

# P P SAVANI UNIVERSITY

Seventh Semester of B. Tech. Examination

December 2021

SECV4030 Construction Management & Equipment

11.12.2021, Saturday

Time: 09:00 a.m. To 11:30 a.m.

Maximum Marks: 60

**Instructions:**

1. The question paper comprises of two sections.
2. Section I and II must be attempted in single answer sheets.
3. Make suitable assumptions and draw neat figures wherever required.
4. Use of scientific calculator is allowed.

**SECTION - I**

- Q - 1 (a) Write a short note on Construction project Management. [05]  
Q - 1 (b) Explain importance of construction in construction industry. [05]

**OR**

- Q - 1 (a) Define: Project. Explain phases of construction Project. [05]  
Q - 1 (b) Explain objectives and Scope of Construction Management. [05]  
Q - 2 (a) Differentiate between CPM & PERT. [05]  
Q - 2 (b) Prepare a WBS on Residential building. [05]

**OR**

- Q - 2 (a) Define: Event, Dummy Activity, Critical Path, Critical Activity, EST. [05]  
Q - 2 (b) Write a short note on WBS. [05]  
Q - 3 (a) Write a short note on construction quality management. [05]  
Q - 3 (b) Discuss inspection, quality control & quality assurance in construction project. [05]  
Q - 3 (a) Discuss concept of quality for construction industry. How do you define construction quality? [05]  
Q - 3 (b) Explain concept of Juran's quality trilogy. [05]

**SECTION - II**

- Q - 1 Answer the Following questions in brief [05]  
(i) What is standard and special equipments?  
(ii) List out hauling equipments.  
(iii) Write the function of Power shovel and clam shell  
(iv) Write the function of scrappers and bulldozer  
(v) Define economic life of the equipment.  
Q - 2 (a) A contractor has purchased an equipment for Rs. 18,00,000. He is expecting its salvage value as Rs. 4,00,000 at the end of 5 years. He earns yearly profit of Rs. 1,50,000 for all 5 years. Regular maintenance cost is Rs. 80,000/year. The contractor has to bare Rs.1,80,000 as major operation & maintenance cost at the end of 3<sup>rd</sup> year. Find out present worth of the equipment. Consider rate of interest as 10%. Assume necessary data if required. [05]  
Q - 2 (b) What do you understand by rolling resistance of a haul road? Discuss the factors affecting rolling resistance. [05]

**OR**

- Q - 2 (a) The original cost of equipment is Rs. 10,00,000/- and its salvage value is 10% of the original cost. The equipment is used for 1600 hours in a year. The useful life of the equipment is 5 years. The hiring charge of equipment is including all repairs and maintenance cost is Rs. 40,000/- per month. Suggest which is the best option to purchase or hire the equipment? [05]  
Q - 2 (b) Discuss the factors affecting the selection of the equipments. [05]  
Q - 3 (a) Write Short Note on crawler tractor and Wheel tractor. [05]

Q - 3 (b) Describe the basic parts of clamshells with neat sketch. [05]

OR

Q - 3 (a) Describe the basic parts of belt conveyer system with neat sketch. [05]

Q - 3 (b) Explain various methods of depreciation with suitable examples. [05]

Q - 4 Discuss the power requirements for belt conveyer system. [05]

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