

**MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE**

(UGC-AUTONOMOUS)

MBA I Year II Semester (R16) Regular &amp; Supplementary End Semester Examinations – June 2018

**Financial Management**

Time: 3Hrs

Max Marks: 50

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 Part B only. Q.no 6 which is a case study is compulsory.

Q.1(A) "Investment, Financing and dividend decisions are all inter related" – Comment. 8M

OR

Q.1(B) In what ways is the wealth maximization objective superior to the profit maximization objective? Explain. 8M

Q.2(A) No project is acceptable unless the yield is 10%. Cash inflows of a certain project along with cash out flows are given below: 8M

Year	0	1	2	3	4	5
Cash out flows(Rs)	150000	30000	-	-	-	-
Cash inflows(Rs)	-	20000	30000	60000	80000	30000

The salvage value at the end of 5<sup>th</sup> year is Rs. 40000. Calculate the NPV and PI.

OR

Q.2(B) How is the weighted average cost of capital calculated? What weights should be used in its calculation? 8M

Q.3(A) From the following information of well do company ltd determine equity share price as per (i) Walter's model 8M

Earnings per share Rs.10

Dividends per share Rs.6

Cost of equity capital is 15 %

Required rate of return on investment is 20 %

(b) A firm has given the following information and required you to determine share price

Earnings per share rs.10

Retention ratio 40

Capitalization rate 15%

Return on investment 14 %

OR

Q.3(B) Explain the nature of the factors which influence the dividend policy of a firm. 8M

Q.4(A) Proforma cost sheet of a company provides the following particulars: 8M  
Material = Rs 40, Direct labor = Rs 20 and Overheads = Rs 20. The following information is also available:

- a) It is proposed to maintain a level of activity of Rs. 200000 units
- b) Selling price Rs. 120
- c) Raw materials are expected to remain in store for an average period of one month
- d) Materials will be in process on an average half a month
- e) Finished goods are required to be in stock an average period of one month
- f) Credit allowed to debtors is 2 months
- g) Credit allowed by suppliers is one month.
- h) Contingency = 10%
- i) Cash balance of Rs 25000.

Estimate working Capital Required.

**OR**

Q.4(B) Discuss in detail the technique of inventory evaluations. 8M

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Q.5(A) Compare and contrast various types of mergers 8M

**OR**

Q.5(B) What are the principles of good corporate governance. 8M

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Q.6 Case Study 10M

Zenith industries Ltd are taking of investing in a project costing Rs. 20 lakhs. The life of the Project is 5 years and the estimated salvage value of the project is zero. Straight line of depreciation is followed. The tax rate is 50%. The expected cash flows before tax are as Follows.

Year	1	2	3	4	5
Estimated Cash flows before depreciation and tax(Rs in Lacks)	4	6	8	8	10

You are required to determine :

1. Payback Period, 2. Average Rate of return, 3. Net Present Value,
4. Internal rate of return

Cost of Capital is 10%.

**\*\*\*END\*\*\***

**MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE**

(UGC-AUTONOMOUS)

**MBA I Year II Semester (R16) Regular & Supplementary End Semester Examinations – May 2018****Management Information Systems**

Time: 3Hrs

Max Marks: 50

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 Part B only. Q.no 6 which is a case study is compulsory.

Q.1(A) Define MIS and explain the role of MIS? 8M

OR

Q.1(B) Classify the various Contemporary Approaches to Information Systems? 8M

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Q.2(A) Define the term database? Explain traditional file environment and database approach? 8M

OR

Q.2(B) Define Information system and explain various types of Information system? 8M

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Q.3(A) Discuss about system development life cycle? 8M

OR

Q.3(B) Describe the major Pit falls in MIS Development? 8M

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Q.4(A) Write a note on DSS and GDSS? 8M

OR

Q.4(B) Discuss the System Vulnerability and Abuse? 8M

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Q.5(A) Software specifications and software metrics? Explain 8M

OR

Q.5(B) Explain verification and validation in system audit? 8M

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Q.6 Case Study 10M

**Office Automation System**

ABC Company processes more than 5,000 customer-orders a month, drawing on a combined inventory of over 500 office products stock at the Co's warehouse. About 40 workstations, with printers are installed at Co's headquarters and are connected to a LAN.

Orders are received by phone or mail and entered into the system by order entry personnel at network computers. Entry of orders is assisted by formatted screens. As the order is entered, the mid-range computer checks the availability of the products, updates the customer & product databases stored on computer's magnetic disks. It then sends the pick list to warehouse printer, for further processing by warehouse personnel.

Co's sales manager, inventory manager and others executives have PC

workstations in their offices. They use simple Data Base Management inquiry commands to get responses & reports concerning sales orders, customers and inventory to review product demand & service trends.

**Questions:**

1. Outline the important Information System component in ABC Co's order processing system.
2. Identify net work software and data, net work resources of order processing Information System.
3. Identify the various activities occurring in this Information System.

**\*\*\*END\*\*\***

Hall Ticket No:

Course Code: 16MBA109

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

MBA I Year II Semester (R16) Regular & Supplementary End Semester Examinations – June 2018

**MARKETING MANAGEMENT**

Time: 3Hrs

Max Marks: 50

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 Part B only. Q.no 6 which is a case study is compulsory.

- Q.1(A) Explain the following concepts: 8M  
i) Product, ii) Exchange, iii) Transactions, iv) Market and V) Marketing  
**OR**
- Q.1(B) Critically evaluate the trends in marketing practices in the present global environment. 8M
- 
- Q.2(A) Examine the factors that are to be taken into account while introducing a new product. Illustrate your answer. 8M  
**OR**
- Q.2(B) Explain the stages of Product Life Cycle and strategies to adapt at every stage. 8M
- 
- Q.3(A) Explain the objectives of Pricing? Elucidate on Mark up and Marginal Pricing methods? 8M  
**OR**
- Q.3(B) Discuss the steps in the process of price setting. 8M
- 
- Q.4(A) Explain various policies and practices in managing the sales force. 8M  
**OR**
- Q.4(B) How is Retailing different from wholesaling? Explain the types of retailers. 8M
- 
- Q.5(A) Explain the concept of Marketing Mix? Explain the criteria in deciding the Marketing Mix. 8M  
**OR**
- Q.5(B) Explain the steps involved in deciding on media and measuring effectiveness of promotion. 8M
- 
- Q.6 **CASE STUDY** 10M
- A French company Jeanne Arches Perfumes has introduced a perfume under the brand name SK, named after the charismatic celebrity Shah Rukh Khan. The perfume is available in two variants, SK Silver for men and SK Gold for Women. The perfumes are priced at Rs.500 for a 100ml pump spray bottle. The strategy may be to capture a large number of consumers who are oriented towards film celebrities. Advertising is planned through television satellite channels and magazines.
- You are required to :
- Analyse the decision to make a perfume after a cinema star from the view point of "reference group" behaviour.
  - Examine the risks associated with this kind of decision.

\*\*\*\*END\*\*\*\*



**MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE**

(UGC-AUTONOMOUS)

MBA I Year II Semester (R16) Regular &amp; Supplementary End Semester Examinations – June 2018

**PRODUCTION & OPERATIONS MANAGEMENT**

Time: 3Hrs

Max Marks: 50

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 Part B only. Q.no 6 which is a case study is compulsory.

Q.1(A) Define Production Management. Explain the functions of Production Management. 8M

**OR**

Q.1(B) Discuss the role of standardization and simplification with their advantages and disadvantages. 8M

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Q.2(A) Discuss the following concepts. 8M

- i. Factors affecting plant layout                      ii. Aggregate planning.

**OR**

Q.2(B) Explain the importance of layout decision in a business organization. 8M

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Q.3(A) Define Line of Balance? Explain the LOB technique with an illustration. 8M

**OR**

Q.3(B) Consider the following 3 machines and 4 jobs flow shop problem. Check whether Johnson's rule can be extended to this problem. If so, what is the optimal schedule and the corresponding make span? 8M

	J1	J2	J3	J4
M1	6	8	3	4
M2	5	1	5	4
M3	4	4	4	2

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Q.4(A) Compute the production cost per piece from the following data. 8M

- i) Direct material piece = Rs 2/-  
ii) Wage Rate Rs. 2000 per month consisting of 25 working days and 8 hours per day.  
iii) Overheads expressed as a percentage of direct labour cost = 200%.  
iv) The time for manufacture of 4 pieces of the item was observed during time study. The manufacturer of the item consists of 4 elements a, b, c and d. The data collected during the time study are as under. Time Observed (in min) during various cycles are as below:

Element	Cycle 1	Cycle 2	Cycle 3	Cycle 4	Element Rating on B.S. Scale (0-100)
A	1.2	1.3	1.3	1.4	85
B	0.7	0.6	0.65	0.75	120
C	1.4	1.3	1.3	1.2	90
D	0.5	0.5	0.6	0.4	70

The personal fatigue and delay allowance may be taken as 25%.

OR

Q.4(B) Enumerate the various steps involved in method study. List out the factors that indicate the need for method study. 8M

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Q.5(A) Describe the two techniques of SQC namely 8M  
i) Statistical Process Control ii) Acceptance Sampling

OR

Q.5(B) Explain the parameters for awarding six sigma quality control. 8M

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Q.6 **Case Study** 10M

Construct the Network for the following Project and determine the following

- i) Critical Path and
- ii) Total time for completion of project.

Activity	Duration (In Weeks)
1-2	2
2-3	3
2-4	5
3-5	4
3-6	1
4-6	6
4-7	2
5-8	8
6-8	7
7-8	4



**MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE**

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MBA I Year II Semester (R16) Regular &amp; Supplementary End Semester Examinations – May 2018

**HUMAN RESOURCE MANAGEMENT**

Time: 3Hrs

Max Marks: 50

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 Part B only. Q.no 6 which is a case study is compulsory.

Q.1(A) "The Role of HR Manager is continuously evolving into strategic partnership model." Substantiate with your with suitable examples. 8M

**OR**

Q.1(B) How does HR department function in a small and large organization? How is it structured in these organizations? 8M

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Q.2(A) Distinguish between (4x2) 8M  
(a) Lay off and retrenchment  
(b) Dismissal and suspension

**OR**

Q.2(B) Distinguish between recruitment and selection. Should reservation in Government jobs be continued? Justify your answer. 8M

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Q.3(A) What roles employees and organization can play in career management (CM) process? How does CM help organization? 8M

**OR**

Q.3(B) Write pros and cons of 360 Degree appraisal. How can this be successfully used? 8M

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Q.4(A) Differentiate between Job evaluation and performance evaluation. Identify the key result areas (KRAs) of sales person. 8M

**OR**

Q.4(B) Compare and contrast between wage and salary. Illustrate the factors influencing compensation decision. 8M

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Q.5(A) How does Human Resource Information System benefit organization? 8M

**OR**

Q.5(B) Discuss the application of Accounting on HR profession. Is it losing ground? Critically justify your views. 8M

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Q.6 **CASESTUDY** 10M  
Hindustan Liver Limited is a reputed multinational company. It considers selection as an event in the total process of acquiring and developing managers. The company believes that the selection process must be consistent with other events in the total process for it to be effective. Hindustan lever has been one of the most favoured companies by the prospective candidates for managerial position. The selection process of the company can be broken into three steps: such as Screening of application forms, preliminary interview, and final selection.

**Screening of Applications Forms:** In the first step the company usually receives a large number of applications for the positions advertised or through campus interview. Thereafter such applications are screened. Such applications usually contain brief information about the candidates. The selected candidates are then required to fill in a detailed application form. This form is quite elaborate and seeks factual information about the candidate and also about his attitudes and personality. A more strict screening of applications is made in this step. The company believes that to select a candidate it will not be enough to see the application forms only which may not be very reliable measure to select or reject the candidate. This calls for a brief preliminary interview to be held by company to get the best talents. So such interviews are conducted to interview as many candidates as is administratively possible.

**Preliminary interview:** Preliminary interview is conducted for about ten to twenty minutes usually by one manager. During this brief personal contract, some time is spent in discussing the nature of the job, the future career possibility of the applicant and the company's policy in this regard. Often a second interview is conducted before the applicant is rejected or selected for further consideration.

**Final Selection:** Final selection process is quite elaborate. This stage consists of two aspects-groups discussion and final interview. Group discussion is conducted in two stages. In the first group discussion, the chairman of the panel of selectors requests the group to select a subject which can be economic, political, social educational or even a lighter subject. The subject is decided by the group itself out of the various topics given to it. When the topic is finalized, the members of the group discuss it. In the second group discussion, a case is given. The case is distributed in advance. The evaluation of the group discussion is done by a board consisting of the personnel director, the director of the division in which the applicants have to be absorbed, a senior manager of the same division, and a senior manager of other division. The board evaluates the candidates along the following factors: Style of self introduction by the candidate, his general knowledge and knowledge of his subject, clarity of thought and logic, lucidity of expression, tolerance of others views, persuasiveness and leadership qualities. Each selector is given a blank sheet to evaluate the candidates. He evaluates the candidates individually. After the group discussion, personal interview is conducted by the board. On the completion of the individual interviews, the board members held discussion among themselves and then arrive at a consensus.

**Question:**

1. What type of selection should be adopted by the company? What should be considered at time of screening the application forms?
2. What should be the size of groups for final selection? What is the information on the basis of which the personal interview is conducted?

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Hall Ticket No: 

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Course Code: 16MBA112

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

**MBA I Year II Semester (R16) Regular & Supplementary End Semester Examinations – June 2018**  
**BUSINESS RESEARCH METHODS**

Time: 3Hrs

Max Marks: 50

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 Part B only. Q.no 6 which is a case study is compulsory.

Q.1(A)	Compare and contrast induction and deduction. Giving examples of each.	8M
OR		
Q.1(B)	Define Research and discuss the characteristics of business research.	8M
Q.2(A)	Discuss the role of business research in a managerial decision making.	8M
OR		
Q.2(B)	Investigate the importance of technology in business research and decision making	8M
Q.3(A)	What kind of a literature should a researcher review and for what purpose.	8M
OR		
Q.3(B)	Write a note on experimental design and case study methods in a business research.	8M
Q.4(A)	Explain structure and unstructured interviews in a data collection.	8M
OR		
Q.4(B)	What are the major steps involved in the process of construction of a questionnaire.	8M
Q.5(A)	Discuss the guidelines for oral presentation of a research report.	8M
OR		
Q.5(B)	Describe the considerations and steps involved in planning report writing work.	8M
Q.6	<b><u>CASE STUDY</u></b> <b>V8</b>	10M

V8 is a 100-percent vegetable juice drink produced and marketed by the Campbell Soup Company. The juice drink, made from concentrate with added ingredients, provides a full serving of vegetables and is a natural source of beta carotene. V8's ingredients include tomato juice from concentrate; reconstituted vegetable juice blend, made from water and concentrated juices of carrots, celery, beets, parsley, lettuce, watercress and spinach; salt; vitamin C; flavoring; and citric acid. The drink contains no fat or cholesterol, and it is a good source of vitamin A and C.

V8 has for many years had a large share of the tomato and vegetable juice market. However, sales had begun to slip, so the company decided it needed to conduct consumer research that would enable it to develop a new advertising campaign.

**Questions:**

1. What research objectives should marketers at V8 establish?
2. What research methods would be most appropriate to accomplish these objectives?

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**MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE**  
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MBA I Year II Semester (R16) Regular & Supplementary End Semester Examinations – June 2018

**STATISTICAL METHODS FOR MANAGERS WITH SPSS**

Time: 3Hrs

Max Marks: 50

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 Part B only. Q. No. 6 which is a case study is compulsory.

- |           |  |     |
|-----------|--|-----|
| Q.1(A)    | Write the steps to create a bar chart in SPSS.   | 8M  |
| <b>OR</b> |  |     |
| Q.1(B)    | Create a histogram in SPSS using the data set "Histo1" and interpret the graph..   | 8M  |
|           |  |     |
| Q.2(A)    | Using the data set "Corr1", calculate the Karl Pearson's coefficient of correlation between Age and Sick Days and interpret it.  | 8M  |
| <b>OR</b> |  |     |
| Q.2(B)    | Write the procedure to compute simple linear regression equation using SPSS.   | 8M  |
|           |  |     |
| Q.3(A)    | In an anti malarial campaign in a certain area, quinine was administered to 82 persons out of the total population of 325. The number of fever cases is shown in the data set "Colorpref1". Discuss the usefulness of the quinine in checking the malaria using SPSS.  | 8M  |
| <b>OR</b> |  |     |
| Q.3(B)    | A random sample of 10 persons fed on diet-A and another random sample of 12 persons fed on diet-B. Their increased weight in pounds is given data set "Elebulb1". Test whether the diets A and B differ significantly as regards their effects on increase in weight.  | 8M  |
|           |  |     |
| Q.4(A)    | Use one-way ANOVA to analyze the significant difference in the scores of 8 salesmen in 5 zones given in data set "ANOVA1.1". Take 90% as the confidence level.   | 8M  |
| <b>OR</b> |  |     |
| Q.4(B)    | Use the data set "ANOVA1.2" to perform one-way ANOVA. Use 1% level of significance to test the hypotheses for the difference in means.   | 8M  |
|           |  |     |
| Q.5(A)    | Explain the use of Cronbach's Alpha and reliability analysis in business research.   | 8M  |
| <b>OR</b> |  |     |
| Q.5(B)    | Perform the factor analysis for the given data set "Factor1" using the principal component analysis method and analyze the scree plot.   | 8M  |
|           |  |     |
| Q.6       | Assume that 'x <sub>1</sub> ' and 'x <sub>2</sub> ' are the independent variables and 'y' the dependent variable in the given data set "Multiple Regression1". Determine the line of regression and fit the equation. Comment on the coefficient of multiple determination (R <sup>2</sup> ) and standard error of the model. Take α = 0.05. | 10M |

\*\*\*END\*\*\*



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MBA I Year II Semester (R16) Regular & Supplementary End Semester Examinations – June 2018  
**STATISTICAL METHODS FOR MANAGERS WITH SPSS**

Time: 3Hrs

Max Marks: 50

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 Part B only. Q. No. 6 which is a case study is compulsory.

- Q.1(A) Create a frequency distribution table in SPSS using the data set "Freq\_Dist2" and interpret the results. 8M
- OR**
- Q.1(B) How do you make a histogram in SPSS? 8M

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- Q.2(A) Write the procedure to compute the Spearman's Rank Correlation Coefficient in SPSS. 8M
- OR**
- Q.2(B) Using the data set "Regress2", develop a regression equation of Productivity Index (Y) on Aptitude Score (X). 8M

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- Q.3(A) Using the data set "Colorpref2", test the hypothesis that whether there is an association between age group of the customers and their satisfaction level towards a particular brand of car in SPSS (use 5% level of significance). 8M
- OR**
- Q.3(B) To test whether a course in accounting improved performance, a similar test was conducted among 12 students both before and after the course. The original marks secured by the students are given in the data set "Elebulb2". Was the course useful? Test at 5% level of significance. 8M

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- Q.4(A) Use one-way ANOVA to analyze the significant difference in the sales performance of five salesmen given in data set "ANOVA2.1". Take 95% as the confidence level. 8M
- OR**
- Q.4(B) Use one-way ANOVA to analyze the significant difference in the sales performance of four showrooms given in data set "ANOVA2.2". Take 99% as the confidence level. 8M

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- Q.5(A) Write the procedure to perform factor analysis using "Varimax Rotation" Method. 8M
- OR**
- Q.5(B) Perform the reliability analysis and calculate the Cronbach's Alpha for the three factors given in data set "reliability2". Keep all the default values in the procedure. 8M

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- Q.6 Perform the factor analysis for the given data set "Factor2" using the principal component analysis method and analyze the scree plot. 10M

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Course Code: 16MBA113

## MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE

(UGC-AUTONOMOUS)

MBA I Year II Semester (R16) Regular & Supplementary End Semester Examinations – June 2018

### STATISTICAL METHODS FOR MANAGERS WITH SPSS

Time: 3Hrs

Max Marks: 50

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 Part B only. Q. No. 6 which is a case study is compulsory.

Q.1(A) Create a bar chart in SPSS using the data set "Bar\_Chart3" and interpret the graph. 8M

OR

Q.1(B) Explain the procedure to create a pie chart in SPSS. 8M

Q.2(A) Using the data set "Corr3", calculate the Karl Pearson's correlation coefficient between Per capita National Income and Per capita Consumer Expenditure and interpret it. 8M

OR

Q.2(B) Write the procedure to compute multiple linear regression equation using SPSS. 8M

Q.3(A) Using the data set "Colorpref3", test the hypothesis that the product preference is independent of income level at 5% level of significance in SPSS. 8M

OR

Q.3(B) A random sample of 5 patients' was treated with Drug-A and another random sample of 7 patients was treated with Drug-B for reducing their weight. Drug-A was imported and Drug-B indigenous. The decrease in the weight after using the drugs for six months is given data set "Elebulb3". Test whether there is a significant difference in the efficacy of the drugs using SPSS? (use 5% level of significance). 8M

Q.4(A) Use one-way ANOVA to analyze the significant difference in the sales performance of five salesmen given in data set "ANOVA3.1". Take 95% as the confidence level. 8M

OR

Q.4(B) Use the data set "ANOVA3.2" to perform one-way ANOVA. Use 1% level of significance to test the hypotheses for the difference in means. 8M

Q.5(A) Explain the uses of reliability analysis in business Research. 8M

OR

Q.5(B) Perform the factor analysis for the given data set "Factor3" using the principal component analysis method and analyze the scree plot. 8M

Q.6 Assume that 'x<sub>1</sub>' and 'x<sub>2</sub>' are the independent variables and 'y' the dependent variable in the given data set "Multiple Regression3". Determine the line of regression and fit the equation. Comment on the coefficient of multiple determination (R<sup>2</sup>) and standard error of the model. Take  $\alpha = 0.10$ . 10M

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**MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE, MADANAPALLE**  
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MBA I Year II Semester (R16) Regular & Supplementary End Semester Examinations – June 2018  
**STATISTICAL METHODS FOR MANAGERS WITH SPSS**

Time: 3Hrs

Max Marks: 50

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 Part B only. Q. No. 6 which is a case study is compulsory.

- Q.1(A) Explain the procedure to make a frequency table in SPSS. 8M
- OR**
- Q.1(B) Create a histogram in SPSS using the data set "Histo4" and interpret the results. 8M
- 
- Q.2(A) Write the procedure to compute the Karl Pearson's Coefficient of Correlation in SPSS. 8M
- OR**
- Q.2(B) Using the data set "Regress4", develop a linear regression equation of performance ratings (Y) on operator experience (X). 8M
- 
- Q.3(A) Using the given data set "Colorpref4", test whether there is any association between gender and colour preference at 5% level of significance. 8M
- OR**
- Q.3(B) A manufacturer of electric bulbs claims that his bulbs have a mean life of 25 months with a standard deviation of 5 months. The observed life time of 6 such bulbs is given in the data set "Elebulb4". Can you regard the producer's claim to be valid at 5% level of significance? Prove it with the application of an appropriate test. 8M
- 
- Q.4(A) A biscuit manufacturer has launched a new brand in the four cities, viz., Delhi, Mumbai, Kolkata and Chennai. After one month, the company realizes that there is a difference in the retail price per pack of biscuits across cities. The company collected data about the price from six randomly selected stores across the four cities and the same is given in the data set "ANOVA4.1". Use one-way ANOVA to analyze the significant difference in the prices. Take 95% as the confidence level. 8M
- OR**
- Q.4(B) For the given data set "ANOVA4.2", perform one-way ANOVA. Use 5% level of significance to test the hypothesis for the difference in means. 8M
- 
- Q.5(A) Explain the procedure for factor analysis using "Principal Component Analysis" method. 8M
- OR**
- Q.5(B) Perform the reliability analysis and calculate the Cronbach's Alpha for the three factors given in data set "reliability4". Keep all the default values in the procedure. 8M

Q.6

A consumer electronics company has adopted an aggressive policy to increase sales of a newly launched product. The company has invested in advertisements as well as employed salesmen for increasing sales rapidly. The data set "Multiple Regression4" presents the sales, the number of employed salesmen and advertisement expenditure for 24 randomly selected months. Develop a regression model to predict the impact of advertisement and the number of salesmen on sales. 10M.

\*\*\*END\*\*\*