

**B.Tech. Degree VIII Semester (Supplementary)
Examination, September 2008**

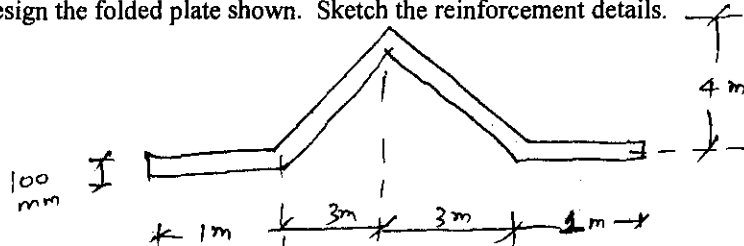
**CE 804 (A) ADVANCED DESIGN OF STRUCTURES
(1999 Scheme)**

Time: 3 Hours

Maximum Marks: 100

(Use of IS 456 & SP16 permitted. Assume suitable data wherever necessary)

- I Design and sketch the reinforcement details of an exterior panel of a flat slab with 5.5 m square panel, if the column size be 450 x 450 mm. No column head or drop is provided.
The DL & LL may be taken as 8KN/m² and 6KN/m² respectively. Use M20 concrete and Fe 415 steel. (25)
- OR**
- II a) Explain the design procedure with formula for a ribbed slab. (15)
b) Explain the design procedure with formula for continuous deep beam. (10)
- III a) Explain the design procedure with formula involved for a RCC chimney. (15)
b) Explain the design procedure with formula involved for a bunker. (10)
- OR**
- IV Design a silo to store 500 KN of clinkers. Take angle of repose as 30° for clinker and the storage is upto angle of repose. Assume unit weight of clinker as 1200 Kg/m³. (25)
- V Design a spherical roof cover of a circular tank of 6m diameter with rise 1.5m and it is 100mm thick. Assume a load of 1.5 KN/m² including self weight. Use M20 grade concrete and Fe 415 steel. (25)
- OR**
- VI A reinforced concrete shell having semicircular directrix is freely supported at the ends. Radius of the shell = 8m; length of shell = 40m, thickness of shell = 60mm. Calculate membrane forces at x=0, 10m and 20m and $\phi = 0^\circ, 30^\circ, 60^\circ$ and 90° under its own weight. (25)
- VII Compare Whitney's method and Simpson's method of analysis (with formula involved) of folded plates. (25)
- OR**
- VIII Analyse and design the folded plate shown. Sketch the reinforcement details. (25)



Take load including self weight and super imposed load as 3.5 KN/m². Use M20 concrete and Fe 415 steel.

