

| Chapter  | Questions  | W/n-'19 | Sum-'19 | W/n-'18 | Sum-'18 | W/n-'17 | Total |
|--|--|---------|---------|---------|---------|---------|-------|
| 1  | Explain pile accessories with neat figures.  |         |         |         | 3       |         | 3     |
|  | Explain different types of pile hammers with their advantages and disadvantages.   |         |         |         | 7       |         | 7     |
|  | What are under reamed piles? Explain the method of construction of under reamed piles with help of neat sketch. Explain the situation under which under reamed piles are used. |         |         |         | 7       | 7       | 14    |
|  | Give complete classification of piles.   |         |         |         | 3       |         | 3     |
|  | What is pile foundation? Explain under which condition you would prefer pile foundation.   |         |         |         |         | 7       | 7     |
|  | Explain pile driving. Give different equipments used for pile driving with its specific uses?  |         |         |         |         | 7       | 7     |
|  | Discuss the different causes of failure of piles.  |         | 3       | 4       |         |         | 7     |
|  | Differentiate between Precast pile Vs Cast in situ pile.   |         |         |         | 3       |         | 3     |
|  | Differentiate between End bearing pile and friction pile with their figures.   |         | 7       |         |         | 3       | 10    |
|  | Discuss various components of well foundation with their functions.  | 4       |         |         |         |         | 4     |
|  | Discuss briefly hammer drilling method of pile driving.  | 3       |         |         |         |         | 3     |
|  | Describe pile load test to determine load carrying capacity of pile in field.  | 7       |         |         |         |         | 7     |
| Enlist various types of cast in situ concrete piles. Explain any one briefly.    | 4  |         | 3       |         |         | 7       |       |
| 2  | Explain cutting edges of caissons. Also write merits and demerits of each.   |         |         |         | 4       |         | 4     |
|  | Discuss pneumatic caissons with neat diagram and its method of construction. Also enumerate merits and demerits.   | 7       |         |         | 4       | 4       | 15    |
|  | Discuss causes of tilting of caissons. How can it be corrected?  |         | 7       |         | 4       |         | 11    |
|  | What is a caisson? Explain with sketch well type of caisson.   |         |         | 7       |         |         | 7     |
|  | What is caisson sickness? Which precautions should be taken to avoid caisson sickness?   |         | 4       |         | 3       |         | 7     |
| Write a short note on sinking of caisson.  | 4  |         |         |         |         | 4       |       |
| 3  | Give different uses for application of diaphragm wall for a given site?  |         |         |         |         | 3       | 3     |
|  | Define the term with sketches 1) Stop-end pipe 2) Guide wall   |         |         |         | 3       |         | 3     |
|  | Write a short note on "Diaphragm wall construction.  |         |         |         | 7       |         | 7     |
| 4  | Discuss economic height of cofferdam.  |         |         |         | 4       |         | 4     |
|  | Explain construction of Ohio river type cofferdam using neat figure .  |         |         |         | 7       |         | 7     |
|  | What is coffer dam? State its uses. Enlist the different type of coffer dam and explain any one with sketch.   | 4       |         | 7       | 3       | 4       | 18    |
|  | Which are the points of difference between caisson and coffer dam?   |         | 3       |         |         | 4       | 7     |
| State the factors which influence the choice of a particular type of coffer dam. |  | 4       |         | 4       |         | 8       |       |
| 5  | Explain electro osmosis with neat figure.  |         |         |         | 4       |         | 4     |
|  | Enlist various methods of ground water control.  |         |         |         | 3       |         | 3     |
|  | Briefly describe the methods of controlling ground water in excavation.  |         |         |         |         | 7       | 7     |
|  | Explain the different steps of process of vibroflotation with help of neat sketches.   |         |         | 4       |         | 7       | 11    |
|  | Enlist various methods of dewatering and explain freezing process with figure.   |         | 7       |         |         |         | 7     |
|  | Explain various components, merits and demerits of well point system.  | 7       |         |         |         |         | 7     |
| Discuss chemical grouting method of dewatering.                                  | 3  |         |         |         |         | 3       |       |
| 6  | Explain with neat sketches the formwork of RCC column.   |         | 3       |         | 7       |         | 10    |
|  | Enlist requirements of formwork.   |         |         |         |         | 3       | 3     |
|  | What is formwork? Discuss the formwork of RCC Beam with neat sketches.   | 3       |         | 7       |         | 4       | 14    |
|  | Where the slip form work can be used? Explain with neat sketch.  |         | 7       | 4       |         | 4       | 15    |
|  | Discuss the causes of failure of false work.   |         |         | 4       |         |         | 4     |
|  | State requirements of good formwork.   |         | 4       |         |         |         | 4     |
|  | Which measures should be taken to achieve economy of formwork?   | 3       |         |         |         |         | 3     |
|  | Explain briefly formwork for R.C.C. walls. Also mention planning & duration of removal of formwork of structural members.  | 7       |         |         |         |         | 7     |
| 7  | Write short note on methods of construction of tall structures.  |         |         |         |         | 7       | 7     |
|  | What do you mean by tall structure? Why tall structures are required?  |         | 3       | 3       |         |         | 6     |
|  | Which factors are affecting growth, height and structural form of tall structures?   | 4       |         |         |         |         | 4     |
| 8  | Enlist various methods of demolition and explain any two in detail.  |         | 7       | 7       | 7       | 3       | 24    |
|  | Describe commercial type of explosives in brief.   |         |         |         | 3       |         | 3     |
|  | Discuss various safety measures should be taken before and during demolition.  | 7       |         |         |         |         | 7     |

|           |   |   |   |   |   |   |    |
|-----------|---|---|---|---|---|---|----|
|           | Give brief classification of construction equipments.   |   |   |   | 3 |   | 3  |
|           | Define: Depreciation cost, Downtime cost, Operating cost, Ownership cost, Scrap Value, Obsolescence   |   |   | 6 | 3 | 3 | 12 |
|           | Enlist the various factors affecting equipment selection. Explain any four of them in detail for given equipment.   |   |   |   |   | 7 | 7  |
|           | Explain the importance of construction equipment on a project site.   |   | 3 |   |   | 3 | 6  |
| <b>9</b>  | Explain sinking fund method for calculation of depreciation?  |   |   |   |   | 7 | 7  |
|           | What is owning and operating cost of equipment  |   |   | 4 |   | 3 | 7  |
|           | Calculate the depreciation for each year by Straight line method for the Back hoe loader having purchase cost of Rs 26,00,000/- and scrap value at the end of useful life of five years equal to 10% of its original purchase price |   |   | 7 |   |   | 7  |
|           | Differentiate between standard equipment and special equipment.   |   | 4 |   |   |   | 4  |
|           | Explain various financial aspects of procuring construction equipments.   | 4 |   |   |   |   | 4  |
|           | Define: Drawbar pull, Rim Pull, Rolling Resistance, Coefficient of Traction, Gradability,   |   | 4 | 3 | 3 | 3 | 13 |
| <b>10</b> | Discuss the effect of grade on required tractive effort.  |   |   |   | 4 |   | 4  |
|           | Enumerate various factors affecting rolling resistance. Also briefly discuss grade resistance.  |   |   |   |   | 7 | 7  |
|           | Discuss advantages and disadvantages of scrapers.   |   | 7 |   | 7 |   | 14 |
|           | Why Bulldozer is an versatile equipment? Explain with reason.   |   |   | 4 |   |   | 4  |
| <b>11</b> | Differentiate between crawler mounted dozer and wheel mounted dozer.  |   | 7 |   |   |   | 7  |
|           | Explain operation of scrapers.  | 3 |   |   |   |   | 3  |
|           | Explain purposes and different blade movements of bulldozers.   | 4 |   |   |   |   | 4  |
|           | Enlist various excavating equipments and explain any one in detail.   |   |   | 7 | 4 |   | 11 |
|           | What is power shovel? Explain operation of power shovel. Also Discuss factors affecting output of power shovel.   | 7 |   |   |   | 4 | 11 |
| <b>12</b> | Discuss advantages and disadvantages of Draglines and Clamshells.   |   |   |   |   | 7 | 7  |
|           | Draw neat sketch of power shovel and also show basic parts.   |   | 4 |   |   |   | 4  |
|           | Differentiate between dragline and clamshell.   | 3 |   |   |   |   | 3  |
|           | Describe various types of trenching machines. Which points to be kept in mind while selecting trenching equipments? Write advantages and disadvantages of Trenching machine.  | 7 | 7 | 3 |   |   | 17 |
|           | Write short note on wagons.   |   | 3 |   |   |   | 3  |
| <b>13</b> | What operations are involved for transportation of materials by a truck? Also discuss factors affecting cycle time of truck.  | 7 | 4 |   |   |   | 11 |
| <b>14</b> | Enlist the different type of lifting equipment. Explain with sketches of Tower Crane.   | 4 |   | 7 |   |   | 11 |
|           | Write short note on mobile crane with figure.   |   | 4 |   |   |   | 4  |
|           | Discuss basic parts and operation of screw conveyors with neat sketches.  |   |   |   | 7 |   | 7  |
| <b>15</b> | What precautions should be taken for longer life of conveyor belts?   |   | 3 |   |   |   | 3  |
|           | Draw a neat sketch of belt conveyor system and describe its components.   | 3 | 7 |   |   | 4 | 14 |
| <b>16</b> | Give different methods of boring with respect to site conditions?   |   |   |   |   | 3 | 3  |
| <b>17</b> | Describe different types of roll crushers.  | 3 |   |   |   |   | 3  |
| <b>18</b> | Classify compressors and explain any one in detail. Write the importance of air compressor.   |   |   | 4 | 4 |   | 8  |
| <b>19</b> | What is concrete batching plant? Give a general layout plan for a concrete batching plant?  |   |   | 4 |   | 4 | 8  |
| <b>20</b> | What is a tunnel boring machine? Discuss hard rock tunnel boring machine.   |   |   | 7 | 7 |   | 14 |
| <b>21</b> | Discuss various types of rollers utilize in field compaction works.   | 3 | 3 |   |   |   | 6  |