INDIAN MARITIME UNIVERSITY

(A Central University, Government of India)

End Semester Examinations December 2018
M.Tech. (Marine Engineering and Management)
Semester-I
Management, Qualitative & Quantitative Analysis and Research Methods (PG13T1105)

Date :31-12-2018	Maximum Marks : 100
Time: 3 Hrs	Pass Marks : 50

Note: Answer any five questions. All questions carry equal marks.

(5 x 20 Marks = 100 Marks)

1. (a) Write down any three differences between a manager and a leader.

    (b) Explain break even analysis with diagrammatic representation as well as numerical expression. How break even analysis is significant to business decision making?

    [3+10+7=20]

2. (a) Explain F.Herzberg's two factor theory of motivation.
   (b) Explain product life cycle theory.

    [10+10=20]

3. (a) ABC steel ltd is assessing a proposal for setting up a new plant. It makes the following estimates:-

    Cost of plant Rs. 50 crore and has useful life of 5 years. The estimated Cash inflows are given below:-

	(Rs. In crore)
1st year	15
2nd year	17
3rd year	22
4th year	16
5th year	12

    Estimated salvage value is Rs 4 crore. The company's WACC is 15%.

    Please calculate NPV, Discounted Pay Back Period and Profitability Index to recommend whether to set up the plant or not.

(b) XYZ ltd is planning to set up a power plant and assess requirement of coal as under:-

Demand / day
(in hundred tons)   196   197   198 199 200 201 202 203 204
    Probability   .05   .09   .12   .14   .20 .15 .11   .08 .06

Using the following random numbers simulate the demand for coal for 10 days:-
Day   1   2   3   4   5   6   7   8   9   10
Random no   82 89 78 24 53 61 18   45   4   23

[4+4+2+10=20]

4.(a) Using the following data, draw a schedule network, find the critical path, calculate standard deviation on the critical path, and calculate total slack.

Activity	Time Duration (in Weeks)		
	Optimistic	Most Likely	Pessimistic
1-2	3	6	15
1-6	2	5	14
2-3	6	12	30
2-4	2	5	8
3-5	5	11	17
4-5	3	6	15
6-7	3	9	27
5-8	1	4	25
7-8	4	19	22

(b)Distinguish between CPM and PERT.

[4+4+4+4+4=20]

5.(a)Discuss briefly the various costs of quality and their impact on an organization.
    (b) Mention various tools of TQM.

[10+10=20]

6.   Write short notes on any four of the following:

        a) Quality Circle
        b) Failure Mode and Effect Analysis (FMEA)
        c) ISM Code
        d) Causes and Prevention measures for accidents
        e) Random sampling

[4X5=20]

7. (a) Write a note on 5 S as a tool of TQM.

  (b) Discuss various steps as followed by a researcher to conduct a research study.

[8+12=20]

8. (a) Explain any five tools that a researcher uses to collect primary data for research studies.

  (b) Define sample frame and hypothesis. Explain the significance of both of these concepts for a research study based on primary data.

[10+4+6=20]

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