

S.No. : 370

AR 1203

No. of Printed Pages : 03

Following Paper ID and Roll No. to be filled in your Answer Book.

PAPER ID : 10109

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## B. Arch. Examination 2021-22

### ARCHITECTURAL STRUCTURE - II

*Time : Three Hours]*

*[Maximum Marks : 60*

- Note :-** (i) Draw neat sketches with proper labelling.  
(ii) Assume any missing data.

### SECTION - A

1. Attempt any eight parts of the following :  $8 \times 1 = 8$

- (a) The space diagram of a framed structure must have all the .....
- (b) When a body is subjected to a direct tensile stress ( $\sigma$ ) in one plane then the tangential stress on an oblique of the body inclined at an angle ( $\theta$ ) to normal of the section is equal to .....

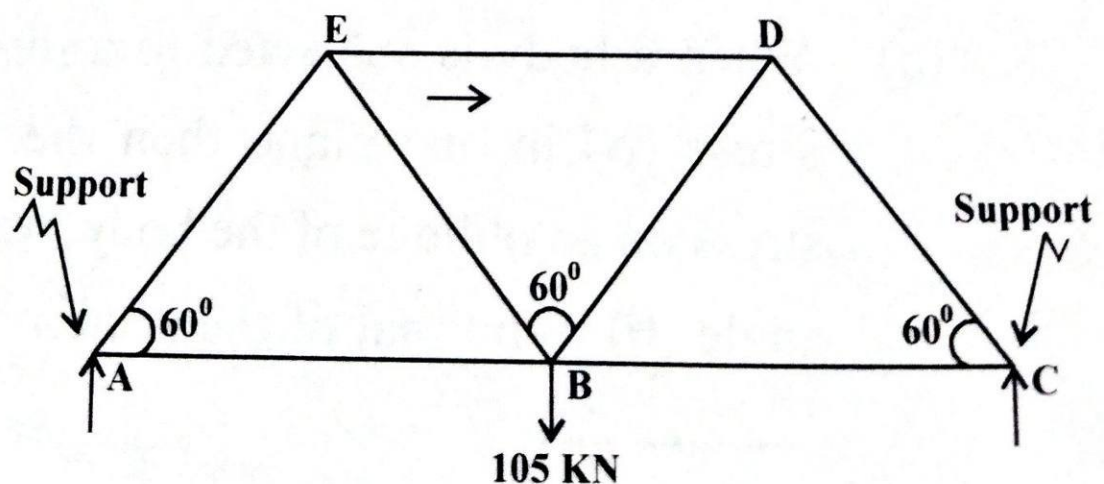
*[P. T. O.*

- (c)  $M > 2j - 3$ , truss is .....
- (d) For pin jointed frames, joints are analyzed for .....
- (e) ..... material value of Poisson's ratio is minimum.
- (f) Elastic limit of mild steel is .....
- (g) Rule for combined stress for beam of rectangular cross-section is .....
- (h) If the bending moment is consistent there will be no ..... stress.
- (i) A member under tension is called .....

### SECTION – B

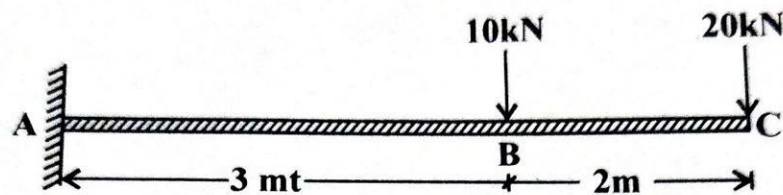
2. Attempt any two parts of the following :  $2 \times 6 = 12$

- (a) Solve the given figure by method of section method :





- (b) Differentiate a between the load bearing walls and framed system of building. Under which conditions you choose framed system of building design?
- (c) Find deflection at point "C" :



### SECTION – C

3. Attempt any two parts of the following :  $2 \times 20 = 40$

- (a) What are the various building components which are necessary for proper functioning of any building system?
- (b) Explain any type of structural truss system. Briefly explain any method of solving the same member.
- (c) A steel rod 5 m long and of 40 mm diameter is used as a column, with one end fixed and the other free. Determine the crippling load by Euler's formula. Take  $E$  as 200 G. Pa.

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