

**SM, 3<sup>RD</sup> SEM**

**FULL MARK =20  
TIME=1Hr.**

**1. ANY OF FIVE (5 X 2)**

- (A) What is free body diagram ? (B) Write down the different between plasticity & elasticity ?  
(C) What is compressive stress ? (D) Write down the C.G &M.I of a rectangular section ?  
(E) What is Volumetric strain ? (F) Write the Bulk Modulus of elasticity ?

**2. ANY OF TWO (2 X 5)**

- (A) Write down the Relation between E,G & K ?  
(B) A material of Young s modulus  $1.25 \times 10^5$  N/mm and poison ratio is 0.25 calculate (i) Modulus rigidity  
(ii)Bulk modulus  
(C) Find the decrease in length of the steel bar nodded in figure take (E)=  $2 \times 10^5$  N/mm ,  
length of 1<sup>st</sup> section =180,2<sup>nd</sup> section =200,P1=2KN,P2=5KN?

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**SD-II, 5<sup>TH</sup> SEM**

**AA**

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**TIME=1Hr.**

**1. ANY OF FIVE (5 X 2)**

- (A) Write down the advantages of steel structure ?  
(C)What is Terminology ?  
(E)Write the various type of connection?

- (B)Write the various type of Bolts ?  
(D)Write the efficiency of joint ?  
(F)Write the advantages of Welding ?

**2.ANY OF ONE (1 X10 )**

(A) Design a Lap joint between a two plate each of width 120mm.If the thickness of one plate is 16mm & other is 12mm.the joint has to transfer design load of 160kN. The plate are of Fe410 grade use bearing type bolt?

(B)Two plates 10mm & 18mm thick are to be joined by double cover butt joint .Design the joint for the following data Bolt dia =20mm ,Grade of steel =Fe410,Grade of bolt=4.6 ,2 cover plate =8mm ,factor design load =800kN ?

**SD-II, 5<sup>TH</sup> SEM**

**BB**

**FULL MARK =20**

**TIME=1Hr.**

**1. ANY OF FIVE (5 X 2)**

- (A) Write down the disadvantages of steel structure ?  
(C)What is Tensile strength of Bolts ?  
(E)Write the various type of connection?

- (B) What is shearing strength of Bolts?  
(D)Write the efficiency of joint ?  
(F)Write the disadvantages of Welding ?

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