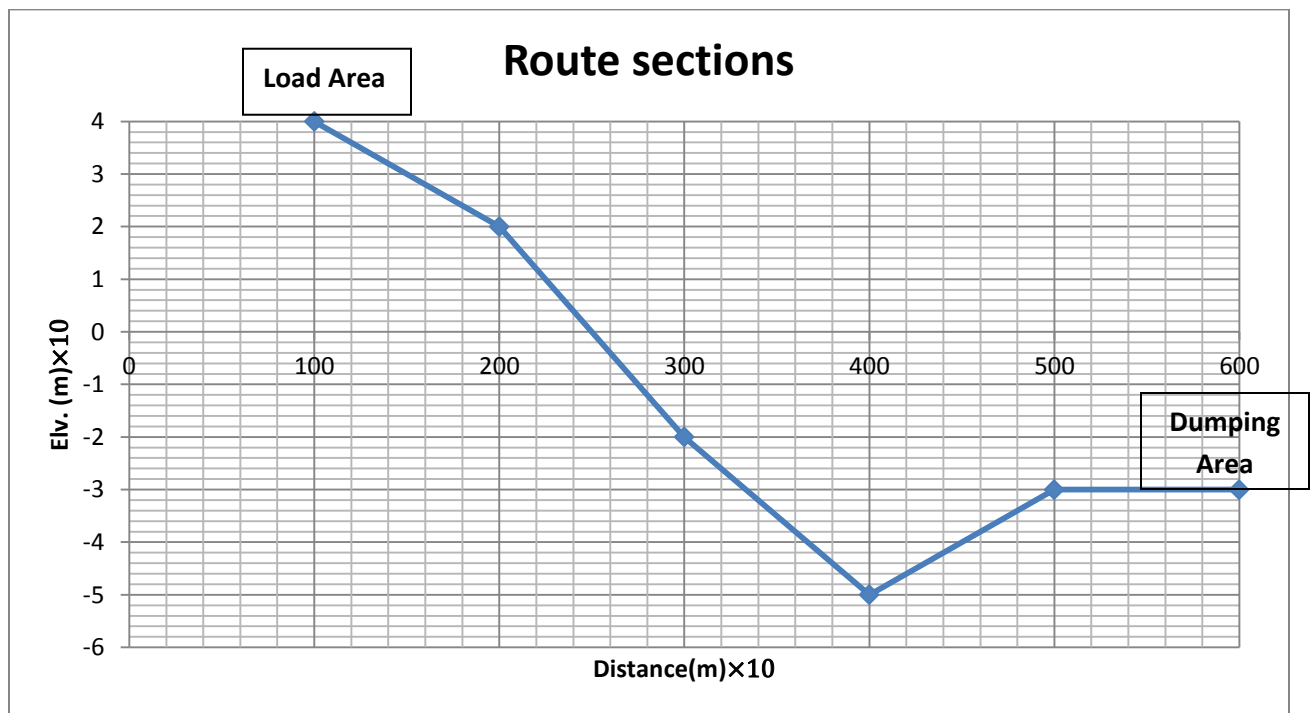


Q1 Find the production of a scraper job in BCM/h with the following data: : number of scraper are Twelve single engines , only one single pusher will be used, Maximum heaped volume = (22 BCM) ,Maximum payload = (34020 kg), Material: Sandy clay, (1460kg/BCM), same route will be used for haul and return, Back-track method, efficiency is 45min/h and job conditions are Unfavorable, section of the haul route as follows: **(Use Travel Time method)**



Section No.	Road Distance (m)	Grade (%)	Rolling resist. (kg/t)	Effective Grade (%)	Travel Time (min)
1			60		
2			40		
3			110		
4			40		
5			70		