Appendix 7

PBL based Internship Program - Post Test

Please answer all questions: Time: 2 hours

Short questions should be answered in 2-3 lines. Total Marks -100

Pretest - Site Survey and Ground investigation **Marks - 17**

1. Draw an example format of site plan showing different existing features for proposed site? 2
2. List down five existing onsite and five adjacent site features you will depict on site plan? 2
3. How existing Bench Mark Elevation will help to examine the terrain of the proposed site? 2
4. List down three factors to be considered while proposing the drainage pattern of proposed site? 2
5. Which factors to be considered while identifying the physical properties of soil? 2
6. Why it is important to explore the underground utilities before proposing construction on that site ? 3
7. The correction for sag in chain is always 1
   a) additives
   b) always subtractive
   c) always zero
   d) sometimes additive and sometimes subtractive
8. The number of horizontal cross wires in a stadia diaphragm is 1
   a) one
   b) two
   c) three
   d) four
9. While surveying a plot of land by plane tabling, the field observations 1
   a) And plotting proceed simultaneously
   b) And plotting do not proceed simultaneously
   c) And recorded in field books to be plotted later
   d) All the above
10. Mistakes which may produce a very serious effect upon the final results arise due to 1
    a) In attention
    b) Inexperience
    c) Carelessness
    d) All of these

Construction Site Excavation Activities. **Marks - 10**

1. List down the steps you observed were followed by site supervisor while starting site excavation activities? 2
2. Which factors decide the type of excavation equipment required for onsite excavation activities? 2
3. List down four safety measures needed as per your experience for onsite excavation activities? 3

4. Briefly describe if there was any different way of calculating earth work as compared to classroom learning way of calculating it? 2
5. The excavation exceeding 1 m in width and 5 sq.m in plan area with a depth of 10 cm, is termed as 1
   a) Excavation
   b) Surface dressing
   c) Cutting
   d) none of the above

Soil Testing Reports, Foundation design and Coordination of Design plans Marks - 16

1. Which tests did you find in soils testing report for a proposed project? 2
2. How you can analyse the quality of soil as per soil properties mentioned on soil report? 3
3. What is the importance or need of soil testing in foundation design of proposed building? 2
4. Illustrate if any differences in format of foundation construction drawings as compared to classroom learning format for foundation drawings? 2
5. Which other building design plans supervisor needs to coordinate before beginning construction activities for foundations? 3
6. Allowable bearing pressure for a foundation depends upon 1
   a) allowable settlement only
   b) ultimate bearing capacity of soil only
   c) both allowable settlement and ultimate bearing capacity
   d) none of above.
7. The maximum bearing capacity of soil is that of 1
   a) Black cotton soil
   b) Loose fine sandy soil
   c) Dry coarse sandy soil
   d) Hard rocks
8. The bearing capacity of a water logged soil can be improved by 1
   a) Compacting the soil
   b) Draining the soil
   c) Increasing the depth of foundation
   d) Grouting
9. For the construction of flyovers in sandy soils, the type of foundation provided, is 1
   a) Strap footing
   b) Raft footing
   c) Combined footing
   d) Pier footing

RCC Foundation Construction activities: Marks - 16

1. What is the importance of material procurement in construction project timelines and budget? 2
2. What challenges you identified during onsite BBS -Bar Bending Schedule onsite procedure? 2

3. Which type of concrete mixer was used at construction site and why? 2
4. Illustrate the procedure of calculating form work required at construction site ? 2
5. List down any three challenges you observed at RCC foundation construction site faced by site supervisor? 3
6. List down which different parameters you identified were depicted on RCC foundation construction plans as compared to classroom RCC drawing format? 2
7. For a given aggregate content, increasing the water- cement ratio in concrete 1
   a) increases shrinkage
   b) decreases shrinkage
   c) does not change shrinkage
   d) none of the above
8. Increase in the moisture content in concrete 1
   a) reduces the strength
   b) increases the strength
   c) does not change the strength
   d) all of the above
9. Workability of concrete is inversely proportional to 1
   a) time of transit
   b) water-cement ratio
   c) the air in the mix
   d) size of aggregate

Building Construction Activities **Marks - 16**

1. List down any three regulations were implemented per NBC code during your field experience at building construction site? 2
2. List down steps of concrete pouring methodology you observed or mentored at building construction practices? 2
3. How you identify the grade wise concrete mix quantity ratios while monitoring & observing concrete mixing activity on the construction site ? 2
4. According to your field experience with which field test or methods does the construction site supervisor or engineer controls the concrete mix ratio quantities? 2
5. According to your field experience list down any four challenges that construction engineer or site supervisor face during onsite construction activities? 3
6. During your field experience list down any three issues you observed on construction site ? 3
7. The diameter of longitudinal bars should be minimum of. 1
   a) 25 mm
   b) 20 mm
   c) 12 mm
   d) 8 mm.

8. A foundation is called not shallow if its depth, is 1
   a) One-fourth of its width
   b) Half of its width
   c) Three-fourth of its width
   d) Equal to its width

Precast Structures **Marks - 13**

1. What two differences you identified in Precast & onsite construction after having Precast plant visit? 2
2. After your visit to Precast manufacturing plant list down any two specifications were implemented as required by NBC for constructing Precast units? 2
3. Did you identify any benefits of using Precast construction components in construction activities which help in managing the budget and timeline of project? 2
4. After visit the Precast manufacturing plant what are the challenges you identified they face during manufacturing and transporting Precast construction components? 3
5. After your Precast plant visit list down three or more advantages and disadvantages you identified in onsite construction activities? 3
6. After pre-stressing process is completed, a loss of stress is due to 1
   a) Shrinkage of concrete
   b) Elastic shortening of concrete
   c) Creep of concrete
   d) All the above

Construction Management and Administrative practices **Marks - 12**

1. What are the advantages of using Primavera software? 2
2. List three document which are needed for preparation and filing of tender documents? 2
3. How construction management is different from construction engineering? 2
4. What are the skills and management practices required for managing construction site activities 2
5. What are the administrative responsibilities which are managed by construction manager? 2
6. The main factor to be considered while preparing a detailed estimate, is 1
   a) Quantity of the materials
   b) Availability of materials
   c) Transportation of materials
   d) All the above
7. According to ISI method of measurement, the order of the sequence is 1
   a) Length, breadth, height
   b) Breadth, length, height
   c) Height, breadth, length
   d) None of these