

# Agnihotri Engineering & GATE Classes

Scripting success stories

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## DIAGONAL SCALE

### Stage-(I)

Q.1) Construct a diagonal scale for a R.F of  $1/4000$  to show units of meter, tens of meter & hundreds of meter & long enough to measure up to 500 meters & mark 374 meter on this scale ?

Q.2) Construct a diagonal scale for a R.F of  $1/5000$  to show single meters & long enough to measure up to 600 meters & mark 457m on this scale?

Q.3) Construct a scale for which 40 m is represented by 1cm,& to read hundreds of meter , tens of meter & units of meter. Find R.F & mark the distance of 433m & 567 m on this scale?

Q.4) Construct a diagonal scale for which a line 22cm long represent a length of 440 m & read up to single meter & long enough to measure up to 300 m . Also mark the distance of 187 m on this scale?

Q.5) The area of the field is  $50,000 \text{ m}^2$  which is shown by the field of length & breadth 10cm & 8cm long respectively.

Draw a diagonal scale to show single meter & long enough to measure up to 500 m & mark 235 m on this scale?

Q.6) A rectangular plot of land area 0.45 hectare is represented on a map by an area of  $5 \text{ cm}^2$ . Draw a diagonal scale for this map to show up to single meter & long enough to Measure up to 400 m ?

Q.7) Construct a diagonal scale for a R.F of  $1/6250$ , to read up to 1 km & to read meter on it. Show a length of 653m on it ?

Q.8) The distance between 2 stations A & B is 300 km & its equivalent distance on a railway map measures only 6 cm. Draw a diagonal scale to show hundreds of km, tens of km & units of km. Mark distances of 525 km, 313 km & 258 km on this scale?

Q.9) The distance between two stations A & B is 100 km & on a road map it is shown by a line of 2.5 cm long. Draw a diagonal scale to show single km. Find R.F & mark the distance of 677 km , 444 km & 333 km on it?

Q.10) Construct a diagonal scale to show meters ,decimeters & centimeters where 1m is represented by 2.5 cm & long enough to measure up to 6 meters. Find R.F & mark 4 meters 5 decimeters & 6 centimeters on the scale?

Q.11) To draw a diagonal scale for a R.F  $1/50$  & long enough to measure up to 5 meters. Also mark the distance of 2.89 m & 3.67m on this scale?

Q.12) An area of  $144 \text{ cm}^2$  on a map represent the area of  $36 \text{ km}^2$  on the field. Draw a diagonal scale for this map to show kilometer, hectometer & decameter. It is long enough to measure up to 10 km . Also mark 7.54 km on it?

Q.13) Construct a diagonal scale for a R.F of  $1/2.5$ , to show centimeters & millimeters & long enough to measure up to 20 cm & mark 13.4 cm on this scale ?

Q.14) Construct a scale of R.F 1/250 to show decimeters & long enough to measure up to 30 meters. Also mark the distance of 28.9 m on this scale ?

Q.15) The distance between two points is 14cm & the real distance between them is 20kms. Draw a diagonal scale to show kilometers & hectometers & long enough to measure up to 25 kms. Also mark the distance of 17.6 kms on this scale ?

## Stage (II)

Q.16) The distance between 2 stations is 100 km & on a road map it is shown by a line of 30 cm. Draw a diagonal scale & indicate 46.8 km & 32.4 km on this scale?

Q.17) Construct a diagonal scale showing yard, feet & inches for which a 2 inch long line represents 1.25 yard & the scale is long enough to measure up to 5 yard. Find the R.F, & mark the distance of 4 yard 2 feet & 8 inches ?

Q.18) On a building plan, a line 20 cm long represents a length of 10 m. Draw a diagonal scale for the plan to read up to 12 m & show meters, decimeters & centimeters on the scale & mark the distance of 11.14m & 6.48 m on this scale?

Q.19) A car is running at speed of 50 km/hr & on a scale 3cm represents 1km & to measure up to 6 km. Mark the distance covered by car in 5 minutes & 28 seconds?

Q.20) An airplane is flying at the speed of 360 km/hr & on a scale 1cm represents 6km & measure up to 60 km. Find the R.F? Draw a diagonal scale & mark the following distances covered by airplane in ...

i) 3 minutes & 22 seconds

ii) 5 minutes & 36 seconds

iii) 7 minutes & 49 seconds

## SCALE OF CHORD

Q.1) Construct a scale of chords showing 5° division & with its aid set off angles of 25°, 40°, 55° & 130° ?

Q.2) Draw a triangle having sides 8 cm, 9 cm & 10 cm long respectively & measure its angle with the help of scale of chords