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15ME51

Fifth Semester B.E. Degree Examination, Dec. 2018/Jan. 2019

## Management and Engineering Economics

Time: 3 hrs.

Max. Marks: 80

- Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.  
2. Use of interest chart is permitted.*

### Module-1

- 1 a. Define management and explain the functions of management. (08 Marks)  
b. Explain briefly the contributions of F.W. Taylor for the scientific management. (08 Marks)

OR

- 2 a. Briefly explain the importance of planning. (08 Marks)  
b. Briefly explain the important steps in planning. (08 Marks)

### Module-2

- 3 a. Briefly explain the principles of organization. (08 Marks)  
b. Briefly explain M.B.O and M.B.E with advantages and disadvantages. (08 Marks)

OR

- 4 a. Explain briefly Maslow's theory of motivation. (08 Marks)  
b. What is coordination? Explain the importance of coordination. (08 Marks)

### Module-3

- 5 a. With a neat sketch, explain problem solving and decision making. (08 Marks)  
b. A 45 years old person is planning for his retired life. He plans to invest Rs.30000 every year for the next 15 years. The bank gives 12% interest rate compounded annually. Find the maturity value when he is 60 years old. (08 Marks)

OR

- 6 a. Explain the law of demand and supply with price versus demand/supply graph. (08 Marks)  
b. A person takes a loan of Rs.30,00,000 from a nationalized bank to build a new house at an interest rate of 7.5% compounded annually. This amount has to be repaid in 15 years at equal installments. Find the annual installment that the person has to pay to the bank. (08 Marks)

### Module-4

- 7 a. Briefly explain the conditions for present worth comparison. (08 Marks)  
b. A granite company is planning to buy a fully automated granite cutting machine. If it is purchased under down payment, the cost of the machine is Rs.16,00,000. If it is purchased under installment basis the company has to pay 25% of the cost at the time of purchase and the remaining amount in 10 annual equal installments of Rs.2,00,000 each. Suggest the best alternative for the company using the present worth basis at  $i = 18%$  compounded annually. (08 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and/or equations written eg, 42+8 = 50, will be treated as malpractice.



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OR

- 8 a. Explain briefly rate of return, MARR, IRR and ERR. (08 Marks)  
b. A company is trying to diversify its business in a new product line. The life of the product is 10 years with no salvage value at the end of its life. The initial outlay of the project is Rs.20,00,000. The annual net profit is Rs.3,50,000. Find the rate of return for the new business. (08 Marks)

Module-5

- 9 a. Briefly explain the various elements of cost. (08 Marks)  
b. BOSH company produces 500 spark plugs/day, involving direct material cost of Rs.40,000. Direct labour cost of Rs.35,000 and factory overheads of Rs.10,000. Assuming a profit of 15% of the selling price and selling overheads to be 30% of the factory cost. Find the selling price of one spark plug. (08 Marks)

OR

- 10 a. What is depreciation? Explain the causes of depreciation. (08 Marks)  
b. A company has purchased an equipment whose first cost is Rs.1,00,000 with an estimated life of 8 years. The estimated salvage value of the equipment at the end of its life time is Rs.20,000. Find the depreciation and book value for the 5<sup>th</sup> year using the sum of the years-digits method of depreciation. (08 Marks)

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