

KATHMANDU UNIVERSITY  
End Semester Examination [C]  
May/June, 2019

Mark Scored:

Level : B.E./B.Sc./B.Pharm./B.Tech.  
Year : III

Course : MGTS 301  
Semester: I

Exam Roll No. : Time: 30 mins.

F. M. : 20

Registration No.:

Date

02 JUN 2019

SECTION "A"  
[20Q. × 1 = 20 marks]

Choose the most appropriate answer from the given options and **encircle** the letter of your choice.

- Which of the fundamental approach of cost estimation uses historical data from similar engineering project?  
a. Bottom up approach  
b. Top down approach  
c. Parallel approach  
d. Mixed approach
- Which of the following is not an example of cost?  
a. Property taxes and insurance  
b. Overhead  
c. Capital investment  
d. Salvage value
- Detail estimates used in the detailed engineering or construction stage of a project usually have their accuracy of  
a. ±5%                      b. ±15%                      c. ±30 to 50%                      d. ±10%
- Products that are directly used by people to satisfy their wants are called .....  
a. Producer goods      b. Necessity goods      c. Luxury goods      d. Consumer goods
- The market for laser ignition units is estimated to be 1000 per month if the selling price is Rs. 400 per month. The monthly cost of production is  $C = 35,000 + 0.5S^2$ , where S is the number of units produces each month. Assume that monthly sales and production rates are equal. Compute the monthly profit if production is 1000 units per month.  
a. -Rs. 135,000      b. Rs. 112                      c. Rs. 135                      d. Rs. 35,800
- Four projects for manufacturing process have annual benefits and costs shown as

Project	Benefits (Rs.)	Costs (Rs.)
1	58,000	50,000
2	51,000	41,000
3	47,000	38,000
4	57,000	46,000

Which alternative would you choose based on B/C ratio if all projects are mutually exclusive projects?

- a. 1                      b. 2                      c. 3                      d. 4

7. A corporation evaluates all capital investment using a 20% annual return. The corporation must purchase a new tangent scanner. The following estimates pertain to two models available.

	ScanX	Holo-Scan
First Cost	Rs. 90,000	Rs. 170,000
Life(years)	5	5
Salvage value	Rs. 15,000	Rs. 50,000
Annual cost	Rs. 44,000	Rs. 70,000
Generated income (annual)	Rs. 100,000	Rs. 160,000

Using general straight-line depreciation, compute the book value of the ScanX at the end of two years.

- a. Rs. 15,000                      b. Rs. 30,000                      c. 45,000                      d. 60,000
8. A new Bio Vue instrument costs Rs. 50,000. Operating, maintenance and repair cost Rs.10,000 for the first year, Rs. 25,000 for the second year, Rs.40,000 for the third year and Rs.55,000 for the fourth year. Minimum attractive rate of return is 10%. Compute the annual net equivalent cost if the Bio Vue is kept for four years.
- a. Rs.10,000                      b. Rs.12,500                      c. Rs.46,000                      d. Rs. 45,000
9. A new bus route was added last week, but the average number of passengers on that bus been only 20; the capacity is 60. The fare is Rs.0.5 and the cost of operating the bus is Rs.0.05 per passenger plus Rs.25 per trip. The marketing director suggests offering a Rs.0.25 fare to people who have never before taken the bus. Assume that the director's suggestion is implemented and the 15 additional per trip are gained. The total profit per trip will be
- a. -Rs.26.75                      b. -Rs.13                      c. -Rs.3.75                      d. Rs.10
10. If Rs.1000 is deposited in a savings account that pays 6% annual interest and all the interest is left in the account, what is the account balance after three years?
- a. Rs.840                      b. Rs.1,000                      c. Rs.1,180                      d. Rs.1,191
11. A set of speakers may be purchased now for Rs.400 or by making a down payment of Rs.35 and additional payments of Rs.45 at the end of each of next ten months. Compute the nominal interest rate for the time payment plan.
- a. 11.2%                      b. 21.2%                      c.23.3%                      d. 48.8%
12. \_\_\_\_\_ solves for the interest rate that equates the equivalent worth of an alternative's cash inflows to the equivalent worth of cash outflows.
- a. Discounted cash flow                      b. Internal rate of return  
c. External rate of return                      d. Breakeven analysis

13. The NPV of the two projects are equal in discount rate of 15%. MARR of the project is 10%. What is the crossover rate of the project?  
 a. 10%                      b. 15%                      c. 5%                      d. 25%

14. The International Parcel Service has installed a new radio frequency identification system to help reduce the number of packages that are incorrectly delivered. The capital investment in the system is Rs.65,000 and the projected annual savings are tabled below. The system's market value at the EOY five is negligible, and the MARR is 18% per year.

End of Year	Savings
1	Rs.25,000
2	Rs.30,000
3	Rs.30,000
4	Rs.40,000
5	Rs.46,000

What is the future worth of the project?

- a. Rs.70,846              b. Rs.84,028              c. Rs.92,824              d. Rs.82,048
15. Stan Moneymaker has a bank loan for \$10,000 to pay for his truck. This loan is to be repaid in equal end of month installments for five years with a nominal interest rate of 12% compounded monthly. What is the amount of each payment?  
 a. \$222                      b. \$333                      c. \$324                      d. \$520
16. The estimated value of property based on the market demand is  
 a. Market value              b. Salvage value              c. Book value              d. Original value
17. A piece of equipment used in a business has a basis of \$50,000 and is expected to have a \$10,000 salvage value when replaced after 30,000 hours of use. Find book value after 10,000 hours of operation.  
 a. \$40,000                      b. \$50,000                      c. \$36,700                      d. \$13,300
18. The period of time (years) that results in the minimum equivalent uniform annual cost (EUAC) of owning and operating an asset is called.....  
 a. Useful life                      b. Physical life                      c. Ownership life                      d. Economic life
19. Suppose that a market survey has shown that the best competitor's selling price is \$30 per assembly. If a profit margin of 20% is desired, determine a target cost for the throttle assembly.  
 a. \$30.25                      b. \$24.75                      c. \$25                      d. \$30.55
20. Which of the following factor is not essential to consider in replacement studies?  
 a. Sunk cost  
 b. Recognition and acceptance of past errors  
 c. Value of existing machine based on outsider's point of view  
 d. Office equipment other than challenger and defender

