component of an economic environment.
   4. There is no need for business to invest in research and development.
   5. WTO replaced to GATT in 1995.
   6. Analysis of external environment indicates strengths and weaknesses of the firm.
   7. Business environment is dynamic in nature.
   8. Employee is an external environmental factor affecting business.
   9. Turnaround means converting loss making company into profit making.
   10. All entrepreneurs are promoters but all promoters are not entrepreneur.
   11. Social entrepreneurs are profit oriented.
   12. Monetary factors include higher salaries, bonus, etc.

2. Answer Any Two of the following out of Three Questions.   **(15)**
   1. Define business and explain its features.
   2. Explain briefly social and economic objectives of the business.

3. What is turnaround? Explain Steps in turnaround strategy.

3. Answer Any Two of the following out of Three Questions. **(15)**
   1. Discuss importance of business environment.
   2. Explain the components of external environment.
   3. What are the impacts of WTO on developing nations?

4. Answer Any Two of the following out of Three Questions. **(15)**
   1. Explain the steps in business planning process.
   2. What is meant by feasibility study? Explain its types.
   3. Distinguish between Project report and Feasibility report.

5. Answer Any Two of the following out of Three Questions. **(15**)
   1. Define entrepreneur and explain the features of entrepreneurship.
   2. Highlight the problems faced by women entrepreneur in India.
   3. What are various types of entrepreneurs?

6. Write Notes on Any Four out of Six. **(20)**
   1. Privatization
   2. Discuss human objectives of Business
   3. SAARC
   4. Agreements of WTO
   5. Project report
   6. Concept of Intrapreneur

DAC-31. F.Y.B. Com   ATKT EXAM.- Sem - I (MARCH) 2023   Time: 3 Hrs.

Date: 20/03/2023   Subject: Business Economics   Max. Marks: 100

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

1. A) Select the best answer from the given options and rewrite the statements. (Any Ten)   10

    1. When Total Revenue decreases, Marginal Revenue is ----------
        1) positive
        2) negative
        3) zero
        4) constant

    2. The Demand function can be expressed as ------------
        1) $Q = f(R)$
        2) $Q = f(P)$
        3) $Q = f(D)$
        4) $P = f(Q)$

    3. The supply function for price can be expressed as _____
        1) $Qd_x = f(P_x)$
        2) $Qp_x = f(d_x)$
        3) $Qs_x = f(P_x)$
        4) $Qp_x = f(S_x)$

    4. In the oligopoly market the demand curve is _____
        1) vertical
        2) kinked
        3) horizontal
        4) both 1 and 2

    5. In the Perfect competition, firm's demand curve is always ------------
        1) vertical
        2) positive
        3) negative
        4) Horizontal

    6. The normal good can be defined as one which consumer purchases
      more of as -----------
        1) price falls
        2) price rises
        3) income falls
        4) income rises

    7. The Average revenue is equal to the _____ per unit of the output
        1) marginal revenue
        2) price
        3) cost
        4) income

8. An Isoquant curve is also known as ------------
    1) equal consumption curve
    2) equal supply curve
    3) equal product curve
    4) zero supply curve

9. In the long run period of production function _____
    1) only fixed factors can be changed
    2) only variable factors can be changed
    3) all factors are variable
    4) only fixed factors can not be changed

10. Which of the following curve is also known as envelope curve
    1) SAC curve
    2) LAC curve
    3) AC curve
    4) MC curve

11. The slope of Learning Curve is ------------
    1) upward
    2) vertical
    3) downward
    4) horizontal

12. At the break-even point firms _____
    1) earns zero profit
    2) earns maximum profit
    3) covers fixed cost
    4) covers variable cost

B) Write whether the following statements are true or false. (Ant Ten)   10
1. Economics is the science of choices.
2. Supply and price are directly related.
3. The demand curve has a negative sloped.
4. All inferior goods are Giffen goods.
5. Price expectation is an exception to the Law of Demand.
6. Price elasticity of demand will be negative for most normal commodities.
7. Production refers to creation of utilities.
8. Two iso-quants never intersect each other.
9. The Law of variable proportion applies to agriculture in developing economies.
10. In the long run all costs are variable.
11. Fixed costs are independent of output.
12. At break-even point TR = TC.

2. Attempt A and B or C and D:
  A) Discuss the scope of Business Economics.   7
  B) Given the following data: 8

Output	1	2	3	4	5	6	7
Price	10	10	10	10	10	10	10

i)   Identify the Market Calculate TR, AR and MR.
ii)   Calculate TR, AR and MR.
iii) Explain the relationship between TR, AR and MR

OR
C) Explain the following concepts by using diagram.   7
   i) Expansion in Demand.
   ii) Contraction in Demand.
D) Explain the following concepts by using diagram.   8
   i) Decrease in supply.
   ii) Increase in Supply.

3. Attempt A and B or C and D:
    A) Explain different determinants of demand.   7
    B) Explain the factors affecting price elasticity of demand.   8

                    OR

    C) Explain nature of demand curves of the firm under Monopolistic Competition
        and Oligopoly.   7
    D) What are the steps of demand forecasts.   8

4. Attempt A and B or C and D:
    A) Explain properties of iso-quant curve with suitable diagram.   7
    B) Discuss various kinds of internal economies of scale.   8

                    OR
    C) Explain the Law of Variable Proportion.   7
    D) Explain Internal economies of scale.   8

Q.5. Attempt A and B or C and D:
    A) Explain the relationship between AC, AFC, AVC and MC with the
        help of diagram.   7

    B) Given TFC as 55 and the following data, calculate TVC, MC, AFC, AVC and AC   8

Q	1	2	3	4	5
TC	75	90	110	135	170

                    OR

C) Discuss the limitations of Break-even point.   7
D) What is Learning curve? Explain with the help of diagram.   8

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

A) Explain the Law of Returns to Scale with the help of diagram.   10
B) Discuss different Degrees of Elasticity of Demand With the help of Diagram.   10

                    OR

Write short notes on any FOUR of the following.   20
   1. Functions and equations
   2. Applications of Break-even point.
   3. Types of iso-quants curve.
   4. Promotional elasticity of demand.
   5. Expansion path.
   6. Fixed and Variable Cost

_____

Note – All questions are compulsory carrying 20 marks each.
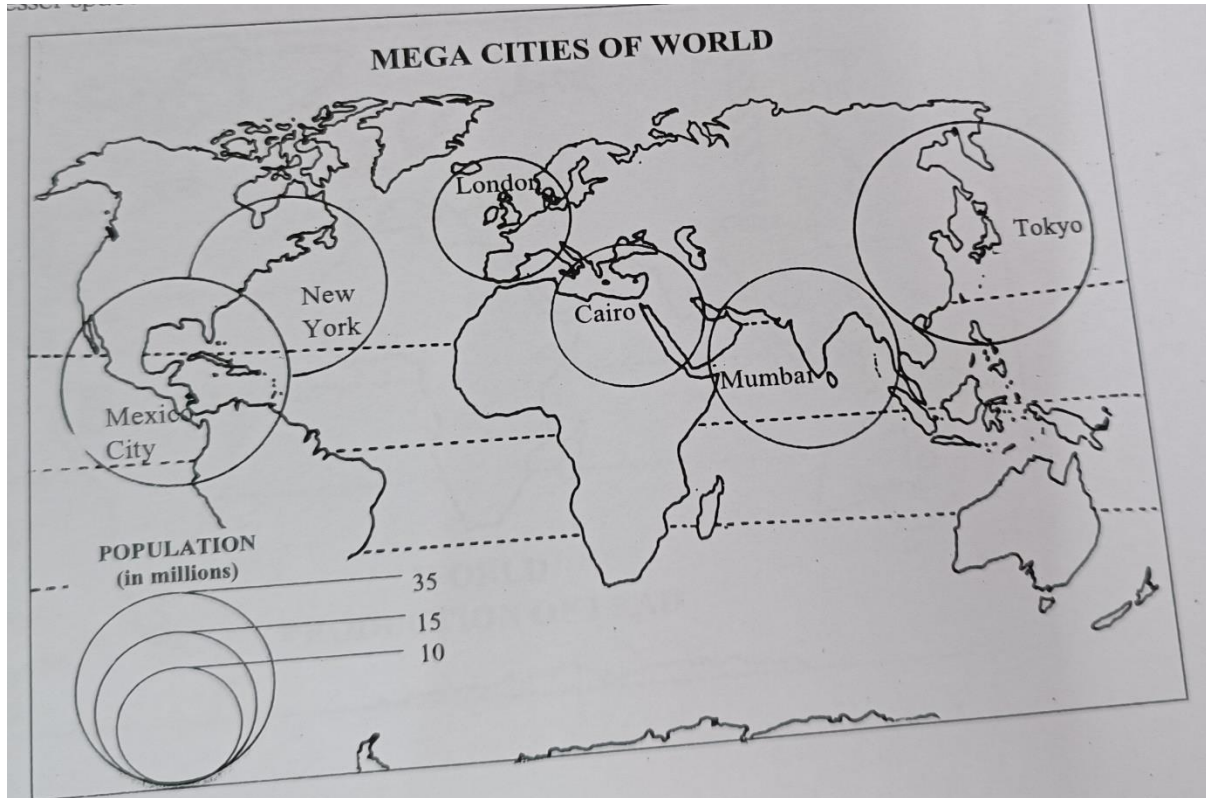
1. A) Study the world Map and answer the following questions.   (10)
   1. State the theme of the map.
   2. Name the cartographic technique is used in the above map.
   3. State the largest mega city of the World.
   4. State the smallest mega city of the World.
   5. Compare the mega cities of Mexico City and London.

 B) On the given outline of world Map supplied to you mark and name the Following.   (10)
   1. Major producer of Gold (S. Africa)
   2. Largest island in the world (Greenland N. America)
   3. European Country having high HDI (Norway)
   4. Smallest continent in the world (Australia)
   5. Major producer of nuclear power in Asia (Japan)
   6. Richest Natural Gas Deposits in the World (Russia)
   7. Largest exporter of Beef in the World (Brazil)
   8. Oldest Mountain Ranges in the World (Appalchian)
   9. Country having highest life expectancy (Japan)
   10. Longest River in the World (Nile)

2. Attempt any **two** from the following **(20)**
1. Discuss the dynamic role of man as both destructor and protector of environment.
2. What is environment? Explain the Biotic Components of environment in detail.
3. Briefly describe the Nature, scope and Importance of environment.
4. What is ecosystem? Explained functions of ecosystem in detail.

3. Attempt any **two** from the following **(20)**
1. Give a broad classification of resources on suitable basis.
2. Explain the term "recycling of resources "giving suitable examples.
3. Explain the utilization and Economic Importance of forest Resources.
4. Explain briefly the Non- renewable sources of energy.

4 Attempt any **two** from the following **(20)**
1. In what ways India has tried to control its population growth? Examine.
2. Explained the Demographic Transition Theory.
3. "Human Development Index "(HDI) is a better measurement of development than economic indicators of development. Discuss
4. Explained the relationship between environment and human health.

5. Attempt any **two** from the following **(20)**
1. Write short notes on Smart cities, Sustainable cities.
2. What is the relationship between food, nutrition and health?
3. Examine the factors responsible for hunger in the world.
4. Explain the impact of urbanization on environment.

Date: 21/03/2023   Subject: Foundation Course – I   Max. Marks. : 75

_____

Note:- 1. All questions are compulsory.

     2. Figure to the right indicate full marks.

1. A) Fill in the blanks.   **05**

   1. In India .... State has the highest literacy rate. (Kerala, Bihar,Gujrat)
   2. .... is the national language of India (Hindi, English, Marathi)
   3. The constitution of India has recognized............... major languages (22,24,28)
   4. .... is the holy book of Hindus. (Bhagavadgita, Kuran, Bible)
   5. Indian society is .... nature. (Pluralistic,tribal, rural)

B) State whether the following statements are true or false.   **05**

   1. Preamble is considere to be the soul of the constitution.
   2. Majority of Indian population follow Islam.
   3. Indian constitution of India is rigid.
   4. Indian Society is Pluralistic in nature.
   5. Indian constitution is the shortest constitution of the world.

C) Match the following   **05**

GROUP- A	GROUP -B
1. Liberty	a) Representative and responsible government
2. Democratic	b) Equal respect for all religions
3. Fraternity	c) Freedom of thought, belief
4. Socialist	d) Welfare state
5. Secular	e) Spirit of brotherhood

2. Explain the various types of social stratification.   **15**

OR

  Write a note on violence against women.

3. Discuss the demographic composition of India with reference to religion.   **15**

OR

  Explain the linguistic diversity in India.

4. Write a note on physically handicapped.   **15**

<div align="center">OR</div>

Explain the basic features of Indian Constitution.

5. Write Short Notes on the following (Any Five)   **15**

    1. Role of women in the politics.
    2. Tolerance as a value
    3. Peace and Communal harmony
    4. Mentally Handicapped
    5. Fundamental duties of Indian Citizen
    6. Hinduism
    7. Indian Culture

DAC -31 F.Y. B.COM. ATKT EXAM (MARCH) 2023 SEM – I   **Time: 3.00 Hrs.**

Date: 28/03/2023   Subject: Mathematical and Statistical Techniques   Max. Marks. : 100
_____

Note: 1. All questions are compulsory.
       2. Figures to the right indicate full marks.
       3. Graph papers will be provided on request.
       4. Use of non-programmable calculator is allowed.

Section I

Q .1 Attempt any four of the following.

  a) **Radha sold the shares and received Rs. 47,952when the market value was Rs. 120 per share, the brokerage was 0.1%. Find how many shares were sold.**   **(5)**
  b) **Mohan invested in a 20% Rs. 10 shares of company A at a market value of Rs. 360 and in a 45% Rs. 50 shares of company B at a market value Rs. 380. Which company gives the better rate on investment?**   **(5)**
  c) **An investor joined the S.I.P. scheme for a M.F., under which he would invest Rs. 2000 for 4 months. If the N.A.V.s for each month are Rs. 50.625 Rs. 45.85, Rs. 52 and Rs. 49.5. Find the average unit cost occurred to him using Rupee Cost Averaging method.**   **(5)**
  d) **Find the amount invested to purchase 100 shares of Face Value of Rs. 10 each if Market Value is (i) at par   (ii) at 10% premium.**   **(5)**
  e) **Ritika invested Rs. 10,225 in a Mutual Fund with NAV was Rs. 242.43 Find the number of units acquired by her if the entry load is 2%.**   **(5)**

Q. 2 Attempt any four of the following.
  a) **Solve the following L. P. P. graphically. Maximise Z = 100 x + 80y**   **(5)**
$$\text{Subject to : } 2x + y \leq 16$$
$$x + y \leq 11$$
$$x, y \geq 0$$
  b) **Solve the following L. P. P. graphically.   Minimise Z = 3x +2 y**   **(5)**
$$\text{Subject to : } 5x + y \geq 10$$
$$x+y \geq 6$$
$$x, y \geq 0$$
  c) **Evaluate the following**
      i) 5!   ii) 8!/4! iii) $^6P_2$ iv) $^8C_3$ v) 0!   **(5)**

  d) **In how many different ways can the letters of the word 'FATHER' be arranged? Also find how many of these words begin with A and end with R ?**
  e) **An Automobile manufacturer makes cars and trucks in a factory that is divided into two shops A and B .**
    Shop A performs basic assembly operations and must work for 5 man days on each truck a and 2 man days on each car. Shop B performs finishing operations and has to work for 3 man days on a truck and 3 mandays on a car.
  Availability of man days per week is 180 in shop A and 135 in shop B. Manufacturer makes a profit Of Rs. 25,000 on each truck and Rs, 20,000 on each car.
  Frame this L.P. problem to maximize the profit per week .   **(5)**

Q. 3 Attempt any four of the following.

a) Find the mode for the following data. (5)

Class	10-30	30-50	50-70	70-90	90-110	110-130
Frequency	4	10	14	12	8	6

b) Calculate the Quartile Deviation and its Coefficient for the following data. (5)

Variate (x)	43	44	45	46	47	48	49
Frequency (y)	10	18	21	18	15	10	8

c) Find mean and standard deviation for the following data. (5)

Age in years	0-10	10-20	20- 30	30- 40	40- 50	50- 60
No. of Persons	3	7	12	10	4	2

d) Calculate combined mean and coefficient of variation for Group A and Group B and state which group is more consistent. (5)

Group	No. of observation	Mean	S.D.
Group A	40	170	3
Group B	60	160	2

e) State any five requisites of a good measure of dispersion. (5)

Q. 4 Attempt any four of the following

a) Find k and E(x) for the following probability distribution. (5)

b	1	2	3	4
P(X)	k	0.2	0.4	0.1

b) One card is drawn from the pack of 52 playing cards. Find the probability that
   i) It is a Ace card ii) It is a heart card iii)It is a king of hearts card   iv)It is a face card   (5)

c) Two fair dice are thrown simultaneously, write the sample space S and find the probability of getting
i) Sum of the two faces equals to 6
ii) The sum is greater than 7. (5)

d) Given the following probability distribution.

X	1	2	3	4	5	6	7	8	9	10
P(X=x)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

Find
(i) p(X = 2) (ii) p(2 < X < 6)   (iii) P(X < 3) (iv)) P(X> 5) (v) P(X > 2) (5)
e) Explain with examples mutually exclusive events and exhaustive events. (5)

Q. 5 Attempt any four of the following.

a) Solve the given decision problem using i) Maximax ii) Maximin criteria.

Actions→ States of Nature↓	A1	A2	A3
S 1	35	58	45
S2	100	95	30
S3	38	105	91

(5)

b) Determine the best decision according to Minimax Regret criteria for the following payoff table.

Actions→ States of Nature↓	A1	A2	A3
S1	27	45	52
S2	12	17	36
S3	14	35	29

(5)

c) The shopkeeper daily purchases 4, 5 or 6 units of perishable item at cost Rs. 10 each and sell it at Rs. 20 each. The unsold units he distributes at free of cost.
Construct payoff table for the same. (5)

d) Draw a decision tree for the given payoff table and suggest the optimum decision.

States of nature	Probability	Courses of Actions	
		A1	A2
S1	0.4	34	20
S2	0.7	16	14

(5)

e) Define the following terms.
i) Decision maker   ii) Courses of Actions   iii) States of nature   iv) Pay-off table   (5)