ELMANSOURA UNIVERSITY
FACULTY OF ENGINEERING
CIVIL DEPARTMENT
STRUCTURAL DIVISION

THIRD YEAR CIVIL
CONCRETE CONSTRUCTIONS
JANUARY - 2013
TIME ALLOWED 3 hrs.

Any missing data may be reasonably assumed

مسموح بإستخدام الكود المصرى و كتاب الدكتور شاكر البحيرى

Answer the following questions

Question (1)
A class room measures 12.0m x 15.0m and the floor was suggested to be Paneled Beams system. Projected beams are allowed.

A) With a suitable scale draw a plan showing the floor concrete dimensions and the arrangement of beams.

B) Carry out a complete calculations showing the correct design B.M for the different beams.

C) Show the details of reinforcement for the most critical internal beam.

(25 %)

Question (2)
A factory hall measures 24.0m x 24.0m in plan with 4 equal pays in both directions. The expected live load on floor is about 1.0t/m2. The floor is suggested to be flat slab system.

A) With a suitable scale draw a plan showing the floor concrete dimensions.

B) Carry out complete calculations showing the design B.M for the different strips.

C) Show the slab details of reinforcement in both plan and section elevation.

(50 %)

Question (4)
Figure (1) shows a plan for an ordinary building. The floor is suggested to be hollow block slab system. Only sketch the slab concrete dimensions and the details of reinforcements in plan and cross sectional elevation for different sections.
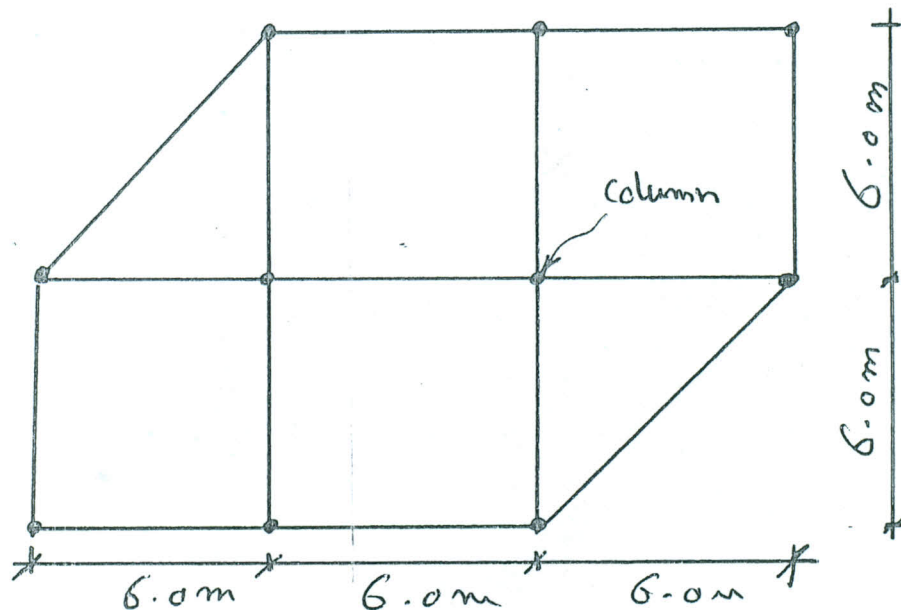
(25 %)

Fig (1)