

سؤال الرابع (٢٠ علامة)

$$\tan \alpha = \frac{x_c - x_A}{y_c - y_A} \Rightarrow x_c = x_A + (y_c - y_A) \tan \alpha \quad \text{--- (1)}$$

$$\tan \beta = \frac{x_c - x_B}{y_c - y_B} \Rightarrow x_c = x_B + (y_c - y_B) \tan \beta \quad \text{--- (2)}$$

1=2

$$x_A + y_c \tan \alpha - y_A \tan \alpha = x_B + y_c \tan \beta - y_B \tan \beta$$

$$y_c (\tan \alpha - \tan \beta) = x_B - x_A + y_A \tan \alpha - y_B \tan \beta \Rightarrow$$

$$y_c = \frac{x_B - x_A + y_A \tan \alpha - y_B \tan \beta}{\tan \alpha - \tan \beta} \quad \text{--- (3)}$$

$$G_A^B = \alpha \cdot y \frac{\Delta x}{\Delta y} = 108.790 \text{ g} \quad G_B^A = 308.1790$$

$$G_A^C = G_A^B - \alpha = 421.6625 \text{ g} \quad G_B^C = G_B^A + \beta = 380.4108 \text{ g}$$

$$y_c = -13.79 \text{ m} \quad y_c = 397.49 \text{ m}$$

سؤال الخامس (٢٠ علامة)

المساحة

$$b_1 = 200 - (\alpha + \psi) = 39.2551 \text{ g}$$

$$d_B^D = 597.69 \text{ m}$$

$$G_B^D = G_B^A + \psi = 189.4898 \text{ g}$$

$$x_D = -40.73 \text{ m}$$

$$y_D = -682.63 \text{ m}$$

المساحة

$$b_2 = 200 - (\beta + \psi) = 62.7772 \text{ g}$$

$$d_c^D = 844.32 \text{ m}$$

$$G_c^D = G_c^A - \psi = 256.0358 \text{ g}$$

$$x_D = -40.73 \text{ m}$$

$$y_D = -682.63 \text{ m}$$

$$\alpha + \psi = 400 - (\alpha + \beta + \psi)$$

$$\psi = G_B^B - G_A^C = 271.1801 - 169.1478$$

$$\psi = 102.0323 \text{ g}$$

$$\alpha + \psi = 231.4217 \text{ g}$$

$$d_A^B = \sqrt{\Delta x^2 + \Delta y^2} = 639.05 \text{ m}$$

$$d_A^C = \sqrt{\Delta x^2 + \Delta y^2} = 374.37 \text{ m}$$

$$k = \frac{\sin \alpha}{\sin \beta} \cdot \frac{d_A^C}{d_A^B} = 0.97963$$

$$\alpha - \psi = 200 \tan \left[\tan \frac{\alpha + \psi}{2} \cdot \frac{k-1}{k+1} \right] = 5.1977 \text{ g}$$

$$\alpha = 118.3097 \text{ g}$$

$$\psi = 113.1120 \text{ g}$$

$$d_A^D = 991.12 \text{ m}$$

$$G_A^D = 231.9250 \text{ g}$$

$$x_D = -40.73$$

$$y_D = -682.63$$

$$d_A^D = \frac{d_A^B \cdot \sin \varphi}{\sin \alpha} = 991,12 \text{ m} \quad \frac{\omega \omega_1 d_{k1}}{1}$$

$$G_A^D = G_A^C + \gamma z = 231.9250 \text{ g}$$

$$x_D = -40.73 \text{ m}$$

$$z_D = -682.63 \text{ m}$$