

Verso effettivo dei carichi riportato nel disegno.

Calcolare reazioni vincolari della struttura e delle aste.

Tracciare i diagrammi delle azioni interne nelle aste.

Esprimere le funzioni delle azioni interne nelle aste.

Calcolare spostamento e rotazione di tutti i nodi.

u_A, v_A, ϕ_A spostamento assoluto del nodo A.

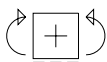
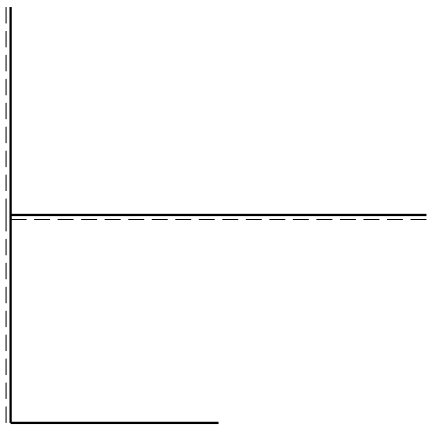
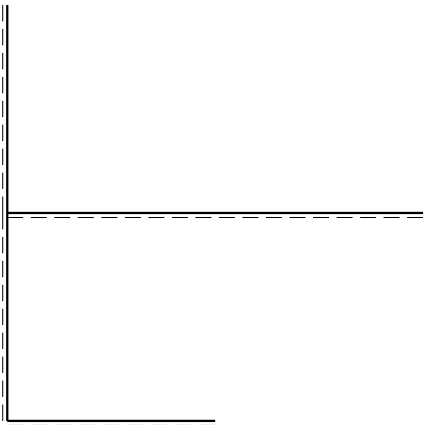
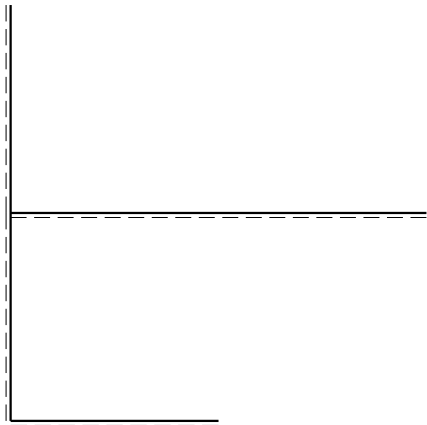
$J_{AB}, x_{AB}, \psi_{AB}$ riferimento locale asta AB con origine in A.

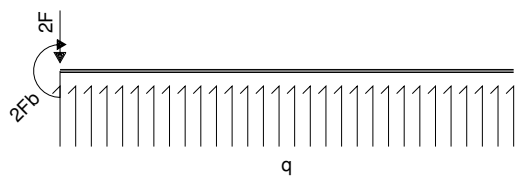
<> ESAME 15/01/2019 - APPELLO 01 - IPERSTATICA

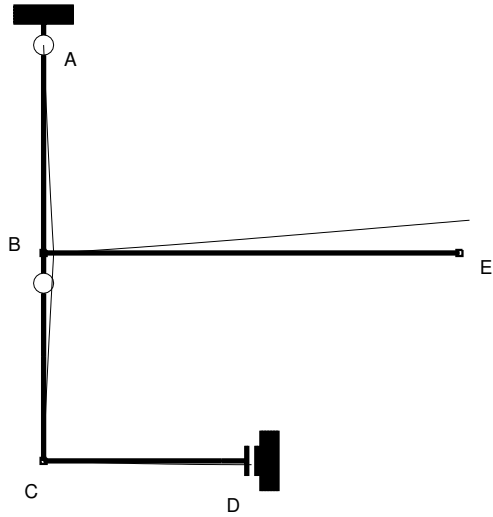
<>

<> Struttura 1: Isostatica Test 1

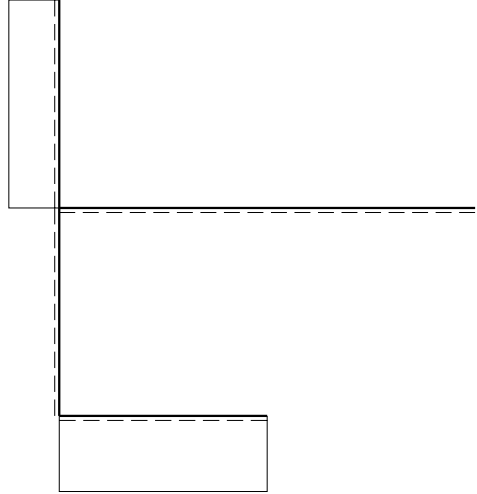
<>



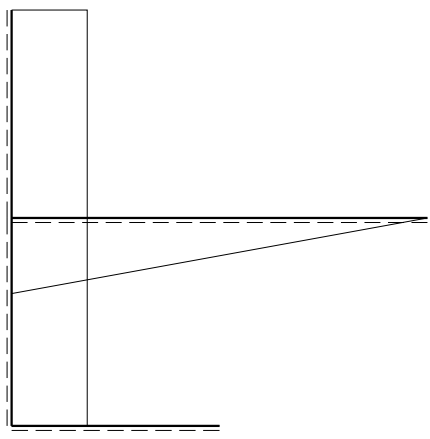




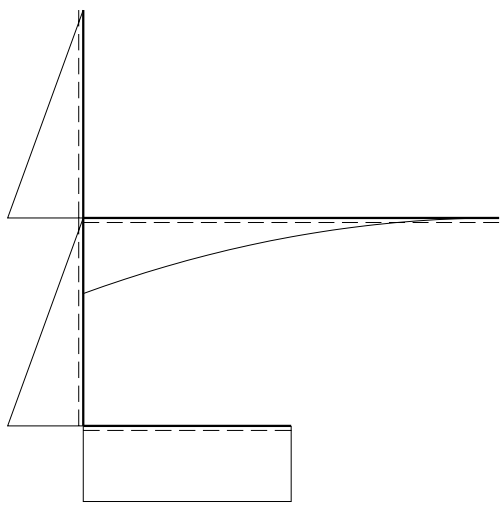
$20 Fb^3/EJ$



$3 F$



$2 F$



$2 Fb$

REAZIONI

$$\begin{aligned}H_A &= 2qb = 2F \\V_A &= -2qb = -2F \\H_D &= -F - 2qb = -3F \\W_D &= 2qb^2 = 2Fb\end{aligned}$$

$H_{AB} = 2qb = 2F$	$H_{BC} = 2qb = 2F$	$H_{BE} = 0$	$H_{CD} = F + 2qb = 3F$
$V_{AB} = -2qb = -2F$	$V_{BC} = 0$	$V_{BE} = -2qb = -2F$	$V_{CD} = 0$
$W_{AB} = 0$	$W_{BC} = 0$	$W_{BE} = -2qb^2 = -2Fb$	$W_{CD} = -2qb^2 = -2Fb$
$H_{BA} = -2qb = -2F$	$H_{CB} = -2qb = -2F$	$H_{EB} = 0$	$H_{DC} = -F - 2qb = -3F$
$V_{BA} = 2qb = 2F$	$V_{CB} = 0$	$V_{EB} = 0$	$V_{DC} = 0$
$W_{BA} = 2qb^2 = 2Fb$	$W_{CB} = 2qb^2 = 2Fb$	$W_{EB} = 0$	$W_{DC} = 2qb^2 = 2Fb$

SPOSTAMENTI NODALI

$u_A = 0$	$u_B = 8/3(qb^4/EJ) = 8/3(Fb^3/EJ)$	$u_C = 0$
$v_A = 0$	$v_B = 0$	$v_C = 0$
$\varphi_{AAB} = 7/3(qb^3/EJ) = 7/3(Fb^2/EJ)$	$\varphi_B = 10/3(qb^3/EJ) = 10/3(Fb^2/EJ)$	$\varphi_C = -2(qb^3/EJ) = -2(Fb^2/EJ)$
$u_D = 0$	$u_E = 8/3(qb^4/EJ) = 8/3(Fb^3/EJ)$	
$v_{DDC} = -(qb^4/EJ) = -(Fb^3/EJ)$	$v_E = 26/3(qb^4/EJ) = 26/3(Fb^3/EJ)$	
$\varphi_D = 0$	$\varphi_E = 14/3(qb^3/EJ) = 14/3(Fb^2/EJ)$	

AZIONI INTERNE (coordinate locali)

$N_{AB} = -2F$	$N_{BC} = 0$	$N_{BE} = 0$
$T_{AB} = 2F$	$T_{BC} = 2F$	$T_{BE} = -2F + qx$
$M_{AB} = 2Fx$	$M_{BC} = 2Fx$	$M_{BE} = 2Fb - 2Fx + 1/2qx^2$
$N_{CD} = -3F$		
$T_{CD} = 0$		
$M_{CD} = 2Fb$		