

# Advanced Construction And Equipments (2160601)

## Assignment: 1

1. Necessity of pile foundations.
2. Factors affecting the selection of type of piles.
3. Under reamed piles.
4. Causes of failure of Piles.
5. Classification of piles.
6. Differentiate Caisson and Cofferdam.
7. Types of Caissons.
8. Sinking of Caissons.

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## Assignment: 2

1. Short note on Diaphragm Wall.
2. Short note on Cofferdam. Give its definition, requirement, necessity and uses.
3. Selection of type of Cofferdams.
4. Types of Cofferdams.
5. Leakage preventions in Cofferdams.
6. Explain in Brief: Dewatering method and its suitability.

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## Assignment: 3

1. Requirements of good Formwork.
2. Formwork for big Arches.
3. Slip Formwork.
4. Short note on Methods of construction of tall structures.
5. Short note on Prestressed Concrete.
6. Factors affecting selection of Demolition method.
7. What is Demolition? What is its necessity?
8. Methods of Demolition.

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## Assignment: 4

1. Factors affecting selection of construction equipments.
2. Financial aspects related to construction equipments.
3. Depreciation.
4. Equipment replacement policy.
5. Rolling resistance.
6. Coefficient of friction.
7. For construction equipment following information is available.
  - Initial cost of acquisition Rs. 65,00,000
  - Cost of tyre sets Rs. 3, 50,000 to be replaced after every 3,000 hours of operation.
  - Cost of major overhaul and repairs Rs. 8, 00,000 to be carried out after every 4500 hours of operation.
  - Cost of fuel, lubricants and minor repairs and maintenance Rs. 1100/- per hour.
  - Estimated life of machine = 13,500 hours of operation.
  - Estimated salvage value = 15% of initial cost.
  - Estimated usage of equipment = 1,500 hours per year.If MARR is 20% per year, Estimate minimum hourly rental charges for equipment.
8. A needle vibrator purchased for Rs. 24,000. If after 6 years its scrap value is Rs. 6,000, Calculate amount of annual depreciation. Rate of interest is 6%.
  - i. Straight line method
  - ii. Constant percentage method
  - iii. Sinking fund method

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## Assignment: 5

1. Short note on Tractors.
2. Short note on Bulldozers.
3. Short note on Power Shovels.
4. Factors affecting output of a dragline.
5. Short note on Clam Shells.
6. Components of belt conveyor.
7. Short note on Wagons.
8. Short note on Dumpers.