

ASSIGNMENT

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Subj: Theory of structure 2.

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PESH.

1. Fill in the blanks:

① If I want to know The shear force and bending moment diagram produced by moving Truck on The bridge then The method, I prefer To use will be brut force method.

② Beam having a reactions parallel will be determinant.

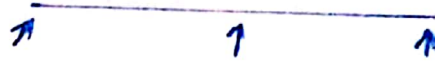
③ The structure for The which all reactions and forces can be analyzed or found by using equation of equilibrium is statically determinant.

④ In a formula $\gamma = 3n$, n shows no of members.

⑤ For fix end support The number of reactions are Three.

Q No. 2 > Classify each of the structures as statically determinate, statically indeterminate or unstable, specify degree of indeterminacy if applicable.

(A)



Formula:-

$$R = 3n$$

$$3 = 3(1)$$

$$3 = 3 \text{ determinate}$$

(B)

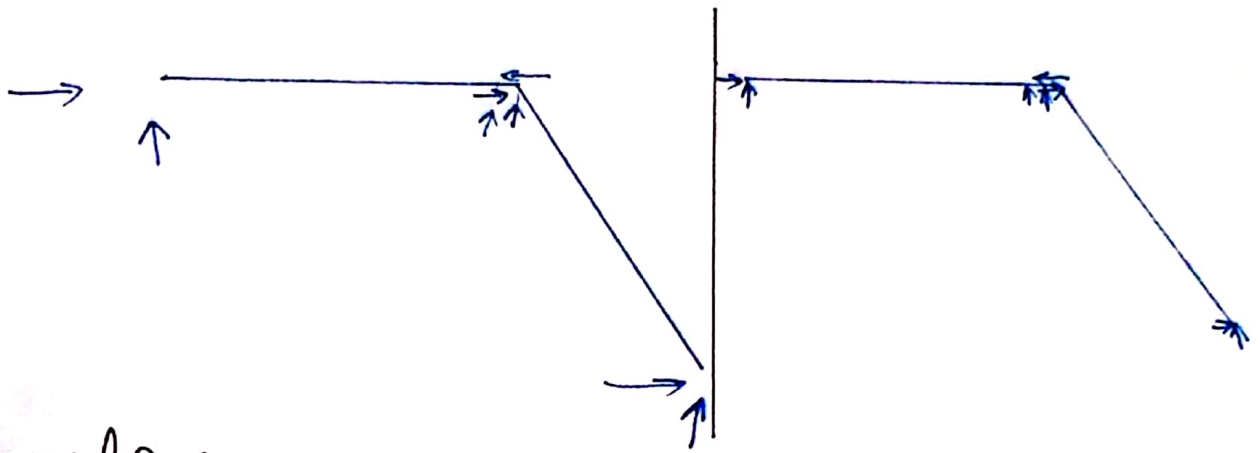
$$R = 3n$$

$$5 = 3(1)$$

$$5 > 3$$

indeterminate by 2°

C)



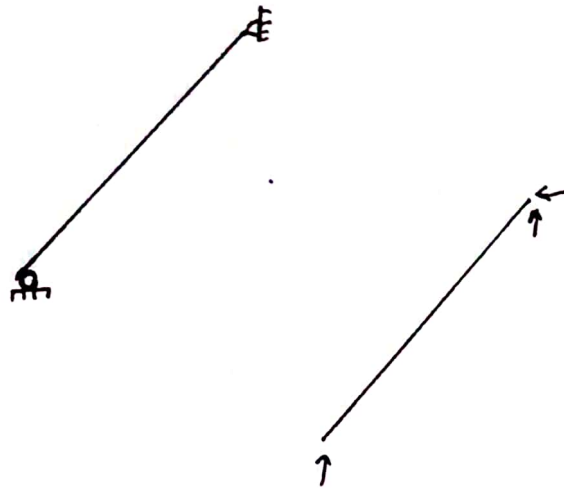
Formula :-

$$R = 3n$$

$$6 = 3(2)$$

6 = 6 determinate

D)



Formula :

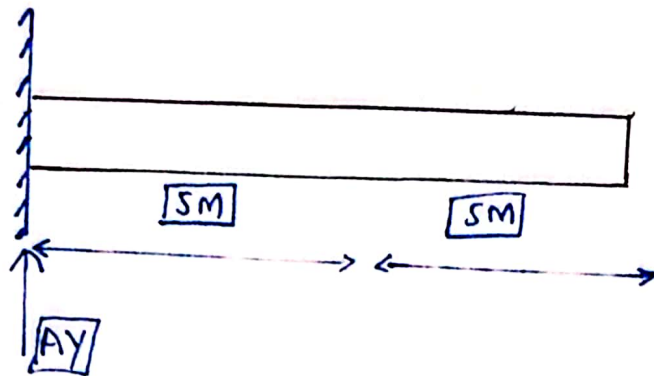
$$R = 3n$$

$$3 = 3(1)$$

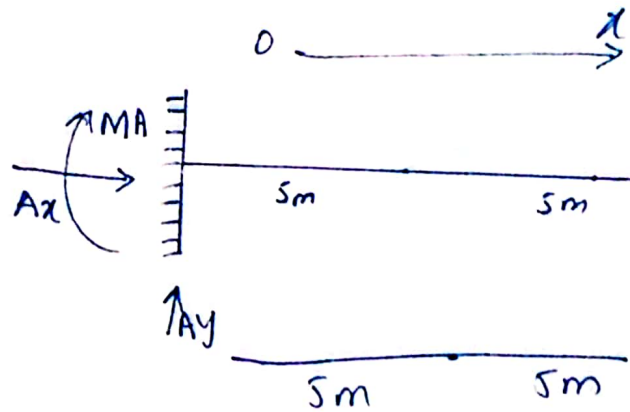
$$3 = 3 \text{ determinate}$$

Q NO = 3

Find influence line or reactions at Ay due to moving concentrated force by using Boust force method.

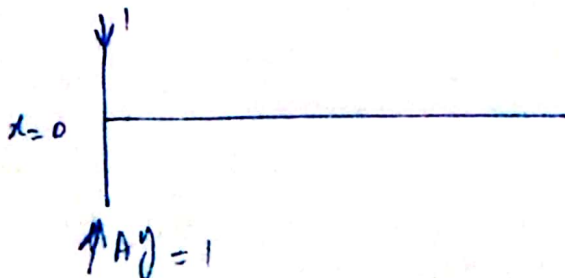


for solution:-



if $x = 0$

- use boust force statics
- Place the load and calculate.



$$\begin{aligned} \text{So} \\ \uparrow \sum F = 0 \\ -1 + A_y = 0 \\ \boxed{A_y = 1} \end{aligned}$$

x	A_y
0	1
5	1
10	1

if $x = 5m$:

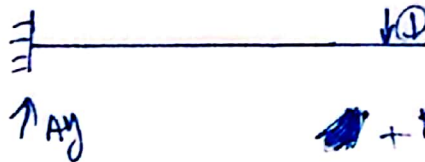


$$\uparrow + \Sigma F_y = 0$$

$$-1 + A_y = 0$$

$$A_y = 1$$

if $x = 10m$:



$$\uparrow + \Sigma F_y = 0$$

$$-1 + A_y = 0$$

$$A_y = 1$$

So influence line:-

