

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE
(UGC-AUTONOMOUS)

MBA II Year I Semester (R14) Supplementary End Semester Examinations-June 2016
(Regulations: R14)

OPERATIONS RESEARCH

Time: 3Hrs

Max Marks: 60

Attempt all the questions. All parts of the question must be answered in one place only.
In Q.no 1 to 5 answer either Part A or B only. Q.no 6 which is a case study is compulsory.

Q.1(A) Define Operations Research? What are the applications of operations Research? 10M

OR

Q.1(B) Solve the following LPP by Graphical Method. 10M

$$\text{Minimize } Z = 20X_1 + 10X_2$$

Subject to,

$$X_1 + 2X_2 \leq 40$$

$$3X_1 + X_2 \geq 30$$

$$4X_1 + 3X_2 \geq 60$$

$$X_1, X_2 \geq 0$$

Q.2(A) Use Vogel's Approximation Method in order to find the initial basic feasible solution to the following transportation problem. 10M

	D ₁	D ₂	D ₃	D ₄	Supply
S ₁	19	30	50	10	7
S ₂	70	30	40	60	9
S ₃	40	8	70	20	18
Demand	5	8	7	14	

OR

Q.2(B) Explain the method of solving Assignment problem 10M

Q.3(A) What is job sequencing problem? Explain Johnson's algorithm for solving processing n jobs through 2 machines 10M

OR

Q.3(B) Determine which of the following two-person zero-sum games are strictly determinable and fair. Given the optimum strategy for each player in the case of strictly determinable games (5+5) M

(i)

		Player B	
		B ₁	B ₂
Player A	A ₁	-5	2
	A ₂	-7	-4

(ii)

		Player B	
		B ₁	B ₂
Player A	A ₁	1	1
	A ₂	4	-3

- Q.4(A) A firm is considering replacement of a machine whose cost price is Rs.12200; and the scrap value Rs200. The maintenance costs are found from experience to be as follows: 10M

Year	1	2	3	4	5	6	7	8
Maintenance Cost (Rs.)	200	500	800	1200	1800	2500	3200	4000

When should the machine be replaced?

OR

- Q.4(B) A bakery keeps stock of popular brand. Previous experience indicates the daily demand as given below:- (5+5) M

Daily demand	0	10	20	30	40	50
Probability	0.01	0.20	0.15	0.50	0.12	0.02

Consider the following sequence of random numbers

48,78,19,51,56,77,15,14,68,8.

Using the above sequence, simulate the demand for the next 10 days

- (i) Find out the stock situation if the owner of the bakery decides to make 30 breads every day
(ii) Estimate the daily average demand for the bread on the basis of simulated data

- Q.5(A) Draw the network and determine the critical path for the given data. 10M

Jobs : 1-2 1-3 2-4 3-4 3-5 4-5 4-6 5-6

Duration: 6 5 10 3 4 6 2 9

OR

- Q.5(B) What is Queue .Give an example? Explain the basic elements of Queues 10M

- Q.6 CASE STUDY (COMPULSORY) 10M

A salesman has to visit five cities A, B, C, D and E. The distances (in hundred miles) between the five cities are as follows:

If the salesman starts from city A and has to come back to city A, which route should he select so that the total distance travelled is minimum

		TO				
		A	B	C	D	E
FROM	A	-	7	6	8	4
	B	7	-	8	5	6
	C	6	8	-	9	7
	D	8	5	9	-	8
	E	4	6	7	8	-

END

Hall Ticket No:

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Course Code: 14MBA115

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BUSINESS ANALYTICS

Time: 3Hrs

Max Marks: 60

Attempt all the questions. All parts of the question must be answered in one place only.
In Q.no 1 to 5 answer either Part A or B only. Q.no 6 which is a case study is compulsory.

Q.1(A) What is Business Analytics? Explain the nature and scope of business analytics. 10M

OR

Q.1(B) What resource considerations are important to support Business Analytics? 10M

Q.2(A) What is a Hypothesis? write the characteristics of Hypothesis? 10M

OR

Q.2(B) For the following frequency distribution draw a histogram using R. Hence calculate the mode. 10M

Class	Frequency
0-5	2
5-10	7
10-15	18
15-20	10
20-25	8
25-30	5

Q.3(A) Explain least square methods of time series analysis with respective merits and demerits. 10M

OR

Q.3(B) Develop a three-week moving average for the given data. 10M

Week	1	2	3	4	5	6
Value	18	13	16	11	17	14

Q.4(A) What is risk analysis? Explain the advantages of monte carlo simulation. 10M

OR

Q.4(B) What is the relationship between logistic regression and Linear discriminant analysis? 10M

Q.5(A) Discuss theoretically about decision trees in business analytics. 10M

OR

Q.5(B) Discuss the steps involved in Sensitivity Analysis. 10M

An agent for a residential real estate company in a large city would like to be able to predict the monthly rental cost for apartments, based on the size of the apartment, as defined by square footage. A sample of 25 apartments in a particular residential neighborhood was selected, and the information gathered revealed the following:

i. Calculate:

- a. Construct a scatter plot.
- b. Use the least-squares method to find the regression coefficients b_0 and b_1 .
- c. Interpret the meaning of b_0 and b_1 in this problem.
- d. Predict the mean monthly rent for an apartment that has 1,000 square feet.
- e. Why would it not be appropriate to use the model to predict the monthly rent for apartments that have 500 square feet?
- f. Your friends Jim and Jennifer are considering signing a lease for an apartment in this residential neighborhood. They are trying to decide between two apartments, one with 1,000 square feet for a monthly rent of \$1,275 and the other with 1,200 square feet for a monthly rent of \$1,425. What would you recommend to them based on (a) through (d)?

Apartment	Monthly Rent \$	Size (Square Feet)	Apartment	Monthly Rent \$	Size (Square Feet)
1	950	850	13	2300	1985
2	1600	1450	14	1800	1369
3	1200	1085	15	1400	1175
4	1500	1232	16	1450	1225
5	950	718	17	1100	1245
6	1700	1485	18	1700	1259
7	1650	1136	19	1200	1150
8	935	726	20	1150	896
9	875	700	21	1600	1361
10	1150	956	22	1650	1040
11	1400	1100	23	1200	755
12	1650	1285	24	800	1000
25	1750	1200			

END

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INTERNATIONAL BUSINESS

Time: 3Hrs

Max Marks: 60

Attempt all the questions. All parts of the question must be answered in one place only.
In Q.no 1 to 5 answer either Part A or B only. Q.no 6 which is a case study is compulsory.

Q.1(A) How Globalization and Liberalization have helped growth of International Business in India since last one decade? 10M

OR

Q.1(B) What is Product Life Cycle? Discuss Product Life Cycle theory of business. 10M

Q.2(A) What is foreign exchange? And differentiate between the spot exchange rates and forward exchange rates. 10M

OR

Q.2(B) Discuss the issues in BOP disequilibrium and measures for rectification. 10M

Q.3(A) Write a detailed note on International Strategic Alliances. 10M

OR

Q.3(B) Discuss about tariff and non tariff barriers. 10M

Q.4(A) What are major factors that are to be considered during appraisal of expatriate managerial Performance? 10M

OR

Q.4(B) Define IHRM. How it is different from domestic HRM. 10M

Q.5(A) What are Special Economic Zones? Mention some of major benefits of SEZ's. 10M

OR

Q.5(B) Write a detail note on EXIM policy. 10M

Q.6 **Case Study** 10M

Electrolux is Sweden's largest manufacturer of electrical household appliance and was on the world's pioneers in the marketing of vacuum cleaners. However, not all the products the Electrolux name are controlled by the Swedish firm. Electrolux vacuum cleaner sold and manufacturer in the United States, for example, have not been connected with Swedish firm reentered the U.S. market in 1974 by purchasing National Union Electric, which manufacturers Eureka vacuum cleaners.

Electrolux pursued its early international expansion largely to gain economies of scale through additional sales. The Swedish market was simply too small to absorb fixed costs as much as the home markets for competitive firms from larger countries. When additional sales were not possible by exporting, Electrolux was still able to gain certain scale economies through establishment for foreign production. Research and over the additional sales made possible by foreign operations. Additionally, Electrolux concentrated on standardized production to achieve further scale economies a rationalization of parts.

Until the late 1960, it concentrated primarily on vacuum cleaners and the building of its own facilities in order to effect expansion. Throughout the 1970's through, the firm expanded largely by acquiring existing firms whose product line differed from those of Electrolux. The compelling forces were to add appliances lines to complement those developed internally. Its recent profits (\$220 million in 1983) have enabled Electrolux to go an acquisition binge. It acquired two Swedish firms that made home appliances and washing machines. The management felt that it could use its existing foreign sales and facilities. Vacuum cleaner producers were acquired in the US and in France; and to gain captive sales for vacuum cleaner. Electrolux acquired commercial cleaning service firms in Sweden and in the US. A French Kitchen equipment producer Arthur Martin was bought, as was a Swiss home appliance firm.

Except the Facit purchase, the above acquisition all involved firms that produced complementary lines that would enable the new parent to gain certain scale economies. However, not all the products of acquired firms were related, and Electrolux sought to sell off unrelated businesses. In 1978 for example, a Swedish firm, Husqvarna's motorcycle line but could not get a good price for the chain saw facility reconciled to being in the chain saw business. Electrolux then acquired chain saw in Canada and Norway, thus becoming one of the world's largest chain saw producers. The above are merely the most significant. Electrolux acquisitions: the firm made appropriately fifty acquisitions in the 1970s.

Questions:

- i) What are Electrolux reasons for direct investment?
- ii) How has Electrolux's strategy changed over time? How has this affected its direct investment activities?

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SECURITY ANALYSIS AND PORTFOLIO MANAGEMENT

Time: 3Hrs

Max Marks: 60

Attempt all the questions. All parts of the question must be answered in one place only.
In Q.no 1 to 5 answer either Part A or B only. Q.no 6 which is a case study is compulsory.

Q.1(A) What is investment? Distinguish between Marketable investments and non marketable investments? 10M

OR

Q.1(B) What are differences between Primary markets and Secondary markets? 10M

Q.2(A) What is technical analysis? What is the process involved in it? 10M

OR

Q.2(B) What do you mean by company analysis? Explain the features of company analysis? 10M

Q.3(A) Kalyan is considering the purchase of a bond currently selling at Rs.980. The bond has four years to maturity, face of Rs.1000 and 9% coupon rate. The next annual interest payment is due after 1 year from today. The required rate of return is 11%. i) Calculate the intrinsic value (present value) of the bond. i) Should Kalyan buy the bond? ii) Calculate the yield to maturity of the bond. 10M

OR

Q.3(B) The company A's next year dividend per share is expected to be Rs 3.50. The dividend in subsequent years is expected to grow at a rate of 10 percent per year. If the required rate of return is 15 percent per year. What should be its price? The prevailing market price is Rs 75. 10M

Q.4(A) What is portfolio management? Explain the models of portfolio management. 10M

OR

Q.4(B) What is bench mark portfolio? Explain Capital Market Theory. 10M

Q.5(A) What is portfolio revision? Explain the different types of portfolio revision plans. 10M

OR

Q.5(B) Explain the different types of portfolio performance evaluation. 10M

Q.6 **Case Study** 10M

Pearl and Diamond are the two mutual funds. Pearl has a mean success of 0.15 and Diamond has 0.22. The diamond has double the beta of Pearl funds 1.5. The standard deviation of Pearl and Diamond funds are 15% and 21.43%. The mean market index is 12% and its standard deviation is 7. The risk free rate of return is 8%.

(i) Compute the Jensen index for each fund.

(ii) Compute the Treynor and Sharpe indices for the funds.

Interpret the results.

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RETAIL MANAGEMENT STRATEGY

Time: 3Hrs

Max Marks: 60

Attempt all the questions. All parts of the question must be answered in one place only.
In Q.no 1 to 5 answer either Part A or B only. Q.no 6 which is a case study is compulsory.

Q.1(A)	Describe briefly the benefits of retailing.	10M
OR		
Q.1(B)	Explain the evolution of retail in India.	10M
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Q.2(A)	What is consumer buying process? Does this process vary for convenience products and for high priced, high involvements products?	10M
OR		
Q.2(B)	Explain Geographic Analysis	10M
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Q.3(A)	How can strategic planning help build a competitive advantage?	10M
OR		
Q.3(B)	Write a short notes on a) Selecting the Target Markets b) Developing Positioning Strategy	10M
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Q.4(A)	Can social networking can be included in the retail communication programmes? Explain	10M
OR		
Q.4(B)	Explain the significance of evaluating the effectiveness of advertisement.	10M
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Q.5(A)	Explain the human resource functions in retailing	10M
OR		
Q.5(B)	What is the importance of Store layout in retailing? Briefly explain the types of retail layouts.	10M
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Q.6	Case Study	10M

Big Bazaar – Retail strategy

Big Bazaar has strong own brand names in its portfolio across product categories. The brand includes Pantaloon, John Miller, and Bare. Higher percentage of 'own brand's efficiency sales improve margins, thus reducing the breakeven level of sales. Big Bazaar has diversified from apparels to household items in its discount stores. This has enabled them to enlarge their basket of offerings. Big Bazaar offers products and service such as a chemist, a photography shop, a bakery, financial

products, automobile accessories, bicycles, and electrical hardware among other items- the range is vast and fulfils practically every need of the consumer under one roof. This is backed by complete automation of the retail outlets. The company's operations are fully integrated and aimed at giving its operating efficiency a boost. In India, especially in cities like Mumbai, Bengaluru, Kolkata and Hyderabad, where th population dense and consists of a big higher middle class, the concept of discount stores is gaining wide acceptance. The company plans to expand rapidly. The key challenges facing the company are fund raising and competition. The company has been allotting shares to promoters at SEBI formula price. It plans to borrow heavily to fund its expansion plans. As a consequence of increased interest payment and depreciation expense, the net profit margins would remain flat. The company is facing limited competition from the organized retailers but strong competition exist from the downtown centers unorganized retailers. Big Bazaar is experiencing competition from the similar kind of retail format. Big bazaar offered discounts in the range of 2-60 percent

In the context of Big bazaar retail marketing strategy, evaluate the scope for organized retailing in India.

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INTERNATIONAL FINANCIAL MANAGEMENT

Time: 3Hrs

Max Marks: 60

Attempt all the questions. All parts of the question must be answered in one place only.
In Q.no 1 to 5 answer either Part A or B only. Q.no 6 which is a case study is compulsory.

Q.1(A) What is International liquidity and explain the need for international liquidity? 10M

OR

Q.1(B) Write short notes on: 10M
(i) Bretton Woods system
(ii) The International Fisher effect

Q.2(A) Explain various types of foreign currency options in brief. 10M

OR

Q.2(B) What are the features of a forward contract? Explain how foreign exchange rates are determined in forward market with example? 10M

Q.3(A) What is Economic exposure? How can firms manage their Economic exposure? 10M

OR

Q.3(B) Explain different forms of foreign exchange exposure. 10M

Q.4(A) Discuss the mission of IBRD and explain how its operations are performed. 10M

OR

Q.4(B) Explain centralized cash management system in International Financial Management? 10M

Q.5(A) What are various risks associated with cross border investment decisions and how risks are incorporated in it. 10M

OR

Q.5(B) How can foreign projects are financed? Explain in brief. 10M

Q.6 **Case Study** 10M
Returns on securities A and B are given below.

Probability	Security A	Security B
0.5	4	0
0.4	2	3
0.1	0	3

Select the security on the basis of return and risk.

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LOGISTICS AND SUPPLY CHAIN MANAGEMENT

Time: 3Hrs

Max Marks: 60

Attempt all the questions. All parts of the question must be answered in one place only.
In Q.no 1 to 5 answer either Part A or B only. Q.no 6 which is a case study is compulsory.

Q.1(A) What is meant by Physical Distribution? What are the components of physical distribution? 10M

OR

Q.1(B) Explain advantages and disadvantages of various Modes of Transportation of Goods in India. 10M

Q.2(A) Discuss various commercial aspects in Distribution Management. 10M

OR

Q.2(B) What do you Understand by Distribution Resource Planning (DRP)? How is it having an edge over Distribution Requirement Planning? 10M

Q.3(A) Define supply chain management? Explain the role of manager in Supply Chain. 10M

OR

Q.3(B) Elucidate Supply Chain Performance Drivers. Explain key enablers for improvement of Supply chain. 10M

Q.4(A) Elaborate on evolution of Marketing Channels? Explain Briefly Production, sales, Marketing and Relationship Era. 10M

OR

Q.4(B) Who are Channel Intermediaries? Elucidate various levels of Channel Intermediaries. 10M

Q.5(A) What is bullwhip effect in supply chain and how it is measured? Describe the major causes of bullwhip effect in supply chain. 10M

OR

Q.5(B) What is Supply Chain Relationship? Discuss various strategies for Conflict Resolution. 10M

Q.6 Case Study 10M

Nikon Inc

Nikon Inc. is the world's leader in precision optics, 35mm and digital imaging technology. So it's no surprise that when the company saw the next big trend in photographic technology digital cameras they were ready to deliver with some of the most advanced product designs in the marketplace. But to ensure that retailers could meet the demand of tech-hungry consumers and professional photographers, Nikon, with the help of UPS Supply Chain Solutions, reengineered its distribution network to keep them well supplied. To support the launch of its new digital cameras, Nikon knew that customer service capabilities needed to be completely up to speed from the start and that distributors and retailers would require up-to-the-minute information about product availability. While the company had previously

handled new product distribution in-house, this time Nikon realized that burdening its existing infrastructure with a new, demanding, high-profile product line could impact customer service performance adversely. For Nikon, that meant applying its well-known talent for innovation to creating an entirely new distribution strategy and taking the rare step of outsourcing distribution of an entire consumer electronics product line. With UPS Supply Chain Solutions on board, Nikon was able to quickly execute a synchronized supply chain strategy that moves product to retail stores throughout the United States, Latin America and the Caribbean and allows Nikon to stay focused on the business of developing and marketing precision optics. Starting at Nikon's manufacturing centers in Korea, Japan and Indonesia, UPS Supply Chain Solutions manages air and ocean freight and related customs brokerage. Nikon's freight is directed to Louisville, Kentucky, which not only serves as the all-points connection for UPS's global operations, but also is home to the UPS Supply Chain Solutions Logistics Center main campus. Here, merchandise can either be "kitted" with accessories such as batteries and chargers, or repackaged to in-store display specifications. Finally, the packages are distributed to literally thousands of retailers across the U.S., or shipped for export to Latin American or Caribbean retail outlets and distributors, using any of UPS's worldwide transportation services to provide the final delivery. With the UPS Supply Chain Solutions system in place, the process calibrates the movement of goods and information by providing SKU-level visibility within complex distribution and IT systems. UPS also provides Nikon advance shipment notifications throughout the U.S., Caribbean and Latin American markets.

Questions:

- i) Critically examine the Nikon distribution system with SWOT Analysis?

*****END*****

