

CBCS SCHEME



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15CV61

Sixth Semester B.E. Degree Examination, Aug./Sept.2020 Construction Management and Entrepreneurship

Time: 3 hrs.

Max. Marks: 80

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. Use of Graph(Plain) is permitted.

Module-1

- a. Define Management and list out management functions or process. (08 Marks)
b. Identify the stakeholder's in a construction project and explain the role of contractor. (08 Marks)

OR

- a. Explain the concept of work Breakdown structure with an example. (06 Marks)
b. Define "Activity" and "Event" as application to construction project. (02 Marks)
c. Using CPM method, determine "Critical activities" and "Critical path" for the Network given under Fig.Q2(c). What is project duration? (08 Marks)

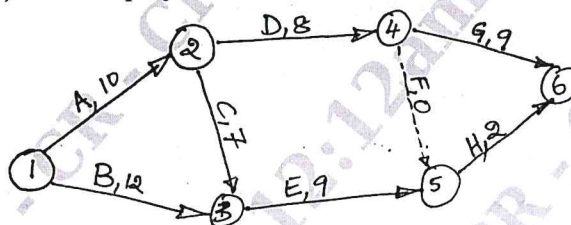


Fig.Q2(c)

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Module-2

- a. Explain the main provisions of the Minimum Wages Act, 1948 (as amended recently). (06 Marks)
b. Define worker's productivity standard and list out typical factors affecting the workers production efficiency. (04 Marks)
c. A typical RCC building of G+2 floors have 900 MT of Reinforcement work for each floor. The work to be completed in 24 days with 8 hrs/day of working. A labour gang or team consisting of 1 HSKL + 2 skilled + 4 unskilled have productivity of 1.75 MT/hr worker team productivity will decrease by 7.5% for first floor work and further 7.5% @ second floor slab work. Estimate (i) Total number of worker gangs or teams required to complete the job. (ii) Number of man power, man days and man hours (iii) Unit rate for labour work if highly skilled gets Rs. 750/day, skilled gets Rs.600/day and unskilled Rs.500/day. (06 Marks)

OR

- a. List out factors behind the selection of construction equipments to perform an assigned task or project. (04 Marks)
b. List out various inventory control techniques for material management? What is A-B-C analysis? (04 Marks)

- c. An excavator with a bucket capacity of 1.22 cum and rated horse power of 180 HP is used for excavation of soil. Following information is available.
- Capital cost Rs.75 lakhs,
 - Technical life 5 years
 - Charged to the project : 2.5% per month of capital cost
 - Total hours employed per month = 300 Hrs
 - Prime mover = Diesel, Load factor = 0.85, Crank case capacity = 32 lit, Time between oil charge = 120 Hrs
 - Correction factor = 0.7, load factor = 0.85, Bucket swing factor = 1.00, Bucket fill factor = 0.90.
 - Operation and maintenance man power cost = Rs. 175/hr
 - Time cycle for one operation = 45 sec with 55 min per hour working.
 - Routine maintenance and major repair cost = 120% of depreciation or ownership cost.
 - Diesel rate Rs.70/lit ; Lube rate Rs. 200/kg.
- Estimate :
- Hourly production rate is cum/hr
 - Cost of ownership and operation in Rs/hr
 - Unit rate of equipment operation in Rs/cum.
- (08 Marks)

Module-3

- 5 a. Explain :
- Total Quality management (TQM)
 - Cost of Quality
 - Quality Control (QC)
- (12 Marks)
- b. What is the importance of “Tool Box Talks” and “Good House Keeping” in construction safety management? (04 Marks)

OR

- 6 a. Define Values, Moral's and Ethics. List out seven ethical principles applicable to construction industry. (06 Marks)
- b. Describe the safety measures to be adopted while doing open excavation of earth and rock to avoid accidents. (06 Marks)
- c. List out Broad Principles of Quality Management System's as outlines under ISO 9000. (04 Marks)

Module-4

- 7 a. Discuss briefly “Concept of Engineering economic study and its principles”. (06 Marks)
- b. What is the present equivalent money value of Rs.50,000/-, 5 Years from now. The rate of interest is 14% compounded quarterly. (04 Marks)
- c. A concrete mixer has following cash flow detail :
- Initial purchase price = Rs. 7,50,000/-
 - Annual operating and maintenance cost of Rs.45,000/-
 - Salvage value = Rs.2,10,000/-
 - Useful life = 10 years.
 - 1 number of operator is employed and the cost of Rs. 30/- per hour.
 - The mixer production rate is 0.1 cum per 1 hour.
 - The revenue or cost generated by selling 1 cum of concrete is Rs.1000/-
 - Interest rate on capital purchase = 11% per annum.
- Determine the quantity of concrete in m³ or cum in a year to be produced so that the Revenue generated will be Break even with the expenditure. (06 Marks)

OR

- 8 a. What is the total capitalized cost of a building which have
- Construction cost Rs.1,00,000/- immediate
 - Rs.10,000/- expenses each year for the first 4 years.
 - Annual year end maintenance cost of Rs.5000/- plus the expenditure of Rs. 25000/- @ the end of each 10 years period for replacement purpose?
 - Interest rate = 8% p.a.
- (04 Marks)

- b. Cash flow for two projects A and B are given below with minimum attractive rate of return of 10%. Choose the best alternative using "Annual worth" method of analysis.

End of year	0	1	2	3	4
Project A	-50,000/-	5,000/-	17,500/-	30,000/-	42,500
Project B	-50,000/-	40,000/-	15,000/-	15,000/-	15,000

(08 Marks)

- c. A contractor has been awarded to do a job which requires procurement of an equipment. Two brands 'A' and 'B' are available to perform the job. Brand 'A' requires an investment of Rs. 4,50,000/- while brand 'B' requires an investment of Rs. 7,25,000/-. The annual savings generated by the Brands are :

Brand	I year Rs.	II year Rs.	III year Rs.
A	2,25,000/-	2,25,000/-	2,25,000/-
B	3,00,000/-	3,00,000/-	3,00,000/-

Which Brand of equipment should the controller choose? Assume rate of interest $p.a = 8\%$.

(04 Marks)

Module-5

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- 9 a. Define Entrepreneur? Explain the functions of an Entrepreneur. (08 Marks)
b. Define Micro, Small and Medium enterprises. List and explain the characteristics of 'MSME'. (08 Marks)

OR

- 10 a. What is "DPR"? Discuss the guidelines for the preparation of model project report for starting a new venture. (08 Marks)
b. What are the various ways of entry into International Business? (08 Marks)
