

## Summer Final Term Assignment/Quiz (2020)

**Note: Attempt all questions. Answer of the given questions must be uploaded within 04 hours after uploading of question paper. No answer sheet will be considered after given time period.**

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### Q No 1: (5+5+3+3+4)

- Briefly describe principle and advantages of pre-stressing.
- Briefly discuss methods of pre-stressing.
- Differentiate between bridge and culvert with proper examples.
- Discuss briefly types of load considered in bridge design.
- Differentiate between SMRF & OMRF.

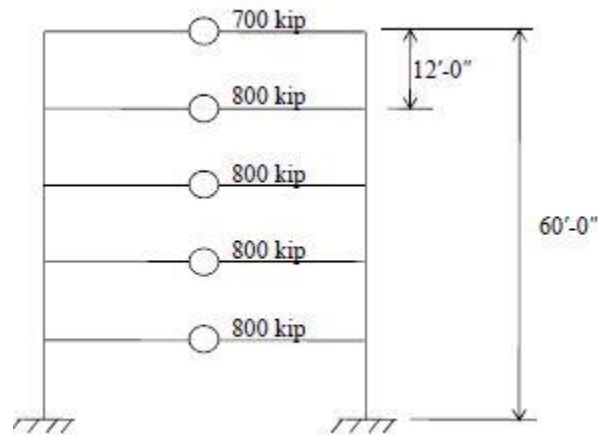
### Q No 2: (15)

Design simply supported Slab Bridge for HL-93 live load.

- Span length of 35 ft c/c of bearings.
- Roadway width is 44 ft curb to curb.
- Allow for future wearing surface of 3 inch thick bituminous overlay.
- Use  $f'_c = 4000$  psi &  $f_y = 60$  ksi.

### Q No 3: (15)

Calculate the base shear and storey forces of a five storey concrete (SMRF) building given in figure. The structure is constructed on stiff soil which comes under soil type  $S_D$  of table 16-J of UBC-97. The structure is located in Zone-03. Take  $I = 1.00$



“Good Luck”

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