MMPN001 Construction management 1

Assignment questions 12th August 2026

1. Suppose you are the project manager for the construction of a residential apartment in busy street in New Delhi. An existing two storey house in the site has to be demolished and a new apartment of four floors has to be built in its place. The new building shares common walls with buildings on the adjacent plots. Explain the safety precautions and exact sequence of dismantling that you will follow. Specifically detail out the procedures for masonry/partition walls, heavy floor beams, floor and roof arches and RCC beams and columns. **10 marks**
2. In a construction site, explain the procedure for storing and preserving of materials to maintain the quality with respect to a) Cement b) Timber c) structural and reinforcement steel d) flammable materials like paints varnishes and fuels **10 marks**
3. Explain the step wise procedure for calculating the costs for hourly owning, operating and mobilsation of heavy construction equipment. Compare investment factoring method and depreciation factoring method. As a project manager, when will you opt for owning an equipment vs renting an equipment? **10 marks**
4. While estimating masonry volume, what are the standard conventions and rules followed for deducting structural bearings and openings from masonry? Support your answers with sketches. **10 marks**
5. Why are painting coefficients used in woodwork estimation? Give examples of at least five standard coefficients. How is the painting area of structural steel sections determined? **10 marks**
6. Define "Float' in CPM network analysis. Differential between Total float (TF), Free Float (FF) and Interference Float (IF). Explain your answer with the help of a mathematical example. **10 marks**
7. Describe Line of Balance (LOB) work schedule. What are the situations when LOB is used and not traditional networks? **10 marks**
8. Write a short essay on "payments on account", "final payment" and the retention fund mechanism used to cover defective works, unpaid debts or measurement disputes in a construction projects. **10 marks**
9. How are a contractor's earnings, financing costs, networking capital and overall risk profile affected by a) substituting fixed assets with current assets b) substituting long term debt with current liabilities **10 marks**
10. Discuss the roles of sensitivity analysis and decision-tree analysis in evaluating capital risks. **10 marks**