

امتحان نهایی
ع.ع.ا

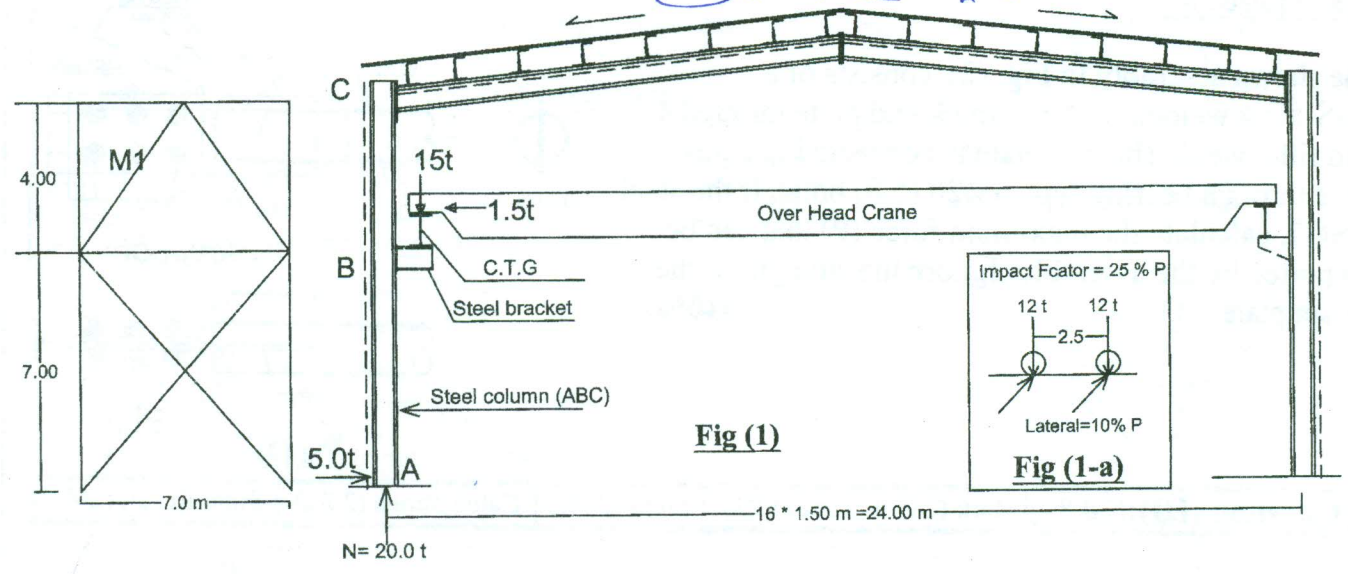
Faculty of Engineering at Mataria	 HELVAN UNIVERSITY	1 st	Semester
Department: Civil Engineering Dept.		2 nd	Academic Year 2020 - 2021
Course Name : Design of Steel Structures		Exam Type : Final Exam	
Course Code:		Date of Exam : 12 - 6 - 2021	
Level: 3		Time Allowed : 3 Hours	
		Maximum Mark: 90	

This exam is an open CODE (Steel Code & Loads code) and steel tables . Page 1/2

- Material of construction is Steel 52

Question (I):(70 %)	Mark (63)	Idea (30%)	Steps (30%)	Calculations (20%)	Final Result (20%)
----------------------------	-----------	------------	-------------	--------------------	--------------------

1/10 *امتحان نهایی*



The steel industrial building is composed of series of frames having a span of 24.0 m divided into 16 equal panels 1.50 m each as shown in Fig. (1). The frames are spaced at 7.0 m. as shown in Fig. (1)

It is required to:

- 1) Design column (ABC) by choosing a suitable H.E.B x-sec. and check of stresses at joints (A) and (B) consider the given reactions which are given in Fig. (1). (25%)
- 2) Design an intermediate roof purlin using C- section (U.P.N) assume weight of roof Covering = 8 kg/m² (15%)
- 3) Design the crane track girder C.T.G to carry loads as shown in Fig (1-a) by choosing a suitable H.E.B section. (20%)
- 4) Calculate the design force for a diagonal member (M1) in vertical bracing system as shown in Fig (1) due to wind load and then design a suitable section for it (assume q-wind =70kg/m²). (10%)

