

14CV103

4. a) State and prove Varignon's theorem.
 b) Determine the moment of 10 N about A as shown in Fig Q4(b)

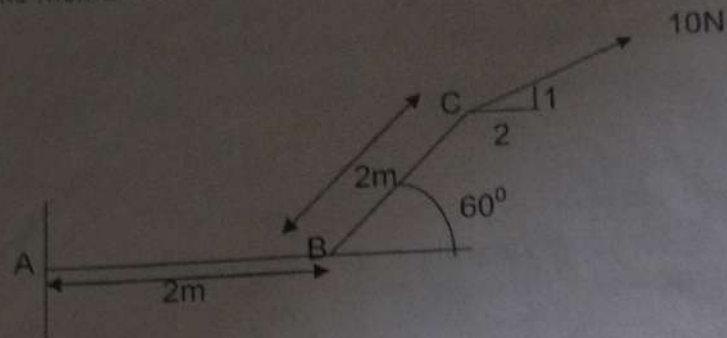


Fig Q4(b)

- c) Two cables are connected at A and B as shown in Fig Q4(c). Determine the forces in CA and CB.

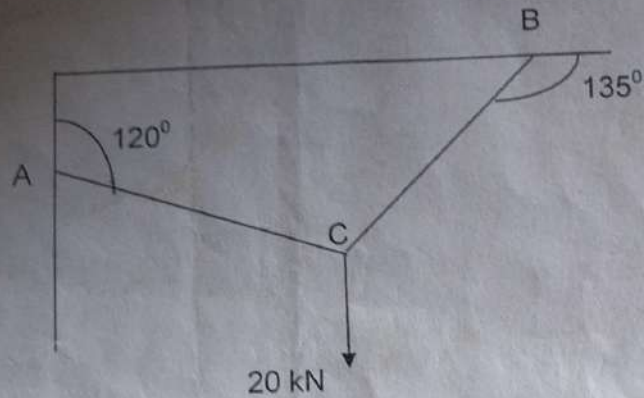


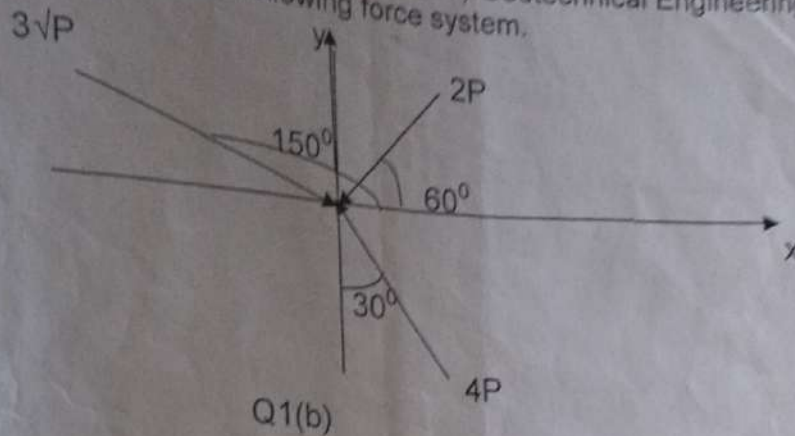
Fig Q4(c)

Note: Answer any **One** full question from **each Unit**.

Unit – I

- a) Explain the scope of i) Structural Engineering ii) Geotechnical Engineering
b) Determine the resultant of the following force system.

04

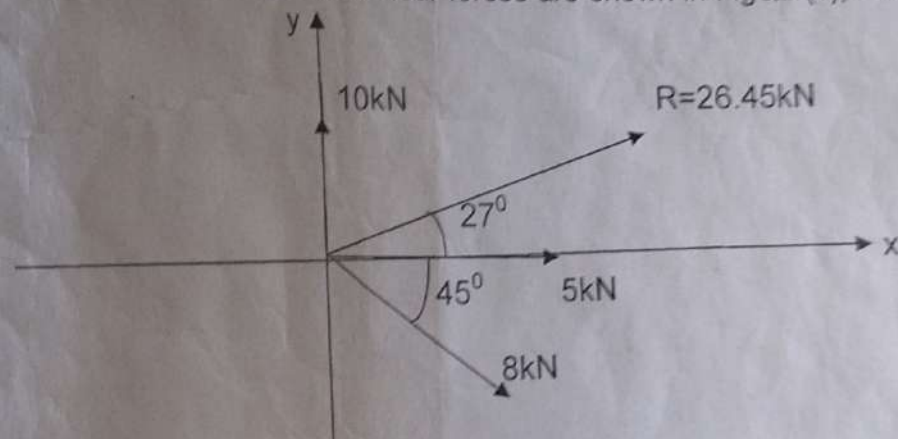


Q1(b)

06

- a) Define i) Resultant and ii) Equilibrant with sketches
b) The resultant of four forces and three of the four forces are shown in FigQ2 (b), Find the fourth force.

04



FigQ2 (b)

06

Unit – II

- a) Mention any three characteristics of a Couple.
b) Determine resultant of the force system acting on an equilateral triangular lamina of 2m sides as shown in Fig Q3(b). Locate the resultant w.r.t "A"

03

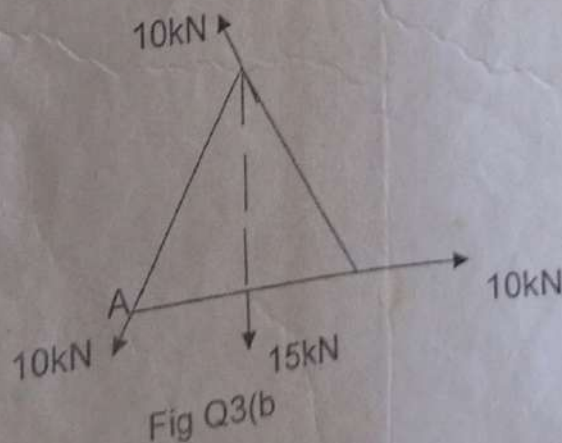


Fig Q3(b)