Delhi School of Business
PGDM & PGDM (FINTECH) Program
END-TERM EXAMINATION, October 2023
TERM – I (Batch: 2023-25)

Course Name	Managerial economics	Course Code	ME
Duration	2.5 Hours	Max. Marks	40

Instructions:

1. Start all questions in a fresh page

2. All the sub-sections should be separate for writing any comment or to allocate marks

3. In question 1, the credit will be given for precise answers

4. Question 2 and 3 answers should be limited to maximum of 1 page and each argument should be in a different paragraph with a sub-heading; (e.g-<u>Poor management</u>: XXXX as an explanation)

5. Copy paste of the case facts only will attract penalty; Application of economic concepts and theory is required for explaining your arguments

Q.1 State whether the statement is "True or false" **(0.5 marks)** and *give an explanation* **(1.5 marks)** for the same.

A. Fixed inputs are always variable in short run but is constant in the long run as the firm is aware of its capacity due to operationalization of its investment plans.

B. The output elasticity of labour cannot be more than one in any production scenario.

C. It is more economical to operate on the rising portion of the isoquant as the firm increases its overall usage of its unutilized input resources.

D. The degree of economies and diseconomies of scale determines the economies of scale of a firm at any point of time.

E. Opportunity cost of an input is nothing, but the payment made by the firm during its purchase process.

F. Large firms have higher economies of scale only due to high capacity and specialization within the firm.

DELHI SCHOOL OF BUSINESS

By Vivekananda Institute of Professional Studies - TC

Break-even volume of a firm is more than the targeted profit volume.

~~G. Cost-volume-profit volume is more than targeted profit volume of any firm.~~

H. All firms should operate at that level when marginal revenue is equal to its marginal cost of production.

I. Monopoly is necessarily bad for any economy.

J. Cartelization phenomena is beneficial for both consumers and producers.

(1.5*10=15 Marks) CO 1;

Q.2 Explain with examples how a firm achieves economies of scale in their international operations **(8 Marks) CO 2;**

Q.3 A firm with a higher operating leverage have higher creditworthiness **(7 Marks) CO 2;**

$$\frac{TFC}{TVC}$$

Q.4 Analyse the following case on Indian Steel Industry and answer the question following the same

During the golden period of growth of steel industry from 2003 to 2007, the steel industry in India registered a compound annual growth rate (CAGR) of 24.5 percent, primarily due to huge demand of steel from China in the run up to the Beijing Olympics. However, between 2010 to 2015, the profits of steel industry declined by more than 46 percent in nominal terms. Despite demand from China cooled down after 2008, the Indian companies made fresh investments and remain over invested beyond the Chinese boom. The upshot was skyrocketing of non-performing assets, spreading panic to the banking sector. Moreover, the higher cost of capital accompanied with expanded plant capacity, forced the companies to operate a lower capacity with associated higher production costs, because of which the Indian companies could not withstand import competition (Table 2)

Table 1: Per capita Steel Consumption vs GDP per capita in PPP terms

Country	Per capita Steel Consumption (in Kg)	GDP per capita (in 2013 PPP US$)
India	57.8	5411.6
China	545.0	11906.5
Brazil	132.1	15037.5
Iran	219.0	15590.3
Russia	304.6	24111.6
Italy	359.5	35597.3
Japan	516.8	36449.1
France	213.5	37871.9
Canada	402.8	43247.0
Germany	463.2	44469.4
USA	300.8	53042.0

break-even

![Delhi School of Business logo]

DELHI SCHOOL OF BUSINESS
By Vivekananda Institute of Professional Studies – TC

Table 2: Competitiveness Ratios for Indian Steel Companies

Particulars	Nippon (Japan)	POSCO (Korea)	TISCO	SAIL	Severstal (Russia)	BAO (China)
Lb cost / tonne pdn (USD)	58.2	43.1	86.5	123.9	119.9	8.6
Material and other cost/tonne steel pdn.	843.3	762.4	549.3	578.5	659.4	870.5
Operating Rate (%)	94	99.4	73.5	80	93.3	92.5
Value Added per employee (000 USD)	326.4	419.2	91.3	30	77.4	97.8

According to RBI, steel, power, and other infrastructure related firms had a share of 27.8 percent in the total advances from banks as of second quarter of 2015-16, their share of non-performing assets was a whopping figure of 56.1 percent, indicating higher risk profile for the sector. The banks have been working on the debt restructuring with steel companies to salvage whatever value of their principal component they can recover before liquidation. As an added Chinese blow, steel imports to India surged to 10 MT with 3.6 MT coming from China during the period.

I. Analyse the reasons for low competitiveness of Indian Steel firms.
II. How the international firms out competed Indian firms in the domestic and international steel market.
III. What are possible ways through which Indian Steel Companies can improve their performance. (4+3+3 =10; CO 3)

DELHI SCHOOL OF BUSINESS
By Vivekananda Institute of Professional Studies - TC

Delhi School of Business
& PGDM (FINTECH) Program
END-TERM EXAMINATION, October 2023
TERM – I (Batch: 2023-25)

Course Name	QT	Course Code	
Duration	2.5 Hours	Max. Marks	80

Instructions:

1. Please attempt all the question

2. Write in detail, explaining each concept that has been taught in class

3. Total marks is 80 but it will be scaled to 40

Q.1 Construct a box and whisker plot on the following data? Is the distribution of data skewed ?

540	690	503	558	490	609
379	601	559	495	562	580
510	623	477	574	588	497
527	570	495	590	602	541

(5 Marks) CO____1___

Q.2 The National Safety Council released the following data on the incidence rates for fatal or lost-worktime injuries per 100 employees for several industries in three for several industries in three recent years

Industry	Year 1	Year 2	Year 3
Textile	0.46	0.48	0.69
Chemical	0.52	0.62	0.63
Communication	0.90	0.72	0.81
Machinery	1.50	1.74	2.10
Services	2.89	2.03	2.46
Nonferrous metals	1.80	1.92	2.00

Food	3.29	3.18	3.17
Government	5.73	4.43	4.00

Compute correlation(r) for the following pairs

a. Year 1 and Year 2
b. Year 2 and Year 3.   (10 Marks) CO_1_____

Q.3   Shown here are the raw values of matrix and corresponding probability matrix for the results of a national survey of 200 executives who were asked to identify the geographic locale of their company and their company's industry type. The executives were only allowed to select one locale and one industry type

RAW VALUES MATRIX

		Geographic Location			
		NorthEast D	SouthEast E	MidWest F	West G	Total
Industry Type	Finance A	24	10	8	14	56
	Manufacturing B	30	6	22	12	70
	Communication C	28	18	12	16	74
	Total	82	34	42	42	200

Answer the following questions based on the information given above.

3a. What is the probability that the respondent is from Midwest(F) ? 2 mark

3b. What is the probability that the respondent is from the communcations industry (C) or from the Northeast (D) ? 2 marks

3c. What is the probability that the respondent is from the Southeast(E) or from the finance industry(A) ? 2 marks

3d. Find P(B∩E), P(G∩A), P(B∩C) . [Each carried 1 mark here.]

3e.Find P(B|F), P(G|C), P(D|F). [Each carried 2 mark here.]
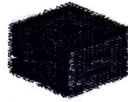
Q.4 According to Information Resources, which publishes data on market share for various products, Oreos control about 10% of the market for cookie brands. Suppose 20 purchasers of cookies are selected randomly from the population, What is the probability that fewer than four purchases choose Oreos ?   (5 Marks)   CO__3_____

Q.5 A manufacturing company produces 10,000 plastic mugs per week. This company supplies mugs to another company, which packages the mugs as part of picnic sets. The second company randomly samples 10 mugs sent from the supplier. If two or fewer of the sampled mugs are defective, the second company accepts the lot. What is the probability that the lot will be accepted if the mug manufacturing company actually is producing mugs that are :

A. 10% defective

B. 20% defective

C. 30% defective

D. 40% defective.

Also, find the expected number of defects in each of the above case

Alternatively, you may use the information above to fill the following table.

Probability(p)	Lot Accepted $P(x<=2)$	Expected number of Defects(μ)
10%		
20%		
30%		
40%		

(10 Marks) CO__3_____

Q.6 Runzheimer International publishes business travel costs for various cities throughout the world. In particular, they publish per diem totals, which represent the average costs for the typical business traveller including three meals a day in business-class restaurants and single-rate lodging in business class hotels and motels. If 86.65% of the per diem costs in

Buenos Aires, Argentina, are less than @449 and if the standard deviation of per die costs is $36, what is the average per diem cost in Buenos Aires? Assume that per diem costs are normally distributed. (10 Marks) CO__3____

Q7. Toolworkers are subject to work-related injuries. One disorder, caused by strains to the hand and wrists, is called carpal tunnel syndrome. It strikes as many as 23,000 workers per year. The U.S. Labor Department estimates that the average cost of this disorder to employers and insurers is approximately $30,000 per injured worker. Suppose these costs are normally distributed, with a standard deviation of $9,000. (15 Marks) CO__3____

a. What proportion of the costs are between $15,000 and $45,000 ? (2 Marks)
b. What proportion of the costs are greater than $50,000? (2 Marks)
c. What proportion of the costs are between $5,000 and $20,000 ? (2 Marks)
d. Suppose the standard deviation is unknown, but 90.82% of the costs are more than $7,000. What would be the value of the standard deviation? (4 Marks)
e. Suppose the mean value is unknown, but the standard deviation is still $9,000. How much would the average cost be if 79.95% of the costs were less than $30,000?
(5 Marks)

Q.8 A small lawnmower company produced 1500 lawnmowers in 1990. In an effort to determine how maintenance-free these units were, the company decided to conduct a multiyear study of the 1000 lawnmowers. A sample of 200 owners of these lawnmowers was drawn randomly from the company records and contacted. The owners were given an 800 number and asked to call the company when the first major repair was required for the lawnmowers. Owners who no longer used the lawnmower to cut their grass were disqualified. After many years, 187 of the owners had reported. The other 13 disqualified themselves. The average number of years until the first major repair was 5.3 for the 187 owners reporting, and the sample standard deviation was 1.28 years. The company wants to advertise an average number of years of repair-free lawn mowing for this lawnmowers. Construct a 95% confidence interval for the average number of years until the first major repair. (10 Marks) CO__4____

Standard Normal (Z) Table
Area between 0 and z
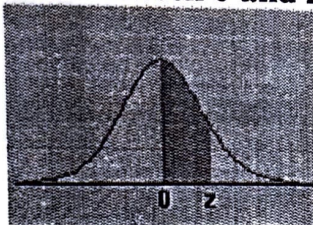
	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	0.0000	0.0040	0.0080	0.0120	0.0160	0.0199	0.0239	0.0279	0.0319	0.0359
0.1	0.0398	0.0438	0.0478	0.0517	0.0557	0.0596	0.0636	0.0675	0.0714	0.0753
0.2	0.0793	0.0832	0.0871	0.0910	0.0948	0.0987	0.1026	0.1064	0.1103	0.1141
0.3	0.1179	0.1217	0.1255	0.1293	0.1331	0.1368	0.1406	0.1443	0.1480	0.1517
0.4	0.1554	0.1591	0.1628	0.1664	0.1700	0.1736	0.1772	0.1808	0.1844	0.1879
0.5	0.1915	0.1950	0.1985	0.2019	0.2054	0.2088	0.2123	0.2157	0.2190	0.2224
0.6	0.2257	0.2291	0.2324	0.2357	0.2389	0.2422	0.2454	0.2486	0.2517	0.2549
0.7	0.2580	0.2611	0.2642	0.2673	0.2704	0.2734	0.2764	0.2794	0.2823	0.2852
0.8	0.2881	0.2910	0.2939	0.2967	0.2995	0.3023	0.3051	0.3078	0.3106	0.3133
0.9	0.3159	0.3186	0.3212	0.3238	0.3264	0.3289	0.3315	0.3340	0.3365	0.3389
1.0	0.3413	0.3438	0.3461	0.3485	0.3508	0.3531	0.3554	0.3577	0.3599	0.3621
1.1	0.3643	0.3665	0.3686	0.3708	0.3729	0.3749	0.3770	0.3790	0.3810	0.3830
1.2	0.3849	0.3869	0.3888	0.3907	0.3925	0.3944	0.3962	0.3980	0.3997	0.4015
1.3	0.4032	0.4049	0.4066	0.4082	0.4099	0.4115	0.4131	0.4147	0.4162	0.4177
1.4	0.4192	0.4207	0.4222	0.4236	0.4251	0.4265	0.4279	0.4292	0.4306	0.4319
1.5	0.4332	0.4345	0.4357	0.4370	0.4382	0.4394	0.4406	0.4418	0.4429	0.4441
1.6	0.4452	0.4463	0.4474	0.4484	0.4495	0.4505	0.4515	0.4525	0.4535	0.4545
1.7	0.4554	0.4564	0.4573	0.4582	0.4591	0.4599	0.4608	0.4616	0.4625	0.4633
1.8	0.4641	0.4649	0.4656	0.4664	0.4671	0.4678	0.4686	0.4693	0.4699	0.4706
1.9	0.4713	0.4719	0.4726	0.4732	0.4738	0.4744	0.4750	0.4756	0.4761	0.4767
2.0	0.4772	0.4778	0.4783	0.4788	0.4793	0.4798	0.4803	0.4808	0.4812	0.4817
2.1	0.4821	0.4826	0.4830	0.4834	0.4838	0.4842	0.4846	0.4850	0.4854	0.4857
2.2	0.4861	0.4864	0.4868	0.4871	0.4875	0.4878	0.4881	0.4884	0.4887	0.4890
2.3	0.4893	0.4896	0.4898	0.4901	0.4904	0.4906	0.4909	0.4911	0.4913	0.4916
2.4	0.4918	0.4920	0.4922	0.4925	0.4927	0.4929	0.4931	0.4932	0.4934	0.4936
2.5	0.4938	0.4940	0.4941	0.4943	0.4945	0.4946	0.4948	0.4949	0.4951	0.4952
2.6	0.4953	0.4955	0.4956	0.4957	0.4959	0.4960	0.4961	0.4962	0.4963	0.4964
2.7	0.4965	0.4966	0.4967	0.4968	0.4969	0.4970	0.4971	0.4972	0.4973	0.4974
2.8	0.4974	0.4975	0.4976	0.4977	0.4977	0.4978	0.4979	0.4979	0.4980	0.4981
2.9	0.4981	0.4982	0.4982	0.4983	0.4984	0.4984	0.4985	0.4985	0.4986	0.4986
3.0	0.4987	0.4987	0.4987	0.4988	0.4988	0.4989	0.4989	0.4989	0.4990	0.4990

Course Name	Marketing Management	Course Code	
Duration	2.5 hours	Max. Marks	40

Instructions:

1. **Section A - Attempt Any Two Questions – 10 Marks each.**
2. **Section B – Case Study - Attempt Both Questions – 10 Marks each.**

Section – A

Q 1) Nykaa is a leading cosmetic brand of India. Initially Nykaa was only an online E commerce brand. Later it started opening its offline stores across India. In your opinion was this a good marketing strategy used by Nykaa?

10

Q 2) How are Rural Markets different from Urban Markets? Indian FMCG companies have been trying to make inroads into rural markets. Explain the unique marketing strategies made by FMCG companies like Nestle in order to sell their products like Maggi & Munch in rural India.

10

Q 3) Cadburys is the most popular choclate brand. It is available all over India. Explain the unique marketing strategies used by Cadburys to market its products like Dairy Milk & Silk across India.

10

Q 4) Cricket Sponsorships are providing big opportunities to various companies for promoting their brands. Explain with examples the marketing strategies used by Indian companies & MNC's to promote their Brands through cricket.

10

Section – B

Read the case given below and answer both the questions given at the end.

Personalization and the idea of sharing were at the heart of Coca-Cola's successful 'Share a Coke' integrated marketing communications campaign. Coca-Cola found itself a marketing success story when it brought its "Share a Coke" campaign from Australia to the United States and parts of Europe.

Simply put, Coca-Cola launched its campaign as an effort not only to increase its popularity among millennials, but also to revive its leadership in the cold drinks industry, which had been dwindling. Using integrated marketing communications, a method of communicating from brand to consumer that aligns the same message across all touch points, Coca-Cola realized significant successes — enough to revive its "Share a Coke" campaign from the summer of 2014 to a bigger and better campaign in the summer of 2015.

When Cola-Cola decided to work harder to court millennial consumers, it did so by adding a personal touch: manufacturing bottles and cans with a variety of popular names printed right on the container. In particular, it focused on the top 250 most popular names for people in the teenager and millennial categories.

The company's campaign roll-out was multi-faceted and included a variety of channels, all bearing the same consistent message. Coca-Cola used print advertisements and television commercials. For example, one print ad in the United Kingdom stated, "Share a Coke with Wills and Kate," printed to coincide with the birth of the royal couple's first child. A U.S. television commercial showed a young girl finding her name and the name of her friend on a bottle and then showed the adventures they went on afterwards.

But traditional media wasn't the only place that the "Share a Coke" campaign found a home. The theme showed up on the side of public transportation and billboards. Digitally, Coca-Cola developed a branded website where customers could purchase personalized bottles and other Coca-Cola products. It carried the message through to its social media channels, giving followers the opportunity to create a virtual can or bottle and then share it online with friends and family, utilizing a hashtag like #shareacoke. In Australia, Coca-Cola even implemented text messaging to send a

name that would be displayed on Coca-Cola signage in the popular King's Cross area of Sydney. Fans could also — literally — share a 650 ml Coke with friends from the company's many Freestyle vending machines, using a QR code to generate a coupon.

Questions:

Q5. Coca - Cola is a world leader in cold drinks business. It has spread its wings across the globe. According to you what are the reasons for success of its 'Share a Coke' campaign?

10

Q6. Marketing has always has been the key to success for Multinationals. Explain how did Coca - Cola uses its domain expertise for reaching out to the young generation and revive its leadership position?

DELHI SCHOOL OF BUSINESS
By Vivekananda Institute of Professional Studies - TC

Delhi School of Business
PGDM & PGDM (FINTECH) Program
END-TERM EXAMINATION, October 2023
TERM – I (Batch: 2023-25)

Course Name	Operations Management	Course Code	
Duration	2.5 Hours	Max. Marks	40

Instructions:
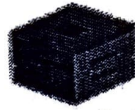
1. All questions are compulsory.

2. Answers should be to the point.

3. Rough work should be done near the question and then crossed.

Q.1   (06 Marks) CO___2___

Given the following tasks and requirements for an assembly line, what is the maximum daily output and efficiency?

Task	Task Time (in minutes)	Required Predecessors
A	5	F
B	2	F
C	3	E, G
D	7	A, B
E	8	D, H
F	4	-
G	6	D
H	3	D

(06 Marks) CO___4___

Q.2

Bombay Builders (BB) buy designer ½ inch faucets from Keki Valvewala & Sons (Keki). The price schedule quoted by Keki is:

Quantity	Price per Unit, Rs.
1 to 99	50.00
100 to 499	45.00
500 and above	40.00

BB estimate their annual requirement of these faucets as 2000. The ordering costs are estimated to be Rs. 25 per order and the inventory carrying costs are charged at 30 per cent of unit cost. What is the optimal quantity that BB should order from Keki?

(06 Marks) CO__4___

Q.3

Product A consists of two units of subassembly B, three units of C, and one unit of D. B is composed of four units E, and three units of F. C is made of two units of H and three units of D. H is made of five units of E and two units of G. The lead period for A, D and F is 2 weeks each, lead period for B and G is three weeks and one week for all others.

a) Construct a simple product structure tree.
b) Provide low-level coding in the above tree.
c) Construct a time phased diagram.
d) To produce 100 units of A, prepare a Materials Requirement Planning Schedule.

(06 Marks) CO__1___

Q.4

Bravo Limited is evaluating four locations for a new plant and has weighted the relevant scores as given below. Scores have been assigned with higher values indicative of preferred conditions. Using these scores, develop a qualitative factor comparison for the four locations.

Relevant Factors	Assigned Weight	Scores of location A	B	C	D
Production Cost	3.5	5	4	6	3
RM Supply	2.5	7	8	8	6
Labour Availability	2.0	6	7	6	5
Cost of Living	0.5	8	7	4	8
Environment	0.5	5	6	7	9
Markets	1.0	7	9	8	5

Q.5   (06 Marks) CO___2___

Historical demand for a medicine in the medical store located in a leading hospital is as given in the table below. Demand is given in cartons containing 144 strips of 10 tablets each.

Month	Demand
January	12
February	11
March	15
April	12
May	16
June	15

a) Using the weighted moving average with weights of 0.60, 0.30 and 0.10, find the July forecast. '3.5

b) Using a simple three-month moving average, find the July forecast.'¹⁵

c) Using single exponential smoothing with α = 0.2 and a June forecast = 13, find the July forecast. Make whatever assumptions you wish.¹³·⁴
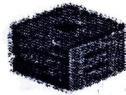
Q.6   (10 Marks) CO___1___

Planning Market Research

An established company has decided to add a new product to its line. It will buy the product from a manufacturing concern, package it, and sell it to a number of distributors selected on a geographical basis. Market research has been done which has indicated the volume expected and size of sales force required. The following steps and are to be planned.

Organise the sales office – hire the sales manager   5 weeks

Hire salesmen – the sales manager will recruit and hire the salesmen needed   4 weeks

Train salesmen – train the salesmen hired to sell the product to the distributors   7 weeks

Select advertising agency – the sales manager will select the agency best
suited to promote the new product   2 weeks

Plan advertising campaign – the sales office and the advertising agency will jointly
plan the advertising campaign to introduce the product to the public   4 weeks

Conduct advertising campaign – the advertising agency will conduct a 'watch for'
campaign for potential customers to end at the time distributors receive
their initial stocks   10 weeks

Design package – design the package most likely top 'sell', work to be done within
the company on the basis of results of market research   4 weeks

Set up packaging facilities- prepare to package the products when they are received

from manufacturer	12 weeks

Package initial stocks – package stock received from the manufacturer   8 weeks

Order stock from manufacturer – order the stock needed from the manufacturer
on the basis of the volume indicated by the market research.
The time given includes the lead time for delivery   13 weeks

Select distributors – the sales manager will select the distributors whom the
salesmen will contact to make sales   9 weeks

Sell to the distributors – take order for the new product from the distributors with
delivery promised for introduction date. If orders exceed stock,
assign stock on a quota basis   6 weeks

Ship stock to distributors – ship the packaged stock to the distributors as per
their order or quota   6 weeks

Questions:

a) what is the earliest number of the weeks in which we can introduce the product?

b) If we hired train salesmen and eliminate the training period of 7 weeks, can our product be introduced 7 weeks earlier?

c) How long can we delay in selecting our advertising agency?

d) What is the effect of a delay of (i) 1 week; (ii) 2 Weeks; (iii) 3 Weeks, in organizing the sales office?

e) If the whole product launch operation is to be completed as rapidly as possible, what activities must have been completed by the end of week 16?

f) What advantage, if any, would accrue if the selection of the advertising agency took place at the same time as the organizing of the sales office?