

2M5101

Roll No. \_\_\_\_\_

Total No of Pages: 3

2M5101

M.B.A. II - Sem. (Main & Back) Exam., May - 2019

M-201A Human Resource Management

Time: 3 Hours

Maximum Marks: 70  
Min. Passing Marks: 28

**Instructions to Candidates:**

- (i) The question paper is divided in two sections.
- (ii) There are sections A & B. Section A contains 6 questions out of which the candidate is required to attempt any 4 questions. Section B contains short case study / application based question which is compulsory.
- (iii) All questions carry equal marks.

1. NIL

2. NIL

**SECTION - A**

Q.1 (a) What you understand with employee discipline, write complete process with steps in domestic enquiry. [7]

(b) What is formal procedure for grievance redressal? [7]

Q.2 Write down the meaning and significance of selection, process of selection and Techniques to select right fit in an organization. [14]

- Q.3 Explain types of PMS process exists in India. Write a note on 360° appraisal system it's effectiveness.
- Q.4 Explain significance and functions of HRM. Why HRM is important & have vital in modern management function.
- Q.5 Explain "Induction system" in Industrial Organization. Design a model Induc program for new joinee. How it is effective in employee retention.
- Q.6 (a) Design a compensation package of an engineer, you are recruiting for ; company.
- (b) Explain HR MIS process in an organization.

## **SECTION - B**

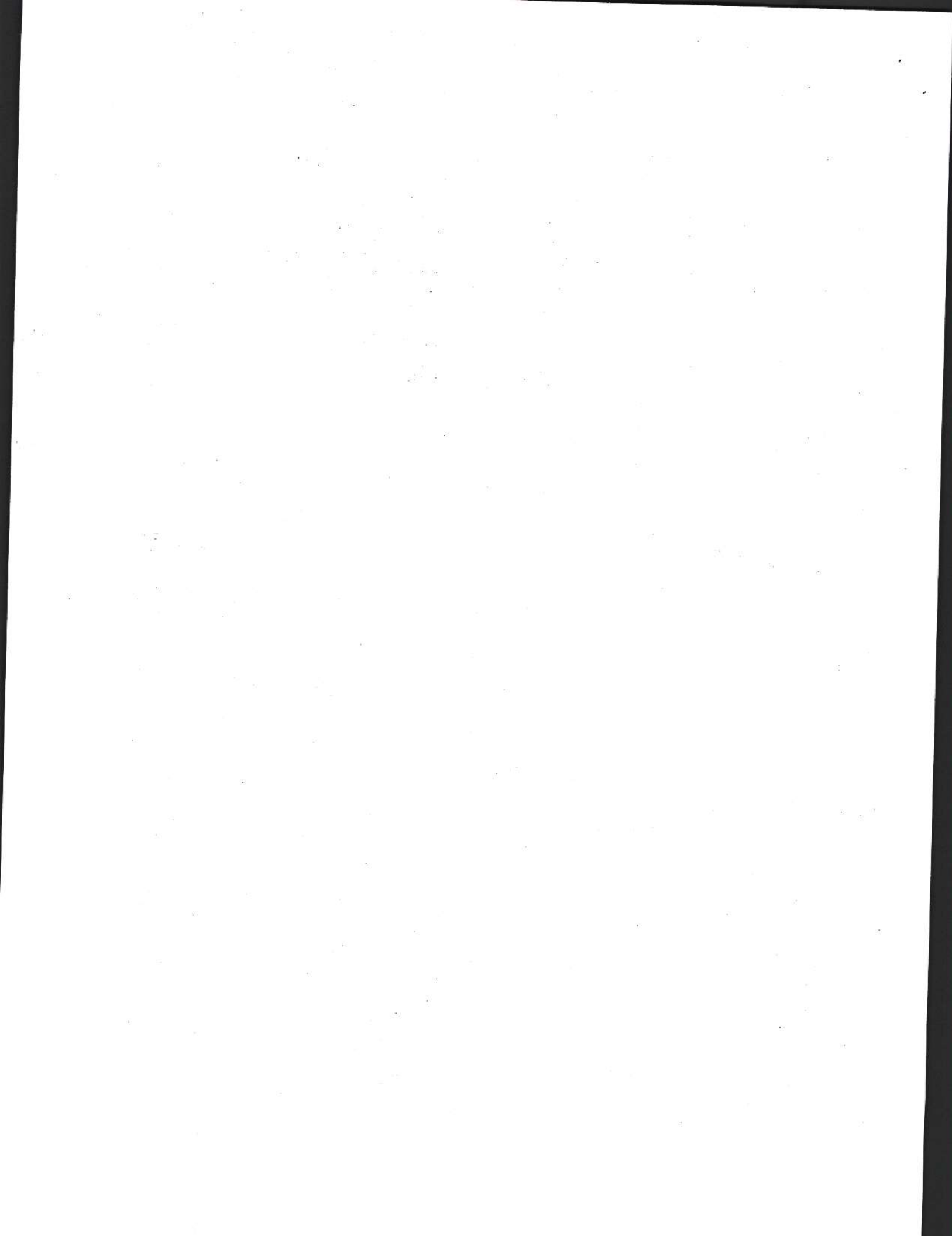
### **Case Study**

- Q.7 You are a HR Manager in an Indian Industry having more than 500 employees, w all the HR practices are followed for its professional existence and growth. successful completion of annual appraisal system few employees are promoted to level, some got good increments but there are 15 employees whose perform assessed below the acceptable level.

You are given a task by the management to develop these 15 employees in due course of next 01 year. You have to design a format for Performance Improvement Plan (PIP) of these employees. Explain the process to be followed to monitor the improvement of these employees.

[7+7=14]

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2M5102

Roll No. \_\_\_\_\_

Total No of Pages: 4

**2M5102**

**M.B.A. II - Sem. (Main & Back) Exam., May - 2019**

**M-202A Cost Accounting for Management**

**Time: 3 Hours**

**Maximum Marks: 70  
Min. Passing Marks: 28**

**Instructions to Candidates:**

- (i) *The question paper is divided in two sections.*
- (ii) *There are sections A & B. Section A contains 6 questions out of which the candidate is required to attempt any 4 questions. Section B contains short case study / application based question which is compulsory.*
- (iii) *All questions carry equal marks.*

1. \_\_\_\_\_

2. NIL \_\_\_\_\_

**SECTION - A**

What is Cost Management? Explain the cost management tools available for a manager to control costs? [4+10=14]

What is Activity Bases Costing? Describe the stages of ABC. [4+10=14]

Explain the features of Balanced Scorecard. How balanced scorecard is an effective performance measurement tool? [7+7=14]

Stocks, production, sales and costs for a quarter are as follows: [14]

Particulars	Value
Opening stock 20,000 units at (including variable cost@ ₹ 5 per unit)	₹ 2,40,00
Production	1,00,000 un
Manufacturing fixed cost	₹ 7,00,00
Variable cost @ ₹ 5 per unit	₹ 5,00,00
Other fixed costs	₹ 80,00
Sales @ ₹ 20 per unit	1,00,000 un
Closing stock 20,000 units	₹ 2,40,00

Prepare income statement under marginal costing.

Q.5 ABC Ltd. manufactures a product A. The following particulars are available:-

- |                                   |                   |
|-----------------------------------|-------------------|
| (a) Monthly demand of A           | 1,000 units       |
| (b) Cost of placing an order      | ₹ 100             |
| (c) Annual carrying cost per unit | ₹ 15              |
| (d) Normal usage                  | 50 units per week |
| (e) Minimum usage                 | 25 units per week |
| (f) Maximum usage                 | 75 units per week |
| (g) Re order period               | 4 to 6 weeks      |

Calculate from above data –

- (i) Reorder quantity
- (ii) Reorder level
- (iii) Minimum level
- (iv) Maximum level and
- (v) Average stock level

Following information is available from cost records of a manufacturing unit for June 2018:

Particulars	Standard	Actual
Production	10,000 tons	11,500 tons
Working days	25	24
Fixed overheads	₹ 5,00,000	₹ 6,00,000
Variable overheads	₹ 2,00,000	₹ 2,40,000

Calculate the following variances:

(i) Variable overheads variances –

(a) Spending variance and efficiency variance.

[7]

(ii) Fixed overhead variances –

[3+2+2=7]

(a) Expenditure variance

(b) Volume variance

(c) Efficiency variance

### SECTION - B

#### Case Study

A producer has two plants –one in Kolkata and another in Chennai producing same product. Cost details regarding the two plants are given below:-

Particulars	Kolkata plant	Chennai plant
Maximum capacity (units)	30,000	50,000
Total fixed cost	₹ 1,60,000	₹ 3,00,000
Depreciation	₹ 40,000	₹ 75,000
Variable cost per unit	₹ 12	₹ 11
Selling price per unit	₹ 20	₹ 20
Output and sales (units)	20,000	40,000

You are required to determine the following:-

- (a) Break-even for each of the two plants.
  - (b) Cash break even for each of the two plants.
  - (c) Combined p/v ratio.
  - (d) Combined break-even for the two plants in terms of sales value and units.
  - (e) In case total output is to be increased by 12,000 units, how much output should be increased from which plant and why?
  - (f) If case total output is to be curtailed by 7,000 units, from which unit it should be curtailed and why?
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**2M5103****M.B.A. II - Sem. (Main & Back) Exam., May - 2019****M-203A Financial Management**

Time: 3 Hours

**Maximum Marks: 70**  
**Min. Passing Marks: 28****Instructions to Candidates:**

- (i) The question paper is divided in two sections.
- (ii) There are sections **A & B**. Section **A** contains **6 questions** out of which the candidate is required to attempt any **4 questions**. Section **B** contains short case study / application based question which is **compulsory**.
- (iii) All questions carry **equal marks**.

Q.1. \_\_\_\_\_

2. NIL**SECTION – A**

“In today’s corporate scenario, wealth maximization objective has become more relevant”. Elucidate. [14]

Write notes on the following-

- (a) Venture capital finance [4]
- (b) Derivatives [3]
- (c) Mergers and Acquisitions [3]
- (d) Concept of risk and return of a signal asset [4]

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- Q.3 (a) Explain factors affecting dividend policy decisions.  
 (b) Different sources of capital and methods of calculating them.
- Q.4 XYZ Ltd. has given you the following estimates for calculating working capital on basis of net assets method and you are instructed to add 10% to your computed figure to allow for contingencies.

Particulars	Amount for the year (₹)
<b>1. Average amount backed up for stocks:</b>	
(i) Stocks of finished products	5,000
(ii) Stocks of stores and materials	8,000
<b>2. Average credit given:</b>	
(i) Inland debtors, 6 week's credit	3,12,000
(ii) Exports, 1.5 weeks credit	78,000
<b>3. Average time lag in payment of wages and other outgoings:</b>	
(i) Wages, 1.5 weeks	2,60,000
(ii) Stocks and materials, 1.5 months	48,000
(iii) Rent and royalties, 6 months	10,000
(iv) Clerical staff, 0.5 month	62,400
(v) Manager, 0.5 month	4,800
(vi) Miscellaneous expenses, 1.5 months	48,000
<b>4. Payment in advance:</b>	
(i) Sundry expenses (paid quarterly in advance)	8,000
(ii) Undrawn profits on an average throughout the year	11,000

Calculate working capital required for the company and show your calculations.

1.5 The selected financial data for A, B and C companies for the current year ended March

31 are as follows-

[14]

Particulars	A	B	C
Variable expenses as percentage of sales	66.67	75	50
Interest expenses (₹)	200	300	1,000
Degree of operating leverage	5	6	2
Degree of financial leverage	3	4	2
Income tax rate	35%	35%	35%

Prepare income statements for A, B and C companies.

- 6 (a) If you invest ₹ 2,000 in a bank deposit and the bank offers you 8% interest rate per annum compounded on quarterly basis, how much your investment value will be after two years? [3]
- (b) If you invest ₹ 1,000 every month in a recurring deposit at 10% interest rate compounded monthly, what will be the value of your investment after one year? [4]
- (c) The future value of an investment is ₹ 10,000 after three years. Calculate its present value if the discounted rate is 6%. [3]
- (d) Calculate EMI of a loan amount of ₹ 1,00,000 with interest rate of 10% per annum and tenure of loan is of 5 years. [4]

## SECTION - B

### Case Study

Q.7 A company is considering an investment proposal to invest in a plant at a cost of ₹ 50,000. The facility has a life expectancy of 5 years and no salvage value. The tax rate is 35%. Assume the firm uses straight line method of depreciation and the same is allowed for tax purposes. The estimated cash flows before depreciation and (CFBDT) from the investment proposal are as follows:

Year	CFBDT
1	₹ 10,000
2	10,692
3	12,769
4	13,462
5	20,385

Compute average rate of return, payback period, net present value and internal rate of return of the project if discount rate is 10%.

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2M5104

Roll No. \_\_\_\_\_

Total No of Pages: 4

**2M5104**

**M.B.A. II - Sem. (Main & Back) Exam., May - 2019**

**M-204A Marketing Management**

**Time: 3 Hours**

**Maximum Marks: 70**

**Min. Passing Marks: 28**

**Instructions to Candidates:**

- (i) *The question paper is divided in two sections.*
- (ii) *There are sections A & B. Section A contains 6 questions out of which the candidate is required to attempt any 4 questions. Section B contains short case study / application based question which is compulsory.*
- (iii) *All questions carry equal marks.*

IL \_\_\_\_\_

2. NIL \_\_\_\_\_

**SECTION - A**

Define Marketing Management. What is Marketing Mix? Explain the various Marketing Mix elements taking the example from FMCG sector. [14]

“Traditionally, the segmentation strategy has been for consumer product marketing and is effective segment is measureable and differentiable.” In the given statement explain commonly used basis segmenting consumer products markets and requirements of effective segmentation. [14]

- (a) Explain in detail various marketing strategies adopted by companies in different stages of product life cycle with the help of relevant examples. [10]
- (b) Briefly describe five levels of product with reference to a consumer durable good. [4]

- Q.4 “To design a marketing channel system, marketers analyze customer needs and establish channel objectives and constraints and identify and evaluate major channel alternatives”. Elaborate citing examples.
- Q.5 Write short notes on the following – [3.5×4]
- (a) Rural Marketing
  - (b) Explain the key components of Integrated Marketing Communication Mix
  - (c) Factors affecting marketing environment
  - (d) Marketing Mix
- Q.6 Why and how do psychological factors influence consumer buying behavior? potential buyer of a latest brand of smart watch, briefly explain the social and cultural factors that affect your buying decision.

## **SECTION - B**

### **Case Study**

- Q.7 Study the case given below and answer the questions given at the end.

In 1995, Pierre Omidayar, a French-Iranian immigrant, wrote the code for an auction Web site where everyone would have equal access to a single global marketplace. Omidayar couldn't believe it when a collector bought the first item, a broken pocket watch, for \$14.83.\* Soon the site grew into a broader auction site where consumers could sell collectibles ranging from baseball cards to Barbie dolls. The momentum continued when individuals and small businesses discovered that eBay was an effective way to reach new customers and other businesses, and large companies began using it as a means of selling their bulk lots of unsold inventory. The company grew from 250,000 auctions in 1996 to 2,000,000 auctions in 1997. In 1998, it hired Meg Whitman as CEO, and she helped take eBay public later that year.

eBay's success created a pricing revolution because it allowed buyers to bid on what they would pay for an item. The result pleased both sides; customers gained confidence and received the best possible price for the item, while sellers made good margins due to the site's efficiency and wide reach.

For years, buyers and sellers also used eBay as an informal guide to market value. Even a company with a new-product design that wanted to know the going price for anything from a copier to a new DVD player checked on eBay. The online marketplace was fascinating to economists as well, who used it to analyze pricing theories and compare them with actual buying and selling behaviours.

eBay itself doesn't buy any inventory or own the products on its site. It earns its revenue by collecting fees: an insertion fee for each listing plus a final-value fee based on the auction or fixed price. For example, if an item sells for \$60.00, the seller pays 8.75 percent on the first \$25.00 (\$2.19) plus 3.5 percent on the remaining \$35.00 (\$1.23). Therefore, the final-value fee for the sale is \$3.42. This pricing structure was developed to attract high-volume sellers and deter those who list only a few low-priced items. With eBay's expansion into a wide range of other categories—from boats, cars, and travel to health and beauty and home and garden-collectibles now make up only a small percentage of sales.

eBay now offers more pricing options, including a fixed-price "buy it now" option to those who don't want to wait for an auction and are willing to pay the seller's price. Sellers can also use the fixed-price format with a "best offer" option that allows them to counteroffer, reject, or accept an offer.

The company's business model is based on connecting individuals who otherwise would not be in touch. It was the first example of online social networking, years before Twitter and Facebook existed, and consumer trust is a key element of its success. While skeptics initially questioned whether consumer would buy products from strangers, Omidayar believed people are innately good, and eBay's originators did two things well: They built a strong online community, and they developed tools to help reinforce trust between strangers. The company tracks and publishes the reputations of both buyers and sellers on the basis of feedback from each transaction. It now has four seller criteria: items as described, communication, shipping time, and shipping and handling rate. The ratings are anonymous but are visible to buyers. Sellers with the highest rankings appear at the top of search results.

Over the years, eBay has expanded its capabilities, services, and partnerships to continue building its community and connecting people around the world. For instance, the company acquired PayPal, an online payment service, in 2002 after eBay members made it clear that PayPal was the preferred method of payment. The acquisition gave

consumers a safe way to transfer money, lowered currency and language barriers, helped merchants sell their products around the world.

Although eBay was a darling in the dot-com boom and has achieved tremendous success since then, it has had its fair share of challenges. These include a worldwide recession, increased competition from Google and Amazon.com, and difficulty expanding globally into markets such as China.

Meg Whitman retired in 2008 after leading the company for 10 years and replaced by John Donahoe. Under Donahoe, eBay has made 34 acquisitions—primarily e-commerce and payments businesses such as Shopping.com, StubHub, and Bill Later but also businesses offering backend technologies. Donahoe is moving the company toward a business model that can compete with Amazon.com, including expanding its online marketplace to include many returnable goods at fixed prices. Currently 30 percent of eBay’s sales now come from auctions. The company has also been promoting eBay Now, which partners with big retailers like Macy’s, Target, Home Depot, and Toys “R” Us to deliver orders in about an hour for a minimum charge.

Today, people can buy and sell virtually any product or service on the world’s largest online marketplace. From appliances and computers to cars and real estate, sellers can list anything as long as it is not illegal and does not violate eBay’s rules and policies.

The impact of eBay’s global reach is significant. In 2014, the online marketplace had almost 150 million active users and more than 500 million items listed. A pair of shoes is sold there every two seconds, a man’s necktie every 23 seconds, a microwave appliance every 26 seconds, and an LCD television every six minutes. With its volume, its acquisitions, and consumers’ increased use of mobile devices, Donahoe hopes to double eBay’s active-user count to more than 200 million by 2015 and increase revenue from \$14 billion to \$23 billion.

Questions –

- (a) Why has eBay succeeded as an online auction marketplace while so many others have failed?
- (b) Evaluate eBay’s fee structure. Is it optimal, or could it be improved? Why? How?

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2M5105

Roll No. \_\_\_\_\_

Total No of Pages: 3

**2M5105**

**M.B.A. II - Sem. (Main & Back) Exam., May - 2019**

**M-205A Operations & Supply Management**

**Time: 3 Hours**

**Maximum Marks: 70**  
**Min. Passing Marks: 28**

**Instructions to Candidates:**

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- (iii) *All questions carry equal marks.*

11L

2. NIL

**SECTION - A**

- (a) Discuss the meaning of supply management. How is it related to operations management? [7]
- (b) Discuss the different strategic decisions in operations that may help a firm to get competitive advantage. [7]
- (a) Give a comparative view point explaining the distinct features of the different systems of production. [7]
- (b) Location A would result in fixed cost of ₹ 3,00,000 and variable cost of ₹ 63 per unit and revenues of ₹ 68 per unit. Annual fixed costs at location B are ₹ 8,00,000 with variable costs of ₹ 32 per unit and revenue of ₹ 68 per unit. Sales volume is estimate to be ₹ 25,000 units / year which location is most attractive. [7]

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- Q.3 (a) Discuss the steps involved in basic work – study procedure. [
- (b) Pilot study showed percentage of occurrence of an activity as 50%. Determine the number of observation required for a work sampling study for 95% confidence level and a relative error of  $\pm 2\%$ . ]

- Q.4 (a) Discuss the impact of uncertainty on supply chain design. ]
- (b) Explain the Do's and don'ts of TQM implementation. ]
- (c) Explain Arrow and Matrix diagram in detail with examples. ]
- (d) A work center operates 5 days a week on 2- shifts per day basis, each shift of 8 hours duration. There are five machines of the same capacity in this work center. If the machines are utilized 80% of the time at a system efficiency of 90%. What is the rated output in standard hours per week. ]

Q.5 Write short notes – [3.5]

- (a) Application of Pareto Analysis in management
- (b) Inventory Model
- (c) Causal Relationship Forecasting
- (d) Make or buy decisions

- (a) Compare synchronous manufacturing to MRP and JIT. [7]
- (b) 'Three' Limited is a popular manufacturer of different kind of lifting tools. These lifting tools are made of polypropylene fibre. The company installed a plant for backward integration of its raw material polypropylene fibre at the rate of 5000 mt per hour. The usage rate of these fibre for the production of lifting tools is 20000 mt per day considering 8 hours working per day. The cost of fibre is ₹ 5 per metre. The inventory carrying cost is 25% and the set up cost are ₹ 4050 per set up. Compute optimal number of cycle required in a year for manufacturing of this special fibre. (Take 365 days as no. of days for year in your computations) [7]

### SECTION - B

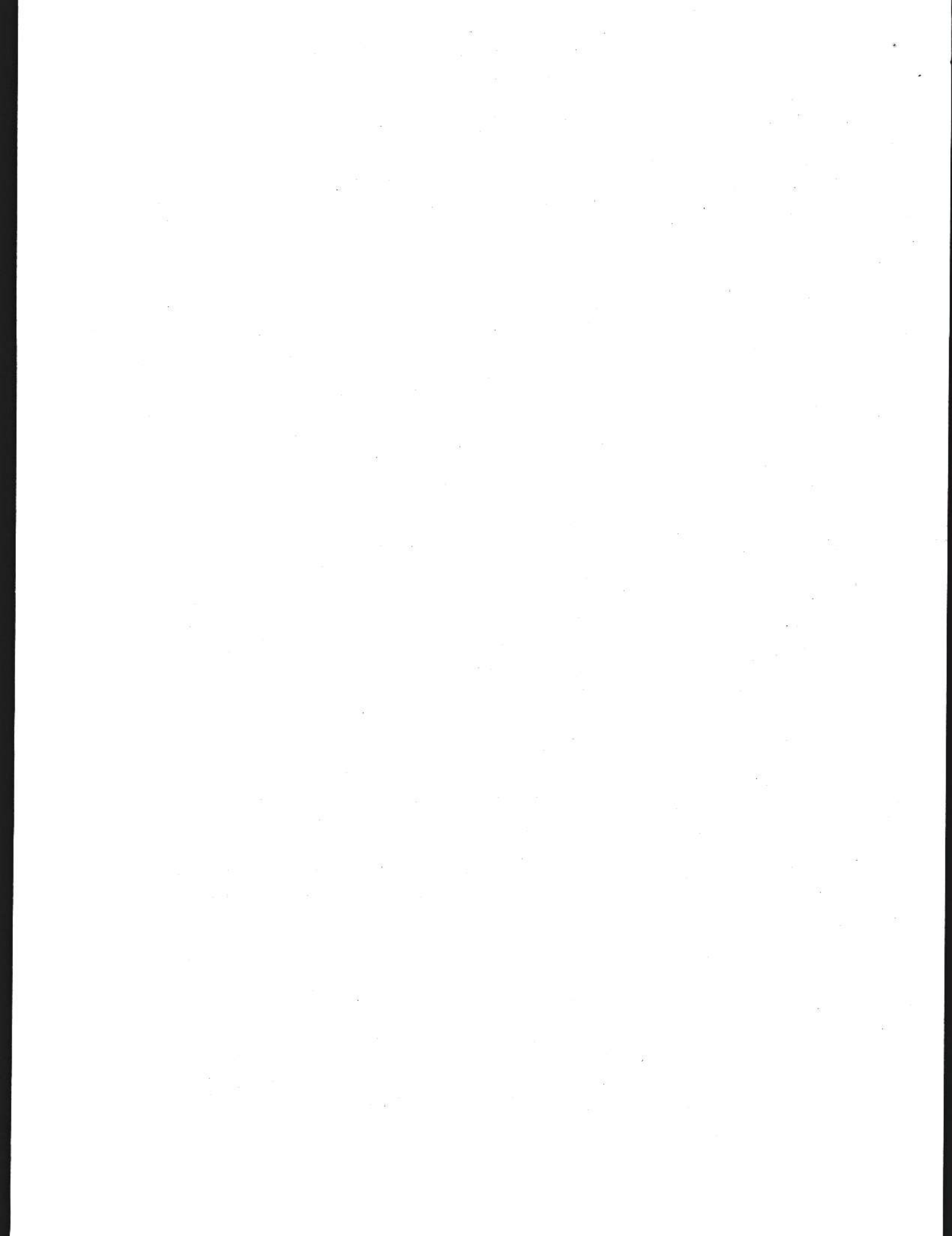
#### Case Study

A crane wheel assembly is made of cast steel wheel and two gun metal bushes. Find the cost of the assembly assuming no special tooling is required and using the details given below: [14]

	Cast Wheel	Gun Metal Bush
(i) Weight of each raw casting	25kg.	3kg.
(ii) Material Cost/kg.	₹ 20	₹ 60
(iii) Sale Price of Scrap/kg.	₹ 4	₹ 40
(iv) Finished weight/unit after machining	20kg.	2kg.
(v) Machine hours required per unit:		
(a) Boring M/c	6hrs.	-
(b) Lathe	-	1.5 hrs.

Machine Hour Rates are ₹ 40/hour for Boring.

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**2M5106****M.B.A. II - Sem. (Main / Back) Exam., May - 2019**  
**M – 206A Research Methods in Management****: 3 Hours****Maximum Marks: 70**  
**Min. Passing Marks: 28****Instructions to Candidates:**

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- iii) *All questions carry equal marks.*

2. NIL**SECTION - A**

A research scholar has to work as a judge and derive the truth and not as a pleader who is only eager to prove his case in favor of his plaintiff". Discuss the statement pointing out the objectives of research. [14]

Discuss steps involved in research process. Explain sample design and procedure of electing a random sample. [14]

- a) Discuss types of data analysis. [7]
- b) Differentiate between Non parametric and parametric test. [7]

Q.4 The mean of two large samples of sizes 1000 and 2000 are 67.5 and 68.0 respectively.

Test the equality of means of the two populations each with s.d. 2.5.

Q.5 Blood glucose level of pigeons is compared with rabbits. Apply proper statistical test to know the significance of difference of blood glucose levels of the two using following data and comment your result.

(t (table) @ 5% level of significance = 2.101)

S. No.	1	2	3	4	5	6	7	8	9	10
Pigeons (blood glucose)	200	186	176	184	170	172	170	163	176	170
Rabbits (blood glucose)	145	125	100	112	127	139	151	140	159	130

Q.6 (a) Write the basic principle of ANOVA test.

(b) Write steps of Chi-square test.

## **SECTION - B**

### **Case Study**

Q.7 Prepare an imaginary research report for an FMCG product. Briefly discuss the precautions in preparing report.

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**2M5107****M.B.A. II - Sem. (Main / Back) Exam., May - 2019**  
**M-207A New Enterprise and Innovation Management**  
**(NE & IM)****e: 3 Hours****Maximum Marks: 70**  
**Min. Passing Marks: 28****Instructions to Candidates:**

- (i) *The question paper is divided in two sections.*
- (ii) *There are sections A & B. Section A contains 6 questions out of which the candidate is required to attempt any 4 questions. Section B contains short case study / application based question which is compulsory.*
- (iii) *All questions carry equal marks.*

IL \_\_\_\_\_

2. NIL \_\_\_\_\_

**SECTION - A**

- (a) Who is an entrepreneur? What are the entrepreneurial competencies required by a successful entrepreneur? [7]
- (b) Comment how international business environment provides opportunities to an entrepreneur. [7]

What are the sources of business ideas? Why is feasibility study important? Take a hypothetical example to show the different types of feasibility studies necessary to conduct before starting a business. [14]

- Q.3 (a) Discuss the various heads included in a business plan. How is business plan important in starting a start-up?
- (b) What is significance of a financial plan? Discuss the important financial heads included in it.
- Q.4 (a) Discuss framework of financial institutions supporting women entrepreneurs in India.
- (b) Discuss the different external sources of finance for a venture.
- Q.5 (a) What have been the major changes in the gems and jewelry startups after implementation of GST regime? [3]
- (b) How can a franchisee business be started? [3]
- Q.6 Write short notes on the following –
- (a) Institutional support for SSIs [3]
- (b) Strategic alliances and external sources of finance [3]
- (c) Incubators and accelerators [3]
- (d) Breakeven Analysis [3]

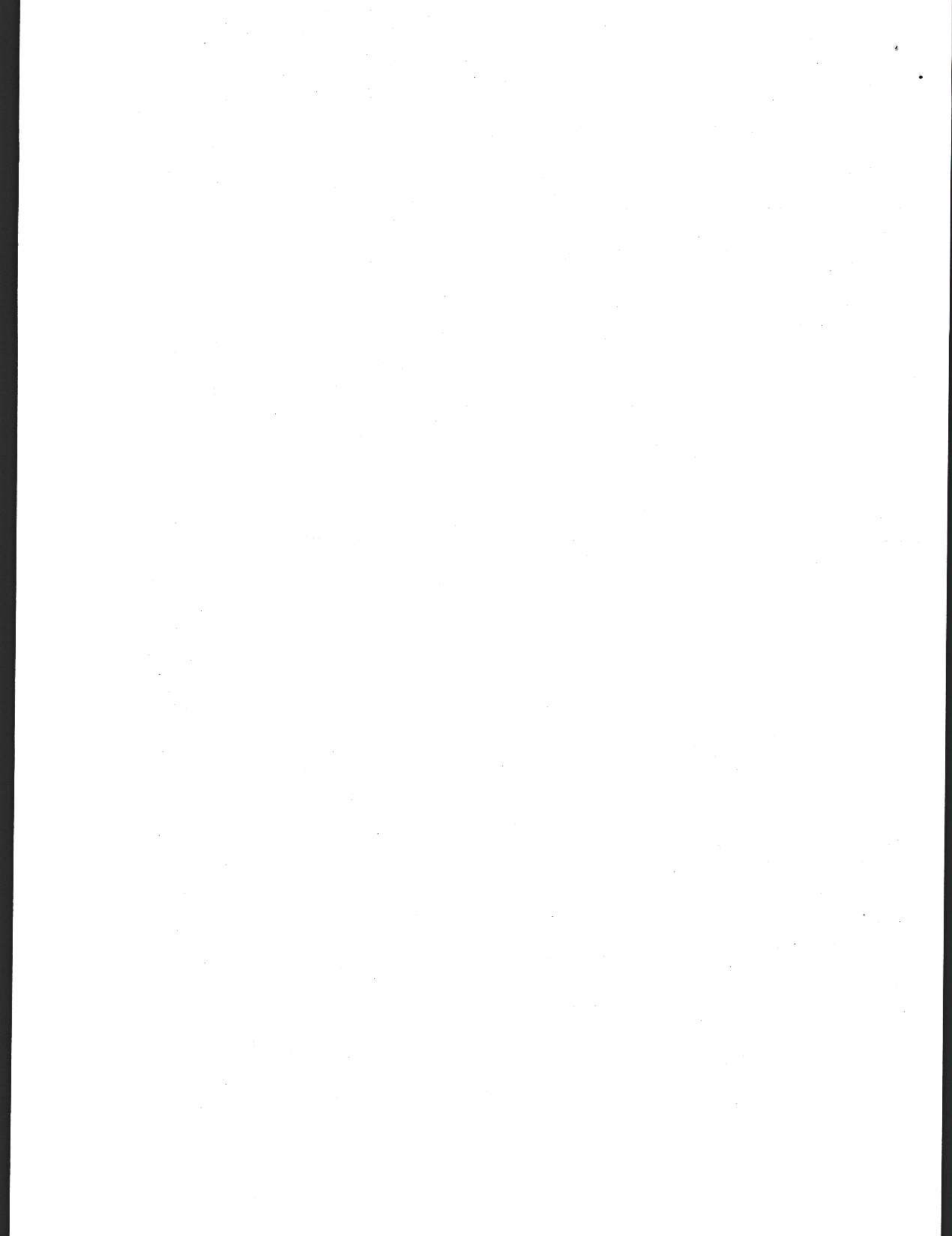


## SECTION - B

### Case Study

A start-up firm ABC dealing in electrical appliances related to personal care, plans to launch an innovative hair dressing and styling self-driven equipment. What should the steps taken by the firm in managing such innovation in following areas –

- (a) Research and Development [5]
  - (b) Marketing Management [5]
  - (c) Financial Management [4]
-



**2M5108****M.B.A. II - Sem. (Main & Back) Exam., May - 2019**  
**M-208A Operations Research****e: 3 Hours****Maximum Marks: 70**  
**Min. Passing Marks: 28****Instructions to Candidates:**

- (i) *The question paper is divided in two sections.*
- (ii) *There are sections A & B. Section A contains 6 questions out of which the candidate is required to attempt any 4 questions. Section B contains short case study / application based question which is compulsory.*
- (iii) *All questions carry equal marks.*

1. \_\_\_\_\_

2. NIL \_\_\_\_\_**SECTION - A**

- (a) Discuss the role of Quantitative techniques in business decision making. [7]
- (b) Solve the following Linear Programming Problem by Graphical Method. [7]

$$\text{Max } Z = 500x_1 + 800x_2$$

Subject to

$$x_1 \leq 80$$

$$x_2 \leq 60$$

$$5x_1 + 6x_2 \leq 600$$

$$x_1 + 2x_2 \leq 160$$

$$\text{and } x_1, x_2 \geq 0$$

Q.2 (a) Solve the following Game theory problem –

		B			
		B <sub>1</sub>	B <sub>2</sub>	B <sub>3</sub>	B <sub>4</sub>
A	A <sub>1</sub>	3	2	4	0
	A <sub>2</sub>	3	4	2	4
	A <sub>3</sub>	4	2	4	0
	A <sub>4</sub>	0	4	0	8

(b) Define Saddle point in the game theory problem by giving some suitable example.

Q.3 (a) Solve the following maximization problem by assignment method.

	A	B	C	D	E
1	30	37	40	28	40
2	40	24	27	21	36
3	40	32	33	30	35
4	25	38	40	36	36
5	29	62	41	34	39

(b) Solve the Transportation Problem by Vogel Approximation Method.

		Destination Centre				
		P	Q	R	T	Supply
Production Centre	A	4	6	22	14	6
	B	2	0	12	2	1
	C	10	16	30	18	10
Demand		7	5	3	2	

4 Given the following Information

Activity	Predecessor	Duration
A	-	9
B	-	4
C	-	7
D	B, C	8
E	A	7
F	C	5
G	E	10
H	E	8
I	D, F, H	6
J	E	9
K	I, J	10
L	G	2

Find the critical path and different types of Floats. [14]

5 (a) A retailer buys an item at 2 per case and sells the same at 5. He incurs a Loss of 2 for every unsold item. The problem is how much quantity he must-stock. Previous experience shown that demand varies from 13 to 15 cases a day using. [7]

- (i) Maxi-max criterion
- (ii) Maxi-min criterion
- (iii) Hurwitz criterion
- (iv) Laplace criterion
- (v) Mini-max Regret criterion (take  $\alpha = .7$ )

(b) A newspaper boy has the following probabilities of selling a magazine. [7]

No. of copies sold	10	11	12	13	14
Probability	.10	.15	.20	.25	.30

Cost of a copy is 3 and sales price is 5. He cannot return the unsold magazines.

Determine optimal act and EVPI.

Q.6 A company manufactures around 200 mopeds depending upon the availability of material and other factors the daily production varies from 196 mopeds to 204 mopeds whose probability distribution is as given below. [

Prod'n per day	196	197	198	199	200	201	202	203	204
Probability	.05	.09	.12	.14	.20	.15	.11	.08	.06

The finished mopeds are transported in a specially designed 3 story lorry that can accommodate 200 mopeds.

Required: Using the following 15 random number.

82, 89, 78, 24, 53, 61, 18, 45, 04, 23, 50, 77, 27, 54, 10 simulate the process to find

- What will be the average number of moped waiting in the factory?
- What will be the average number of empty space on the Lorry?

## SECTION - B

### Case Study

Q.7 A firm makes two types of furniture i.e. chairs and tables. The contribution for each product as calculated by the accounting department is 20 per chair and 30 per table. Both products are processed on 3 machines M<sub>1</sub>, M<sub>2</sub>, M<sub>3</sub>. The time required in Hours by each product and total time available in Hours per week on each machine is as follows. [1

Machine	Chair	Table	Available time
M <sub>1</sub>	3	3	36
M <sub>2</sub>	5	2	50
M <sub>3</sub>	2	6	60

How should the manufacture schedule his production in order to maximize contribution?

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