

Important Notes

Notes by-

Pravin S Kolhe,

BE(Civil), Gold Medal, MTech (IIT-K)

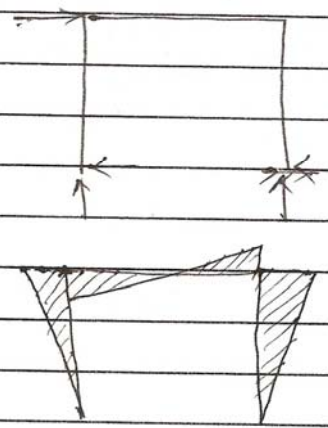
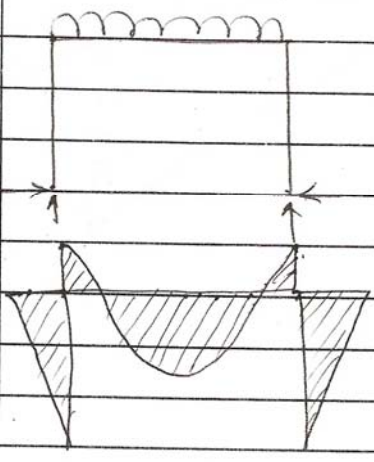
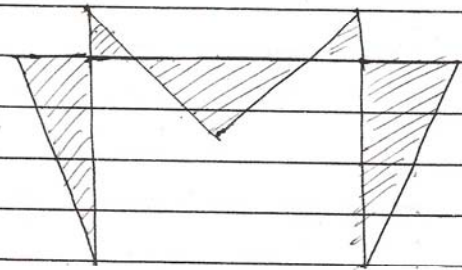
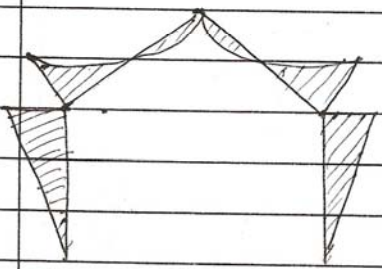
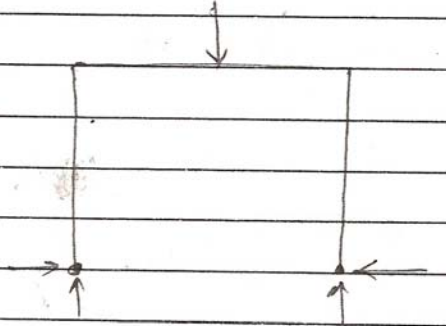
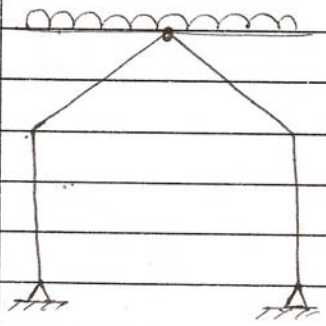
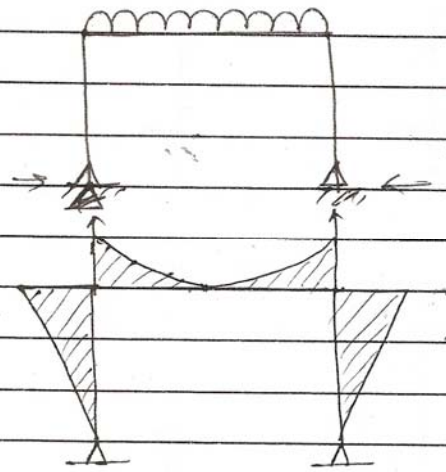
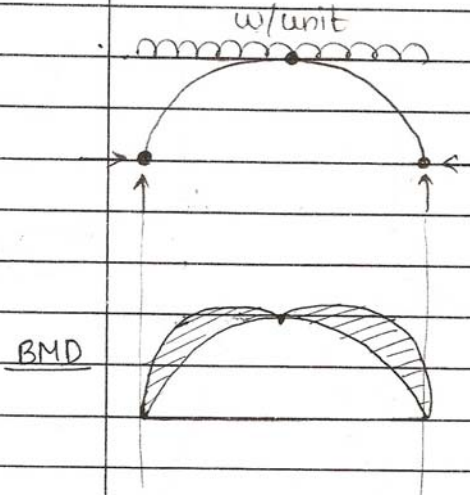
Assistant Executive Engineer,

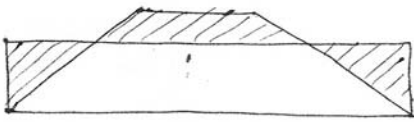
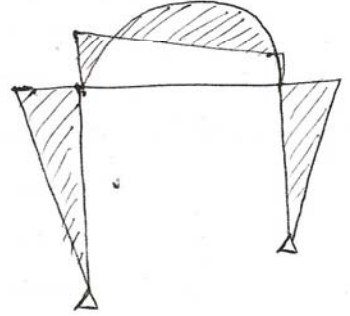
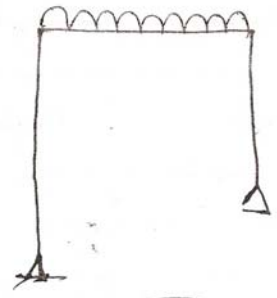
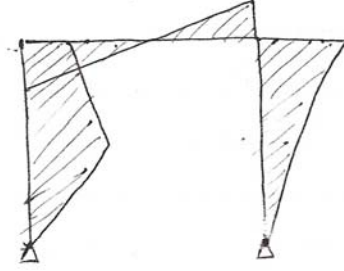
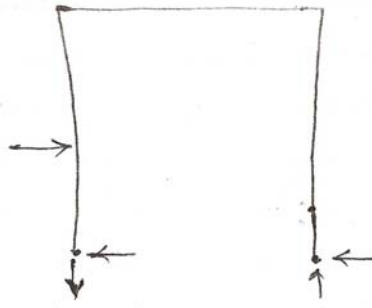
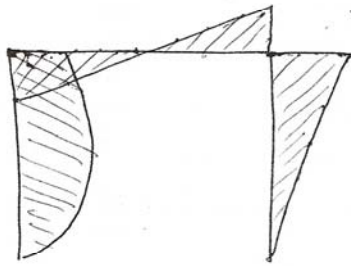
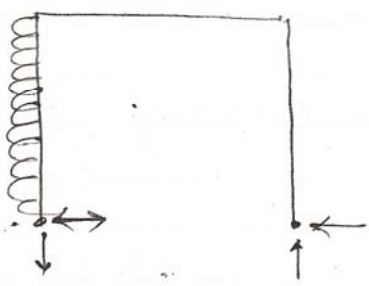
Water Resources Department,

www.pravinkolhe.com

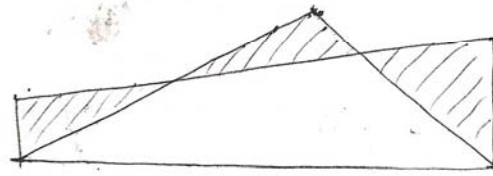
Some Important Notes

Er. Pravin Kolhe
(BE CIVIL)

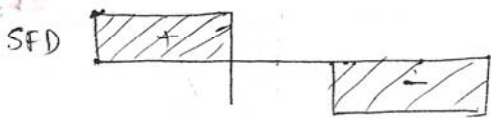




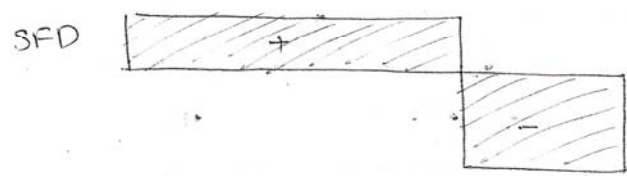
BMD



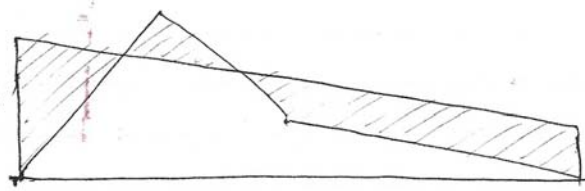
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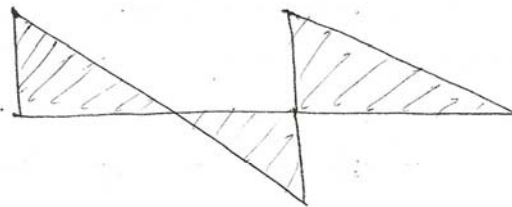
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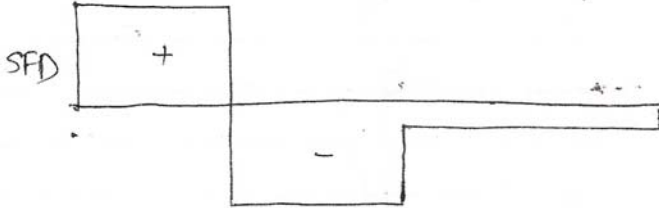
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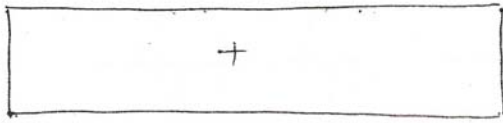
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SFD



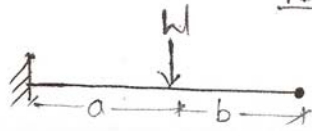
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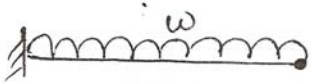
FEM

	Loading	\bar{M}_{ab}	\bar{M}_{ba}
\bar{M}_{ab}		$-\frac{Wl}{8}$	$+\frac{Wl}{8}$
		$-\frac{Wab^2}{l^2}$	$+\frac{Wab^2}{l^2}$
		$-\frac{wl^2}{12}$	$+\frac{wl^2}{12}$
		$-\frac{wa^2(16l^2 - 8la + 3a^2)}{12l^2}$	$+\frac{wa^3(4l - 3a)}{12l^2}$
		$-\frac{wl^2}{30}$	$+\frac{wl^2}{20}$
		$-\frac{wa^2(10l^2 - 15la + 6a^2)}{30l^2}$	$+\frac{wa^3(5l - 4a)}{20l^2}$
		$-\frac{5wl^2}{96}$	$+\frac{5wl^2}{96}$
		$+\frac{M \cdot b(3a - l)}{l^2}$	$+\frac{M \cdot a(3b - l)}{l^2}$
		Mb/l	Mb/l

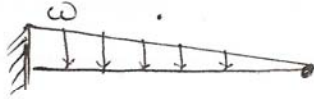
FEM for Hinged Member



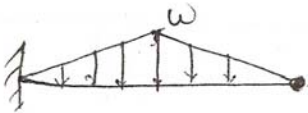
$$\overline{M}_{oab} = -\frac{Wab}{2L^2} (b+L)$$



$$\overline{M}_{ab} = -\frac{wl^2}{8}$$



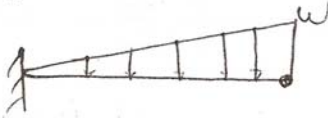
$$\overline{M}_{ab} = -\frac{wl^2}{15}$$



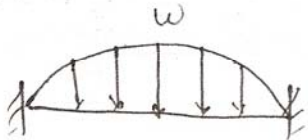
$$\overline{M}_{ab} = -\frac{5wl^4}{64}$$



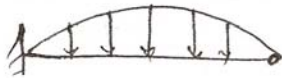
$$\overline{M}_{ab} = -\frac{3wl^2}{64}$$



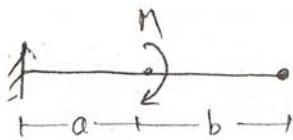
$$\overline{M}_{ab} = -\frac{7wl^2}{120}$$



$$\overline{M}_{ab} = -\overline{M}_{BA} = -\frac{wl^2}{15}$$



$$\overline{M}_{ab} = -\frac{wl^2}{10}$$



$$\overline{M}_{ab} = \frac{M}{2} \left[1 - \frac{3b^2}{L^2} \right]$$