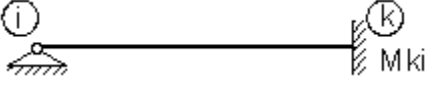
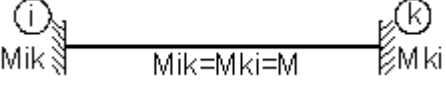
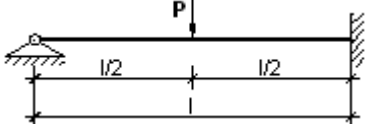
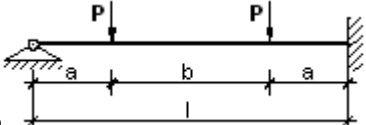
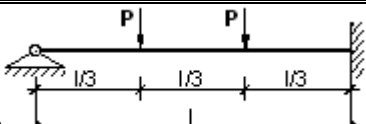
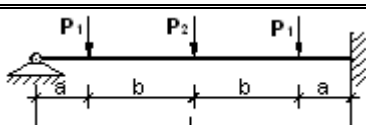
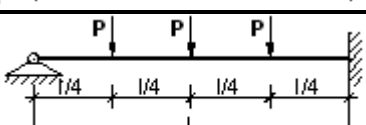
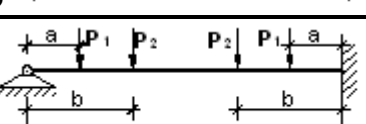
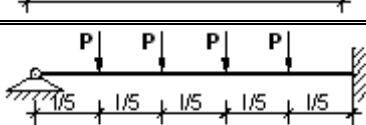
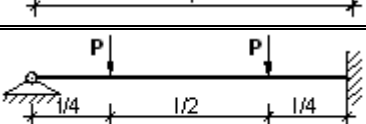
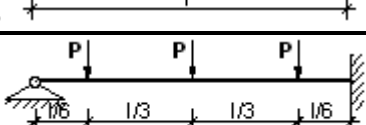
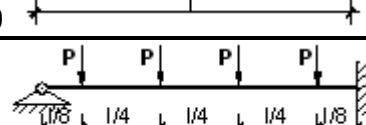


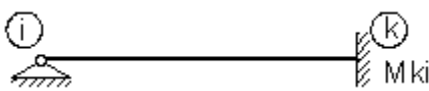
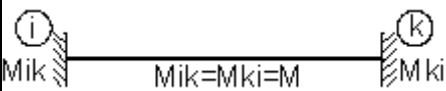
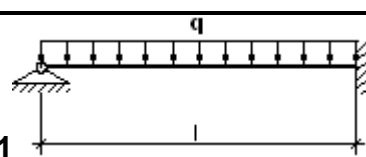
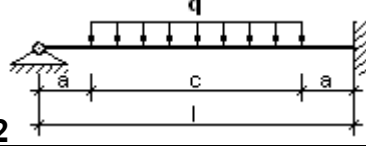
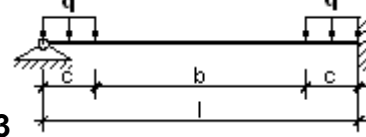
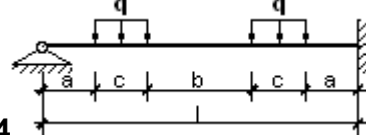
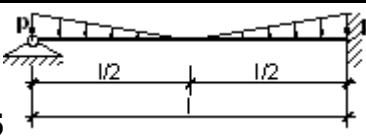
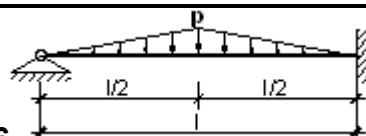
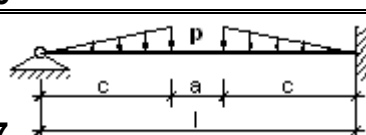
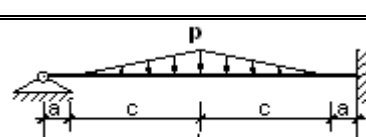
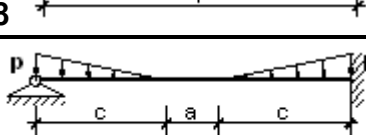
MOMENTI UPETOSTI

SIMETRIČNO OPTEREČENJE

HEMA OPTEREČENJA	JEDNOSTRANO UPETA GREDA	OBOSTRANO UPETA GREDA
		
1 	$M_{ki} = \frac{3 \cdot P \cdot l}{16}$	$M = \frac{P \cdot l}{8}$
2 	$M_{ki} = \frac{3 \cdot P \cdot a \cdot (l - a)}{2 \cdot l}$	$M = \frac{P \cdot a \cdot (l - a)}{l}$
3 	$M_{ki} = \frac{P \cdot l}{3}$	$M = \frac{2 \cdot P \cdot l}{9}$
4 	$M_{ki} = \frac{3 \cdot P_1 \cdot a \cdot (l - a)}{2l} + \frac{3 \cdot P_2 \cdot l}{16}$	$M = \frac{P_1 \cdot a \cdot (l - a)}{l} + \frac{P_2 \cdot l}{8}$
5 	$M_{ki} = \frac{15 \cdot P \cdot l}{32}$	$M = \frac{5 \cdot P \cdot l}{16}$
6 	$M_{ki} = \frac{3 \cdot [P_1 \cdot a \cdot (l - a) + P_2 \cdot b \cdot (l - b)]}{2 \cdot l}$	$M = \frac{[P_1 \cdot a \cdot (l - a) + P_2 \cdot b \cdot (l - b)]}{l}$
7 	$M_{ki} = \frac{3 \cdot P \cdot l}{5}$	$M = \frac{2 \cdot P \cdot l}{5}$
8 	$M_{ki} = \frac{9 \cdot P \cdot l}{32}$	$M = \frac{3 \cdot P \cdot l}{16}$
9 	$M_{ki} = \frac{57 \cdot P \cdot l}{144}$	$M = \frac{19 \cdot P \cdot l}{72}$
10 	$M_{ki} = \frac{33 \cdot P \cdot l}{64}$	$M = \frac{11 \cdot P \cdot l}{32}$

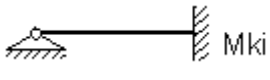
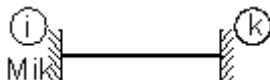
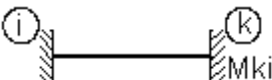
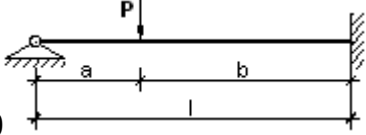
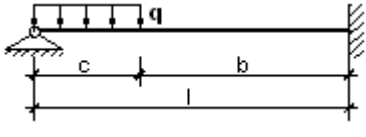
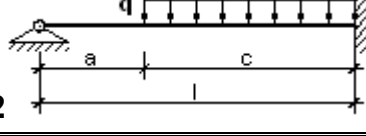
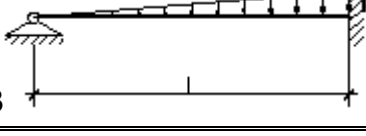
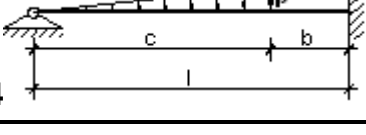
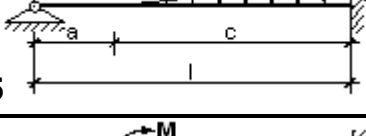
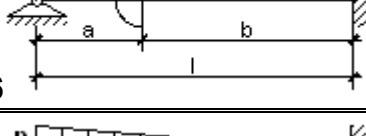


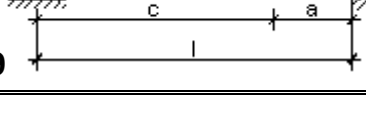
MOMENTI UPETOSTI

SIMETRIČNO OPTEREČENJE

SHEMA OPTEREČENJA	JEDNOSTRANO UPETA GREDA	OBOSTRANO UPETA GREDA
		
 <p>11</p>	$M_{ki} = \frac{q \cdot l^2}{8}$	$M = \frac{q \cdot l^2}{12}$
 <p>12</p>	$M_{ki} = \frac{q \cdot c \cdot l}{16} \left(3 - \frac{c^2}{l^2} \right)$	$M = \frac{q \cdot c \cdot l}{24} \left(3 - \frac{c^2}{l^2} \right)$
 <p>13</p>	$M_{ki} = \frac{q \cdot c^2}{4 \cdot l} (3b + 4c)$	$M = \frac{q \cdot c^2}{6 \cdot l} (3b + 4c)$
 <p>14</p>	$M_{ki} = \frac{q \cdot c}{4 \cdot l} (6a(l - a) + 3bc + 4c^2)$	$M = \frac{q \cdot c}{6 \cdot l} (6a(l - a) + 3bc + 4c^2)$
 <p>15</p>	$M_{ki} = \frac{3 \cdot p \cdot l^2}{64}$	$M = \frac{p \cdot l^2}{32}$
 <p>16</p>	$M_{ki} = \frac{15 \cdot p \cdot l^2}{192}$	$M = \frac{5 \cdot p \cdot l^2}{96}$
 <p>17</p>	$M_{ki} = \frac{p \cdot c^2}{8 \cdot l} (5c + 4a)$	$M = \frac{p \cdot c^2}{12 \cdot l} (5c + 4a)$
 <p>18</p>	$M_{ki} = \frac{p \cdot c}{8 \cdot l} (6a^2 + 12ac + 5c^2)$	$M = \frac{p \cdot c}{12 \cdot l} (6a^2 + 12ac + 5c^2)$
 <p>19</p>	$M_{ki} = \frac{p \cdot c^2}{8 \cdot l} (2l - c)$	$M = \frac{p \cdot c^2}{12 \cdot l} (2l - c)$

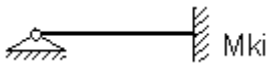
MOMENTI UPETOSTI

NESIMETRIČNO OPTEREČENJE

HEMA OPTEREČENJA	JEDNOSTRANO UPETA GREDA	OBOSTRANO UPETA GREDA	
			
20 	$\frac{P \cdot a}{2 \cdot l^2} (l^2 - a^2)$	$\frac{P \cdot a \cdot b^2}{l^2}$	$\frac{P \cdot a^2 \cdot b}{l^2}$
21 	$\frac{q \cdot c^2}{8 \cdot l^2} (2l^2 - c^2)$	$\frac{q \cdot c^2}{12 \cdot l^2} (6b^2 + 4bc + c^2)$	$\frac{q \cdot c^3}{12 \cdot l^2} (4b + c)$
22 	$\frac{q \cdot c^2}{8 \cdot l^2} (2l - c)^2$	$\frac{q \cdot c^3}{12 \cdot l^2} (4a + c)$	$\frac{q \cdot c^2}{12 \cdot l^2} (6a^2 + 4ac + c^2)$
23 	$\frac{p \cdot l^2}{15}$	$\frac{p \cdot l^2}{30}$	$\frac{p \cdot l^2}{20}$
24 	$\frac{p \cdot c^2}{30 \cdot l^2} [5b(2c + b) + 2c^2]$	$\frac{p \cdot c^2}{30 \cdot l^2} [10b^2 + 5bc + c^2]$	$\frac{p \cdot c^3}{20 \cdot l^2} [5b + c]$
25 	$\frac{p \cdot c^3}{60 \cdot l^2} \left[\frac{10a^2}{c} + \frac{25}{2}a + 4c \right]$	$\frac{p \cdot c^3}{60 \cdot l^2} [5a + 2c]$	$\frac{p \cdot c^2}{60 \cdot l^2} [10al + 3c^2]$
26 	$\frac{M}{2} \left(\frac{3a^2}{l^2} - 1 \right)$	$\frac{M \cdot b}{l} \left(2 - \frac{3b}{l} \right)$	$\frac{M \cdot a}{l} \left(2 - \frac{3a}{l} \right)$
27 	$\frac{7 \cdot p \cdot l^2}{120}$	$\frac{p \cdot l^2}{20}$	$\frac{p \cdot l^2}{30}$
28 	$\frac{p \cdot c^3}{120 \cdot l^2} \left[35b + \frac{40b^2}{c} + 7c \right]$	$\frac{p \cdot c^3}{20 \cdot l^2} [5b + c]$	$\frac{p \cdot c^3}{30 \cdot l^2} \left[5b + \frac{10b^2}{c} + c \right]$
29 	$\frac{p \cdot c^2}{120 \cdot l^2} [10l^2 - 3c^2]$	$\frac{p \cdot c^2}{60 \cdot l^2} [10al + 3c^2]$	$\frac{p \cdot c^3}{60 \cdot l^2} [5a + 2c]$

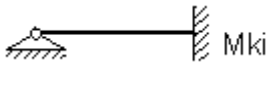
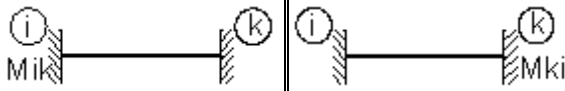
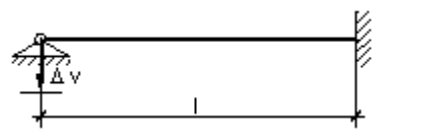
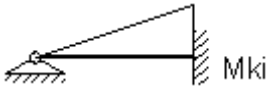
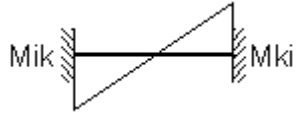
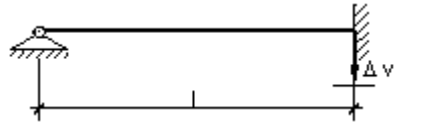
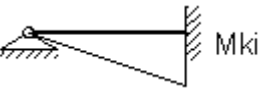
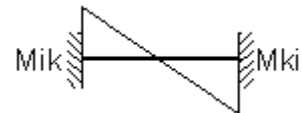
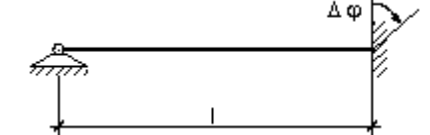
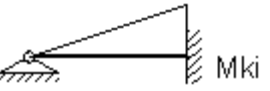
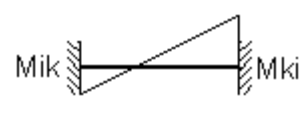
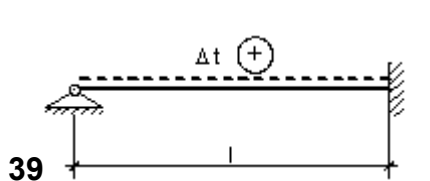
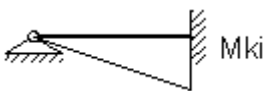
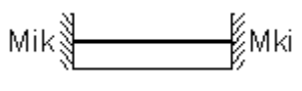
MOMENTI UPETOSTI

NESIMETRIČNO OPTEREČENJE

HEMA OPTEREČENJA	JEDNOSTRANO UPETA GREDA	OBOSTRANO UPETA GREDA	
			
30 	$\frac{101 \cdot p \cdot l^2}{3240}$	$\frac{29 \cdot p \cdot l^2}{1620}$	$\frac{p \cdot l^2}{45}$
31 	$\frac{47 \cdot p \cdot l^2}{1620}$	$\frac{p \cdot l^2}{45}$	$\frac{29 \cdot p \cdot l^2}{1620}$
32 	$\frac{17 \cdot p \cdot l^2}{480}$	$\frac{p \cdot l^2}{30}$	$\frac{3 \cdot p \cdot l^2}{160}$
33 	$\frac{41 \cdot p \cdot l^2}{960}$	$\frac{3 \cdot p \cdot l^2}{160}$	$\frac{p \cdot l^2}{30}$
34 	$\frac{37 \cdot p \cdot l^2}{1920}$	$\frac{23 \cdot p \cdot l^2}{960}$	$\frac{7 \cdot p \cdot l^2}{960}$
35 	$\frac{53 \cdot p \cdot l^2}{1920}$	$\frac{7 \cdot p \cdot l^2}{960}$	$\frac{23 \cdot p \cdot l^2}{960}$

MOMENTI UPETOSTI

PRISILNI POMACI ČVOROVA I TEMPERATURA

HEMA OPTEREĆENJA	JEDNOSTRANO UPETA GREDA	OBOSTRANO UPETA GREDA	
			
 36	 $\frac{3 \cdot k_{ik}^* \cdot \Delta v}{l}$	 $\frac{6 \cdot k_{ik}^* \cdot \Delta v}{l}$	$\frac{6 \cdot k_{ik}^* \cdot \Delta v}{l}$
 37	 $\frac{3 \cdot k_{ik}^* \cdot \Delta v}{l}$	 $\frac{6 \cdot k_{ik}^* \cdot \Delta v}{l}$	$\frac{6 \cdot k_{ik}^* \cdot \Delta v}{l}$
 38	 $3 \cdot k_{ik}^* \cdot \Delta \varphi$	 $2 \cdot k_{ik}^* \cdot \Delta \varphi$	$4 \cdot k_{ik}^* \cdot \Delta \varphi$
 39	 $\frac{1,5 \cdot EI \cdot \alpha_t \cdot \Delta t}{h}$	 $\frac{EI \cdot \alpha_t \cdot \Delta t}{h}$	
$t_s \Rightarrow \Delta t_s = \alpha_t \cdot t_s \cdot l$ - prisilni pomak uslijed jednolike temperature			
$k_{ik}^* = \frac{EI}{l}$ $k_{ik} = \frac{EI}{E_0 I_0 \cdot l}$	$M_{ki} = k_{ik} (3\varphi_k - 3\psi_{ik} \cdot u) + \bar{M}_{ki}$		$M_{ik} = k_{ik} (4\varphi_i + 2\varphi_k - 6\psi_{ik} \cdot u) + \bar{M}_{ik}$ $M_{ki} = k_{ik} (4\varphi_k + 2\varphi_i - 6\psi_{ik} \cdot u) + \bar{M}_{ki}$