

**1** : Which system of transportation is the fastest and provides more comfort for men and material?

- A** : Railways
- B** : Airways
- C** : Waterways
- D** : Roadways

**2** : Which mode of transportation has the maximum flexibility for travel with respect to route, directions, time etc?

- A** : Roadways
- B** : Railways
- C** : Waterways
- D** : Airways

**3** : Where did the Central Road Research Institute Started?

- A** : England
- B** : Nagpur
- C** : New Delhi
- D** : France

**4** : When did the IRC was set up?

- A** : 1943
- B** : 1860
- C** : 1934
- D** : 1973

**5** : Who created central public works department to look after the work of road?

- A** : Lord William Bentick
- B** : Lord Mayo
- C** : Lord Dalhousie
- D** : Lord Ripon

**6** : Which cross slope is given to the top layer of road in Macadam Construction?

- A** : 1 in 20
- B** : 1 in 45
- C** : 1 in 10
- D** : 1 in 36

**7** : Which is the highest point of a cross section of highway?

- A** : Camber
- B** : Sub base
- C** : Carriage way
- D** : Crown

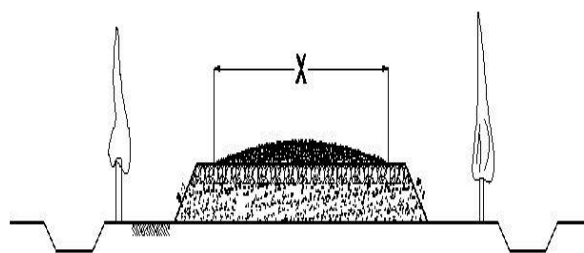
**8** : What is the time required for a driver to realise the necessity of applying brakes to the vehicles?

- A** : Reaction
- B** : Reflection
- C** : Perception
- D** : Sight distance

**9** : Which alternative road is provided to divert traffic to avoid obstruction?

- A** : Loop
- B** : Ring
- C** : Trunk
- D** : By pass

**10** : What is marked as 'X'?



- A** : Right of way
- B** : Formation
- C** : Roadway
- D** : Carriage way

**11** : What is the width of shoulders in roads?

- A** : 0.5m to 1.25m
- B** : 1.25m to 2m
- C** : 2m to 4m
- D** : 4m to 6m

**12** : Which is the portion of the road constructed for vehicular traffic?

- A** : Right way
- B** : Formation
- C** : Carriage way
- D** : Road way

**13** : Which is the basic requirement of alignment?

- A** : Crosses maximum number of bridges
- B** : Short
- C** : Lengthy straight routes
- D** : Curves

## Draughtsman Civil– Semester 4 Module 1 – Roads

Reviewed and updated on: 01<sup>st</sup> November 2019 Version 1.1

**14** : What is the restriction given to lengthy straight routes while setting road alignment?

- A** : Minimum
- B** : Maximum
- C** : Depends on gradient
- D** : Depends on rise and fall

**15** : Which survey established the centre line of the actual highway?

- A** : Location
- B** : Preliminary
- C** : Reconnaissance
- D** : Cadasral

**16** : Which survey is conducted to find the number of possible alternative routes between two points?

- A** : Preliminary
- B** : Reconnaissance
- C** : Location
- D** : Detailed

**17** : Which is the classification of road according to importance?

- A** : State highways
- B** : Second class
- C** : Cement concrete
- D** : Express highways

**18** : What is the normal recommended land width of national highway in open area?

- A** : 24m
- B** : 25m
- C** : 35m
- D** : 45m

**19** : Which road connects areas of production and market with state highways and railways?

- A** : National highway
- B** : Major district
- C** : Village
- D** : Other district

**20** : What is the minimum width of shoulders provided in national highways?

- A** : 1m
- B** : 1.5m
- C** : 2m
- D** : 2.5m

**21** : What is the value of camber provided in the carriage way of gravel road?

- A** : 1 in 30 to 1 in 35
- B** : 1 in 25 to 1 in 30
- C** : 1 in 15 to 1 in 20
- D** : 1 in 10 to 1 in 15

**22** : Which camber is provided for earth roads?

- A** : 1 in 25 to 1 in 30
- B** : 1 in 20 to 1 in 25
- C** : 1 in 5 to 1 in 20
- D** : 1 in 5 to 1 in 10

**23** : Which is the direction of rolling in highway construction?

- A** : Sides and proceeds to centre
- B** : Centre and proceeds to sides
- C** : Centre only
- D** : One side and proceed to other

**24** : Which is an advantage of cement concrete pavement?

- A** : Initial coat is low
- B** : Tractive resistance is low
- C** : Rolling resistance is high
- D** : Less time for construction

**25** : What is the another name of continuous bay method?

- A** : Alternate
- B** : Strip
- C** : Expansion
- D** : Traverse

**26** : Which circular curve consists of a single arc of uniform radius?

- A** : Compound
- B** : Simple
- C** : Reverse
- D** : Transition

**27** : How a simple circular curve designated?

- A** : Curvature of the curve
- B** : Radius of the curve
- C** : Angle subtended by an arc
- D** : Angle subtended by a chord

**28** : Which transition curve is recommended by the IRC in the horizontal alignment of highway?

- A** : Spiral
- B** : Lemniscate
- C** : Cubic parabola
- D** : Summit

**29** : Which instrument is used for setting out curves in angular method?

- A** : Compass
- B** : Tape
- C** : Chain
- D** : Theodolite

**30** : Which is the linear method of setting out a simple circular curve?

- A** : Successive bisection of arcs
- B** : Two theodolite method
- C** : Tachometric method
- D** : Rankin's method

**31** : What is the equation for mechanical widening on curve?

**A** :

$$\frac{V}{9.5\sqrt{R}}$$

**B** :

$$\frac{nl^2}{2R}$$

**C** :

$$\frac{l^2}{2R}$$

**D** :

$$\frac{nl^2}{2R} + \frac{V}{9.5\sqrt{R}}$$

**32** : How much extra width of pavement on horizontal curves is given for a radius of 21 to 40m for two lane?

- A** : 1.5m
- B** : 1.2m
- C** : 0.9m
- D** : 0.6m

**33** : What is the minimum width provided for the cycle track in urban areas?

- A** : 1m
- B** : 1.5m
- C** : 2m
- D** : 3m

**34** : What is the minimum shoulder width recommended by IRC?

- A** : 1.30m
- B** : 1.85m
- C** : 2m
- D** : 2.5m

**35** : What is the value of minimum gradient?

- A** : 1 in 14.3
- B** : 1 in 20
- C** : 1 in 30
- D** : 1 in 200

**36** : What is the minimum sight distance recommended by IRC for minor roads?

- A** : 11m
- B** : 15m
- C** : 18m
- D** : 20m

**37** : What is the main purpose of providing camber?

- A** : To follow IRC specification
  - B** : To prevent entry of moisture into subgrade
  - C** : To maintain equilibrium
  - D** : To follow specifications
- 

**38** : Which shape of the surface drain is most preferred for heavy discharge in road?

- A** : Rectangular
  - B** : U shaped
  - C** : Semicircular
  - D** : V shaped
- 

**39** : Which culvert is used if the water opening is less than 15m<sup>2</sup> and road crosses the water way on a relatively high embankment?

- A** : Pipe
  - B** : Arch
  - C** : Box
  - D** : Slab
- 

**40** : Which drain is suitable for small streets of less discharge?

- A** : V shaped
  - B** : Semi circular
  - C** : Rectangular
  - D** : U shaped
-

**41** : What is the rise in level of the river water due to obstruction of bridge?

- A** : Highest flood level
- B** : Run off
- C** : Afflux
- D** : Free board

**42** : Which is the intermediate support of a bridge superstructure?

- A** : Foundation
- B** : Pier
- C** : Abutment
- D** : Wing wall

**43** : Which is the temporary pier made in the river bed?

- A** : Kerb
- B** : Scuppers
- C** : Afflux
- D** : Crib

**44** : What is the minimum distance between the specified position on a bridge?

- A** : Bearings
- B** : Clearance
- C** : Afflux
- D** : Water way

**45** : Which foundation is suitable for the construction of bridge?

- A** : Pile
- B** : Shallow
- C** : Grillage
- D** : Inverted arch

**46** : Which material is suitable for caisson of open well type?

- A** : Cast iron
- B** : RCC
- C** : Steel
- D** : Timber

**47** : Which is a temporary structure constructed to remove water or soil from an area to carry construction under dry condition?

- A** : Caisson
- B** : Well
- C** : Cofferdam
- D** : Box

**48** : Which is most common type of coffer dam?

- A** : Wells

**B** : Dike

**C** : Pneumatic

**D** : Box

**49** : What is the shape of the wingwall if it is inclined in plan?

- A** : Straight
- B** : Return wall
- C** : Square
- D** : Splayed

**50** : What is the name of the abutment shown in figure?



- A** : Straight
- B** : Splayed wing wall
- C** : Return wing wall
- D** : Straight wing wall

**51** : What is the name of the wingwall if the angle of splay 90°?

- A** : Splayed
- B** : Return
- C** : Straight
- D** : Tee abutment

**52** : Which bridge composed of several small spans for crossing a valley?

- A** : Aqueduct
- B** : Fort
- C** : Viaduct
- D** : Deck

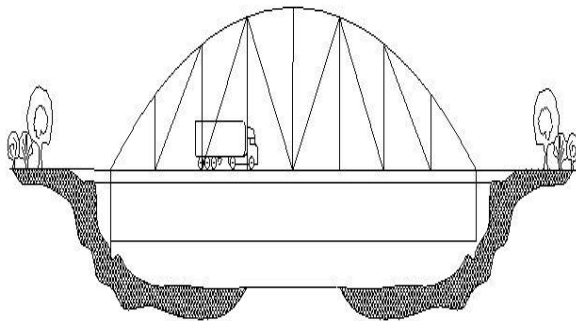
**53** : What is the maximum span of culvert?

- A** : 2 m
- B** : 3 m
- C** : 5 m
- D** : 6 m

**54** : Which bridge is mostly used for railway bridges of small spans?

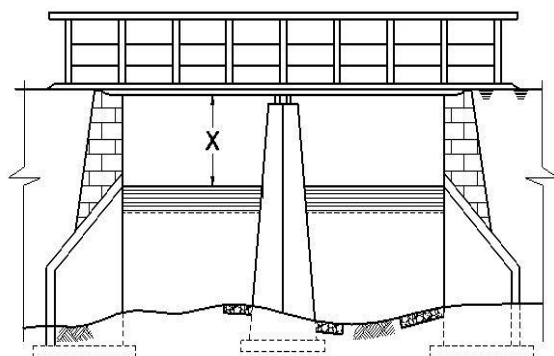
- A** : Steel girder
- B** : Steel trough plate
- C** : Suspension
- D** : Steel truss

**55** : Which bridge is shown in figure?



- A** : Semi through
- B** : Deck
- C** : Through
- D** : Suspension

**56** : What is marked as 'x'?



- A** : Clearance
- B** : Approach
- C** : Free board
- D** : Apron

**57** : Which is the main characteristic for an ideal site for a bridge?

- A** : Stream should be broad
- B** : Built up areas
- C** : Reach of stream should be straight
- D** : Whirls and cross currents

**58** : What plays a great role in fixing the height of bridge?

- A** : Design
- B** : Effect of scouring
- C** : Highest flood level
- D** : Type of traffic

**59** : Which is provided for the superstructure in the alignment on curve in hilly areas?

- A** : RCC girders

- B** : Box culverts
- C** : Dumb bell pier
- D** : Column bents

**60** : When did spread foundation is adopted for bridges?

- A** : Good soil is available at shallow depth
- B** : Depth of water is more
- C** : Good soil is not available at shallow depth
- D** : Tension developed is more

**61** : Which foundation is adopted when the loose soil extends to a great depth?

- A** : Spread
- B** : Raft
- C** : Caisson
- D** : Pile

**62** : Which foundation is provided for heavy works at a depth of 12 m to 15 m below the level of standing water surface?

- A** : Well
- B** : Caisson
- C** : Cofferdam
- D** : Pile

**63** : Which caisson the ratio of sinking effort to skin friction is maximum?

- A** : Circular well
- B** : Box
- C** : Dumb well
- D** : Pneumatic caisson

**64** : What is the minimum percentage of oxygen concentration in underground air quality for tunnel?

- A** : 12.5%
- B** : 15.5%
- C** : 17.5%
- D** : 19.5%

**65** : What is the maximum noise levels of ventilation fans while measure at the closest point of employee exposure?

- A** : 90 decibel
- B** : 100 decibel
- C** : 120 decibel
- D** : 130 decibel

## Draughtsman Civil– Semester 4 Module 4 – Railways

Reviewed and updated on: 01<sup>st</sup> November 2019 Version 1.1

**66** : Who started the development of railways in India?

- A** : George stephenson
- B** : Lord dalhousie
- C** : Lord curzon
- D** : Lord ripon

**67** : Which gauge is adopted for main cities and routes of maximum intensities?

- A** : Broad
- B** : Narrow
- C** : Metre
- D** : Wide

**68** : What is the process for filling the ballast around the sleepers?

- A** : Creep
- B** : Turn table
- C** : Boxing
- D** : Coning

**69** : What is the width of broad gauge?

- A** : 0.16 m
- B** : 0.762 m
- C** : 1.00 m
- D** : 1.676 m

**70** : What is the name for raising of the level of the outer rail over that of inner rail?

- A** : Creep
- B** : Cant
- C** : Boxing
- D** : Wearing

**71** : What is the name of the defect in rail due to abnormality of heavy load?

- A** : Hogging
- B** : Wear
- C** : Creep
- D** : Kink

**72** : What is the length of bull headed rail?

- A** : 16.7 m
- B** : 18.29 m
- C** : 18.6m
- D** : 19.2mm

**73** : What is the name of the steel placed end to end to provide a level surface for the movement of trains?

- A** : Ballast
- B** : Sleepers

**C** : Rails

**D** : Fish plates

**74** : What is the minimum depth of ballast for broad gauge?

- A** : 20 cm
- B** : 30 cm
- C** : 40 cm
- D** : 50 cm

**75** : What is the minimum spacing between sleepers in broad gauge?

- A** : 200 mm
- B** : 250 mm
- C** : 300 mm
- D** : 500 mm

**76** : Which is a cast iron sleeper?

- A** : Duplex
- B** : Steel
- C** : Pot
- D** : Box

**77** : What is the standard size of ballast for wooden sleepers?

- A** : 25 mm
- B** : 40 mm
- C** : 50 mm
- D** : 60 mm

**78** : What is used for fixing the rails to the wooden sleepers?

- A** : Spikes
- B** : Bearing plates
- C** : Fish bolt
- D** : Rail chair

**79** : Which is used for changing the direction of engine?

- A** : Rail joint
- B** : Turn table
- C** : Points and crossing
- D** : Terminal station

**80** : Which is used for joining the rail?

- A** : Spikes
- B** : Rail chairs
- C** : Fish plates
- D** : Bearing plate

**81** : What is the defect of rail with its end or ends bent in vertical direction?

- A** : Wear of rails
- B** : Hogging of rails
- C** : Creep of rails
- D** : Bending of rails

---

**82** : Which direction does rail creep occurs?

- A** : Longitudinal
- B** : Lateral
- C** : Vertical
- D** : Transverse

---

**83** : Which is used to reduce creeping of rail?

- A** : Bearing plates
- B** : Spikes
- C** : Anchors
- D** : Chairs

---

**84** : Which method is used to repair the worn out or damaged rails and to built up damaged components of points and crossing?

- A** : Bending
- B** : Hogging
- C** : Creep
- D** : Welding

---

**85** : Which area wear of rails maximum?

- A** : Top of rail
- B** : End of rail
- C** : Inner side of rail
- D** : Head of rail

---

**86** : What is the height of embankment above HFL in the construction of permanent way?

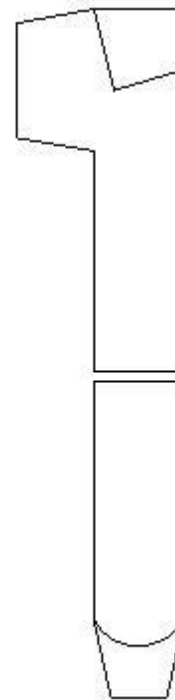
- A** : 30 cm
- B** : 50m
- C** : 60 cm
- D** : 65 cm

---

**87** : What is the process of tightly ramming the ballest under the sleepers to transmit the load?

- A** : Packing
  - B** : Laying
  - C** : Boxing
  - D** : Fixing
- 

**88** : What is the name of the spike is in figure?



- A** : Round
- B** : Screw
- C** : Elastic
- D** : Dog

---

**89** : Which warner signal is first seen by the driver in railway station?

- A** : Disc signal
- B** : Home signal
- C** : Outer signal
- D** : Routing signal

---

**90** : Which crossing the right hand rail of one track crosses the left hand rail of another track and vice versa?

- A** : Acute angle
  - B** : Obtuse angle
  - C** : Square
  - D** : Rectangular
-



**91** : Which underground water nourishes the plant roots by capillarity?

- A** : Subsurface
- B** : Surface
- C** : Flood
- D** : Flow

**92** : Which method of irrigation is called trickle irrigation?

- A** : Furrow
- B** : Sprinkler
- C** : Drip
- D** : Border strip

**93** : What is the main advantage of irrigation?

- A** : Water logging
- B** : Yield of crops
- C** : Complex
- D** : Damper climate

**94** : Which irrigation method water is supplied to lower level by the action of gravity?

- A** : Flow
- B** : Lift
- C** : Sprinkler
- D** : Subsurface

**95** : Which crops are sown in autumn in harvested in spring?

- A** : Kharif
- B** : Autumn
- C** : Rabi
- D** : South west monsoon

**96** : What is the relation between duty (D) Delta ( $\Delta$ ) and base period (B)?

- A** :  $\Delta = (86.4B / D)$
- B** :  $\Delta = (864B / D)$
- C** :  $\Delta = (8.64B / D)$
- D** :  $\Delta = (8640B / D)$

**97** : What is the time between first watering of a crop on sowing to its last watering before harvesting?

- A** : Base period
- B** : Rabi season
- C** : Kor period
- D** : Crop period

**98** : What is the total depth of water required by a crop during the entire period in the field?

- A** : Duty

**B** : Base period

**C** : Delta

**D** : Crop period

**99** : What is the first watering before sowing the crop?

- A** : Kor watering
- B** : Paleo
- C** : Delta
- D** : Duty

**100** : Which is the graphical representation of average rainfall between rainfall excess?

- A** : Hyetograph
- B** : Hydrograph
- C** : S-hydrograph
- D** : Unit hydrograph

**101** : Which catchment area run off will be more?

- A** : Fan shaped
- B** : Tree shaped
- C** : Fern shaped
- D** : Circular

**102** : Which is the angle that the axis of head regulator makes with the axis of the weir?

- A** :  $90^\circ$  to  $120^\circ$
- B** :  $90^\circ$  to  $60^\circ$
- C** :  $90^\circ$  to  $100^\circ$
- D** :  $180^\circ$

**103** : Which construction is at the head of the canal to divert the river water towards the canal?

- A** : Storage head work
- B** : Diversion head work
- C** : Barrage
- D** : Weir

**104** : Which is called safety valve of a dam?

- A** : Drainage gallery
- B** : Inspection gallery
- C** : Spill way
- D** : Outlet sluices

**105** : What is the name for accumulation of water in the form of an artificial lake?

- A** : Spill ways
- B** : Barrages
- C** : Reservoir
- D** : Groynes

**106** : What is the classification of dam based on use?

- A : Detention
- B : Debris
- C : Rigid
- D : Buttress

**107** : Which of the following is non rigid dam?

- A : Concrete
- B : Rock fill
- C : Gravity
- D : Arch

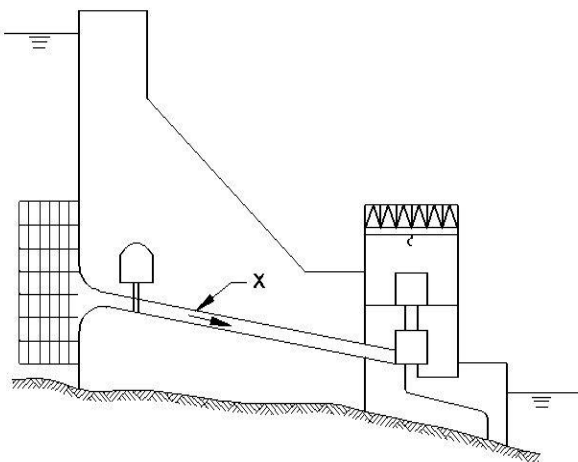
**108** : Where did the surplus water in weir is allowed to flow?

- A : Gates
- B : Crest
- C : Spill way
- D : Openings

**109** : What is the life period of thermal plant?

- A : Less than 30 years
- B : More than 30 years
- C : Less than 50 years
- D : More than 50 years

**110** : What is marked as 'x'?



- A : Turbine
- B : Draft tube
- C : Gallery
- D : Pen stock

**111** : Which irrigation constant and continuous supply of water is assured throughout the crop period?

- A : Flood
- B : Artificial

- C : Perennial
- D : Inundation

**112** : Which crop is grown at a particular crop season?

- A : Culturable cultivated area
- B : Gross commanded area
- C : Culturable commanded area
- D : Culturable incultivated area

**113** : When does hydrograph called as unit hydrograph?

- A : 1 cm of runoff from rainfall
- B : 3 cm of runoff from rainfall
- C : 1 mm of runoff from rainfall
- D : 3 mm of runoff from rainfall

**114** : What is the unit for measuring rainfall?

- A : cm
- B : mm
- C : Feet
- D : No unit

**115** : Which is the main function of diversion head work of a canal?

- A : To remove silt
- B : To control floods
- C : To store water
- D : To raise water level

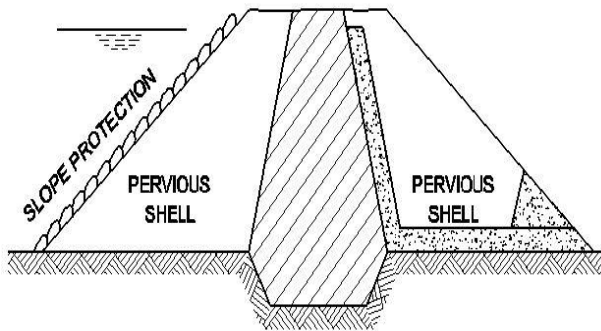
**116** : Which is provided in the diversion headwork to scour away silt deposited?

- A : Fish ladder
- B : Groynes
- C : Barrage
- D : Under sluices

**117** : Which is the main factor for selection of site for a reservoir?

- A : Maximum runoff
- B : Maximum percolation
- C : Wide opening
- D : Minimum runoff

**118** : What is the name of dam?



- A : Rock fill dam
- B : Concrete buttress dam
- C : Earth dam
- D : Combined Earth and Rock dam

**119** : Which is known as spill way?

- A : Water spread dam
- B : Detention dam
- C : Debris dam
- D : Over flow dam

**120** : Which is the sheet of over flowing water?

- A : Head
- B : Nappe
- C : Upstream
- D : Crest

**121** : What is the name of the structure placed in river to increase the depth of water?

- A : Barrage
- B : Weir
- C : Notch
- D : Crest

**122** : What is the name of the impervious barrier constructed across a perennial river to raise the water level on the upstream side?

- A : Barrage
- B : Weir
- C : Notch
- D : Mouth piece

**123** : Which element of hydroelectric power plant reduce the water hammer pressure formed in the penstock?

- A : Valves
- B : Surge tank

- C : Turbines
  - D : Draft tubes
-

**124** : Which canal is constructed to feed two or more canals?

- A : Carrier
- B : Feeder
- C : Navigation
- D : Irrigation

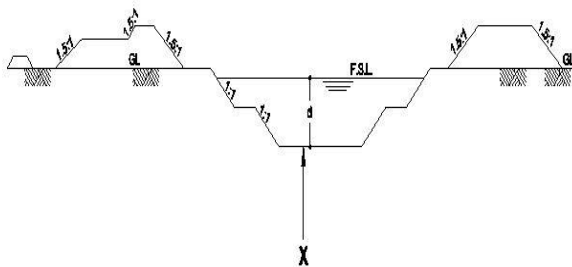
**125** : Which of the following canal is classified based on nature of supply?

- A : Carrier
- B : Feeder
- C : Navigation
- D : Permanent

**126** : Which canal carries water for another canal besides doing irrigation?

- A : Carrier
- B : Feeder
- C : Navigation
- D : Power

**127** : What is marked as 'X'?



- A : Free board
- B : Canal bed
- C : Berm
- D : Bank

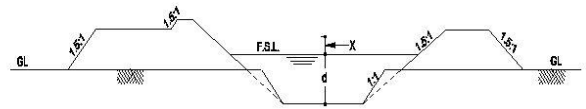
**128** : Which canal is aligned along a water washed?

- A : Contour
- B : Side slope
- C : Ridge
- D : Power

**129** : Which canal is also known as ridge canal?

- A : Contour
- B : Watershed
- C : Side slope
- D : Main

**130** : What is marked as 'X'?

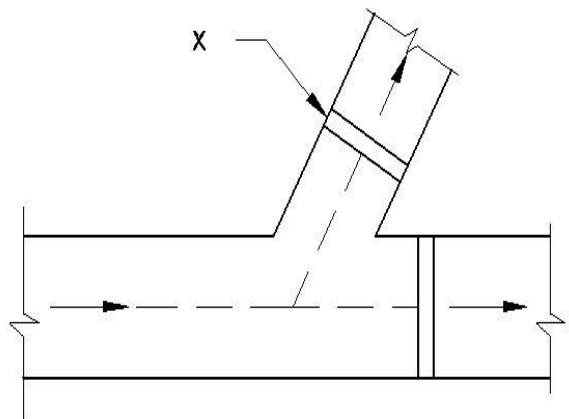


- A : Free board
- B : Canal bed
- C : Berm
- D : Bank

**131** : What is also known as canal fall?

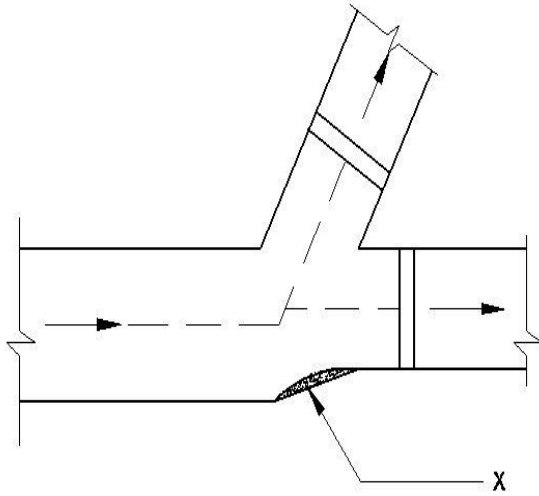
- A : Canal syphon
- B : Canal drop
- C : Super passage
- D : Aqueduct

**132** : What is marked as 'X'?



- A : Distributory head regulator
- B : Off take channel
- C : Parent canal
- D : Cross regulator

**133** : What is marked as 'X' ?



- A : Parent canal
- B : Silt jetty
- C : Off take canal
- D : Cross regulator

**134** : Which cross drainage work is constructed to carry canal over drainage?

- A : Aqueduct
- B : Super passage
- C : Canal syphon
- D : Level crossing

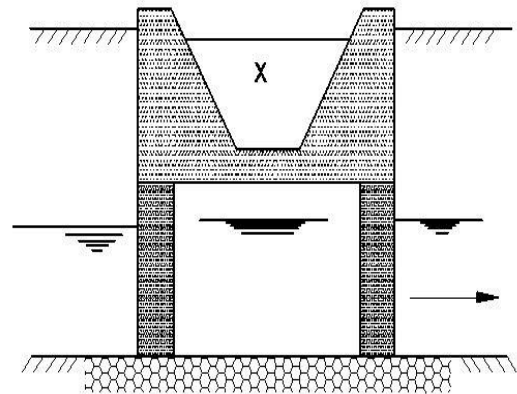
**135** : Which cross drainage work is constructed to carry canal below drainage?

- A : Aqueduct
- B : Super passage
- C : Level crossing
- D : Inlet

**136** : Which cross drainage work is constructed to cross the canal and drainage at the same level?

- A : Aqueduct
- B : Super passage
- C : Canal syphon
- D : Level crossing

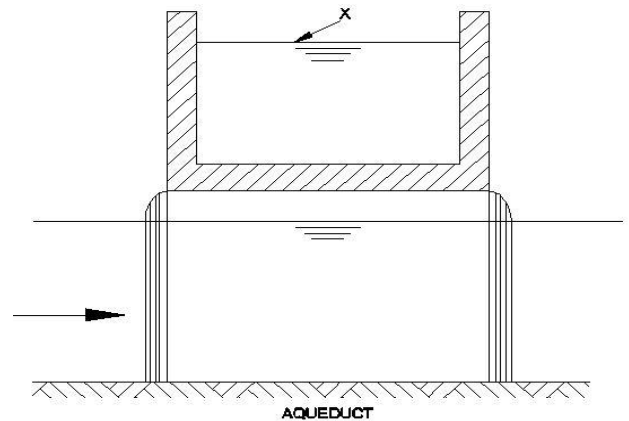
**137** : What is marked as 'X'?



**SUPER PASSAGE**

- A : FSL
- B : Stream
- C : HFL
- D : Canal

**138** : What is marked as 'X'?



**AQUEDUCT**

- A : Canal syphon
- B : Drainage
- C : Culvert
- D : Trough

**139** : What is the name given to built up area of building measured at floor level of any storey?

- A : Plinth area
- B : Floor area
- C : Circulation area
- D : Carpet area

**140** : What is the name given to area of a building consisting of verandah's, passages, corridors, balconies etc.?

- A : Circulation area
- B : Horizontal circulation area
- C : Vertical circulation area
- D : Carpet area

**141** : What percentage of plinth area is provided for horizontal circulation area?

- A : 5 to 10%
- B : 10 to 15%
- C : 15 to 20%
- D : 20 to 25%

**142** : What percentage of plinth area of the residential building comes to carpet area?

- A : 40 to 55%
- B : 50 to 65%
- C : 60 to 75%
- D : 70 to 85%

**143** : What percentage of estimate cost is charged for centage charges?

- A : 5 to 10%
- B : 10 to 15%
- C : 15 to 20%
- D : 20 to 25%

**144** : Which is rough cost estimate?

- A : Revised estimate
- B : Annual repair estimate
- C : Plinth area estimate
- D : Supplementary estimate

**145** : Which is an item rate estimate?

- A : Plinth area
- B : Annual repair
- C : Cubical content
- D : Preliminary

**146** : What is the sequence of booking measurements?

- A : Breadth, length and depth
- B : Number, length and depth

C : Diameter, length and density

D : Length, breadth and height

**147** : What is the minimum length for bill quantity calculation?

- A : 0.5 mm
- B : 1 mm
- C : 1cm
- D : 10 cm

**148** : What is the minimum area for bill quantity calculation?

- A : 1 mm<sup>2</sup>
- B : 1 cm<sup>2</sup>
- C : .01 sq.m
- D : 1m<sup>2</sup>

**149** : What is the unit for excavation in M.K.S system?

- A : m
- B : sq.m<sup>2</sup>
- C : cu.m
- D : No

**150** : What is the minimum cubical quantity for bill quantity calculation?

- A : 1 mm<sup>3</sup>
- B : 1 cm<sup>3</sup>
- C : 0.01 m<sup>3</sup>
- D : 0.1 m<sup>3</sup>

**151** : What is the unit for cement concrete in M.K.S. system?

- A : Nos.
- B : m
- C : sq.m
- D : cu.m

**152** : What is the unit for brick work in cement mortar for superstructure in MKS system?

- A : m
- B : sq.m
- C : cu.m
- D : Nos.

**153** : What is the unit for steel reinforcement bars etc in RCC, RB work in MKS system?

- A : m
- B : Nos.
- C : Quintal
- D : sq.m

## Draughtsman Civil– Semester 4 Module 7 – Estimation

Reviewed and updated on: 01<sup>st</sup> November 2019 Version 1.1

**154** : What is the unit for ridges, valleys, gutters in M.K.S system?

- A : metre
- B : sq.m
- C : cu.m
- D : Nos.

**155** : What is the unit for flooring in MKS system?

- A : m
- B : sq.m
- C : cu.m
- D : Nos.

**156** : What is the minimum lead for earth work excavation?

- A : 10 m
- B : 20 m
- C : 30 m
- D : 50 m

**157** : What is the minimum lift for earthwork excavation?

- A : 1 m
- B : 1.5 m
- C : 2.0 m
- D : 3.0 m

**158** : What is the measuring unit for soling layer?

- A : m
- B : sq.m
- C : cu.m
- D : Nos.

**159** : How much area of the opening is ignored for the masonry quantity calculation?

- A : 1. sq.cm
- B : 10 sq.cm
- C : 100 sq.cm
- D : 1000 sq.cm

**160** : What is the measuring unit for cornice?

- A : m
- B : sq.m
- C : cu.m
- D : mm

**161** : What is the measuring unit for modern door and window frames?

- A : m
- B : sq.m

C : cu.m

D : mm

**162** : What is the scale range used for the preparation of layout plan?

- A : 1cm = 5m to 1cm = 10m
- B : 1cm = 10m to 1cm = 20m
- C : 1cm = .5km to 1cm = 1km
- D : 1cm = 5km to 1cm = 10km

**163** : Which data is necessary for the preparation of estimate?

- A : Labour
- B : Material
- C : Fund
- D : Drawings

**164** : Which estimate is prepared while the expenditure on a work exceeds by more than 10%?

- A : Supplementary
- B : Revised
- C : Annual repair
- D : Cubical content

**165** : Which estimate is prepared while the original sanctioned estimate is exceeded by more than 5%?

- A : Supplementary
- B : Extension and improvement
- C : Revised
- D : Plinth area

**166** : Which estimate is required for administrative sanction?

- A : Approximate
- B : Detailed
- C : Revised
- D : Supplementary

**167** : How aggregate is specified?

- A : Size in mm
- B : Length in mm
- C : Height and breadth in cm
- D : Length in m, section in mm

**168** : Which brick wall thickness is measured in sq.m?

- A : 10 cm
- B : 15 cm
- C : 20 cm
- D : 30 cm

**169** : Which brick structure is measured in sq.m?

- A** : Reinforced brick work
  - B** : Broken glass coping
  - C** : Concrete fencing posts
  - D** : Brick work in arches
- 

**170** : What (%) percentage of steel work is provided for rivets in steel roof truss?

- A** : 3%
  - B** : 5%
  - C** : 7%
  - D** : 10%
- 

**171** : What is the density of mild steel?

- A** : 0.785 q/cu.m
  - B** : 7.85q/cu.m
  - C** : 78.5q/cu.m
  - D** : 785q/cu.m
- 

**172** : What is the plastering area for a pillar?

- A** : Length x breadth x height
  - B** : Section area x height
  - C** : Perimeter
  - D** : Perimeter x height
- 

**173** : What (%) percentage is added as contingencies in approximate estimate?

- A** : 1% to 5%
  - B** : 5% to 10%
  - C** : 10% to 12%
  - D** : 10% to 15%
-



## Draughtsman Civil– Semester 4 Module 8 – Rate Analysis

Reviewed and updated on: 01<sup>st</sup> November 2019 Version 1.1

**174** : What is the out-turn of mason constructing stone arch work?

- A : 0.40 cu.m
- B : 0.55 cu.m
- C : 0.80 cu.m
- D : 0.90 cu.m

**175** : What is the out-turn of mason, constructing superstructure with brick masonry?

- A : 0.55 cu.m
- B : 0.85 cu.m
- C : 1.00 cu.m
- D : 1.25 cu.m

**176** : What percentage contractors profit is included in the analysis of rate?

- A : 5
- B : 10
- C : 15
- D : 20

**177** : What quantity bitumen is required for 100m<sup>2</sup> first coat painting on DPC?

- A : 75 kg
- B : 100 kg
- C : 125 kg
- D : 150 kg

**178** : What quantity of stone is required for 1m<sup>3</sup> of rubble masonry?

- A : 0.5 cu.m
- B : 0.75 cu.m
- C : 1.00 cu.m
- D : 1.25 cu.m

**179** : How many nominal size bricks are required for 1m<sup>3</sup> of brick work?

- A : 500
- B : 600
- C : 700
- D : 800

**180** : What quantity of coarse aggregate is required for 100m<sup>3</sup> of 1:2:4 cement concrete?

- A : 84 m<sup>3</sup>
- B : 86 m<sup>3</sup>
- C : 88 m<sup>3</sup>
- D : 90 m<sup>3</sup>

**181** : What is printed list of rates of various items of work maintained by the engineering department?

- A : Schedule of rates
- B : Analysis of rates
- C : Item rates
- D : Market rates

**182** : Who prepares the schedule of rates?

- A : Engineering department
- B : Contractors
- C : Private agencies
- D : Government agencies

**183** : How many mazdoor or helper is required per mason for brickwork?

- A : 1
- B : 1.5 to 2
- C : 3
- D : 4

**184** : What is the process of determining the fair price or value of a property?

- A : Valuation
- B : Estimation
- C : Fixation
- D : Taxation

**185** : What is the value of dismantled material?

- A : Salvage
- B : Scrap
- C : Market
- D : Book

**186** : What is the amount a property can fetch from open market?

- A : Scrap value
- B : Salvage value
- C : Market value
- D : Book value

**187** : What is the annual periodic payment for repayment of the capital amount invested by a party?

- A : Capital cost
- B : Annuity
- C : Depreciation
- D : Outgoings

**188** : Which cement concrete proportion is used for damp proofing first class building?

- A : 1:1.5:3
- B : 1:2:4
- C : 1:2:6
- D : 1:4:8

**189** : What is the minimum height specified for first class building?

- A : 3.3 m
- B : 3.7 m
- C : 3.8 m
- D : 3.9 m

**190** : Which cement concrete proportion is used for damp proofing second class building?

- A : 1:1.5:3
- B : 1:2:4
- C : 1:2:6
- D : 1:4:8

**191** : What is the equation for computation of volume by trapezoidal formula?

A :

$$V = \frac{D}{2} [A_1 + A_2 + A_3 + \dots + A_{n-1} + A_n]$$

B :

$$V = \frac{D}{2} [A_1 + A_n + 2(A_2 + A_3 + \dots + A_{n-1})]$$

C :

$$V = \frac{D}{3} [A_1 + A_2 + A_3 + \dots + A_n]$$

D :

$$V = \frac{D}{3} [(A_1 + A_n) + 2(A_3 + A_5 + \dots + A_{n-1}) + 4(A_2 + A_4 + \dots + A_{n-2})]$$

**192** : What is the equation for computation of volume by prismoidal formula?

A :

$$V = \frac{D}{2} [A_1 + A_2 + A_3 + \dots + A_{n-1} + A_n]$$

B :

$$V = \frac{D}{2} [(A_1 + A_n) + 2(A_2 + A_3 + \dots + A_{n-1})]$$

C :

$$V = \frac{D}{3} [(A_1 + A_n) + 2(A_3 + A_5 + \dots + A_{n-1}) + 4(A_2 + A_4 + \dots + A_{n-2})]$$

D :

$$V = \frac{D}{2} [A_1 + A_2 + A_3 + \dots + A_{(n-1)} + A_n]$$

**193** : What material is specified for the plinth of 1st class building?

- A : First class brick work in cement mortar 1:6
- B : Second class brick work in cement mortar
- C : Third class brick work in cement mortar
- D : Sum dried brick work in mud mortar

**194** : What is the area by trapezoidal rule?

Distance (m)	0	30	60	90	120	150	180	210
Off set (m)	0	2.65	3.80	3.75	4.65	3.60	5.00	5.80

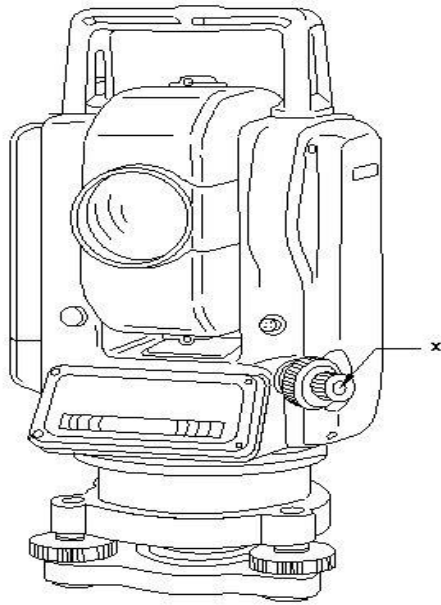
- A : 764.5 m<sup>2</sup>
- B : 770.5 m<sup>2</sup>
- C : 780.5 m<sup>2</sup>
- D : 790.5 m<sup>2</sup>

**195** : What is the area by Simpsons rule?

Distance (m)	0	30	60	90	120	150	180	210
Off set (m)	0	2.65	3.80	3.75	4.65	3.60	5.00	5.80

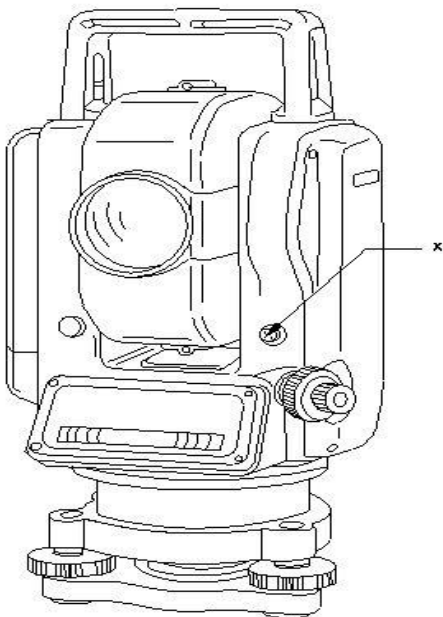
- A : 717 m<sup>2</sup>
- B : 727 m<sup>2</sup>
- C : 959 m<sup>2</sup>
- D : 1090 m<sup>2</sup>

196 : What is marked as 'x'?



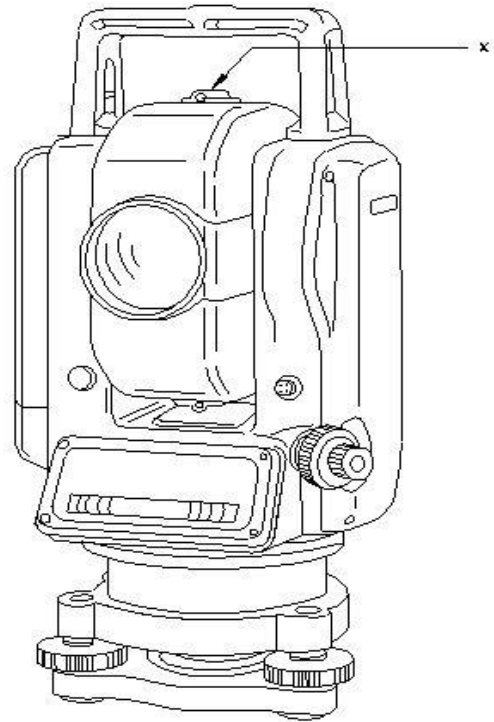
- A : Optical plummet
- B : Collimator
- C : Data out connector
- D : Bottom plate

197 : What is marked as 'x'?



- A : Objective lens
- B : Collimator
- C : Optical plummet
- D : Data out connector

198 : What is marked as 'x'?



- A : Top Handle
- B : Collimator
- C : Optical plummet
- D : Data out connector

199 : Which instrument is a combination of EDM, electronic theodolite and micro processor?

- A : Total Station
- B : Tacheometer
- C : Distomite
- D : Tellurometer

200 : Which program is used for erecting perpendicular line to base line?

- A : Stake out
- B : Free station
- C : Reference line
- D : Tie distance

201 : Which program is used for setting out points?

- A : Resection
- B : Stake out
- C : Reference line
- D : Remote height

**202** : Which instrument is used to find out the co-ordinates of a reflection and at the same time measuring the vertical angles?

- A : Auto level
- B : Total station
- C : Theodolite
- D : Transmit theodolite

**203** : What is the name of measurement for distances taken to a prism on reflecting foil most accurate?

- A : Precise measurement
- B : Rapid measurement
- C : Tracking measurement
- D : Angle measurement

**204** : Which measurement reduces the measurement time to a prism between 0.5 and 1's for both phase shift and pulsed systems?

- A : Precise measurement
- B : Rapid measurement
- C : Tracking measurement
- D : Angle measurement

**205** : Which range can be obtained for a reflector less measurement taken with a phase shift system?

- A : 50 m
- B : 100 m
- C : 150 m
- D : 200 m

**206** : What is the formula for principle of operation of EDM?

- A : Velocity = Time x Distance
- B : Velocity = Time / Distance
- C : Velocity = Distance x Time
- D : Velocity = Distance / Time

**207** : What is the abbreviation for EDM in surveying?

- A : Electronic Distance Measurement
- B : Engineering Distance Measurement
- C : Electro Discharge Maching
- D : Electronic Direct Mailing

**208** : What is the shape of a single reflector prism?

- A : Cube corner
- B : Cuboid corner
- C : Circular
- D : Triangular corner

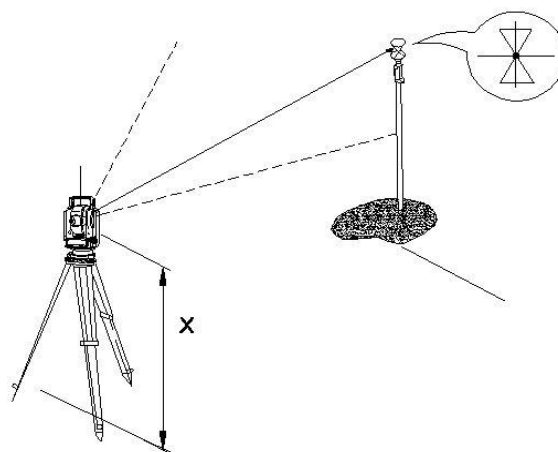
**209** : In which conditions, the LCD screen does not work?

- A : Cold
- B : Hot
- C : Warm
- D : Wind

**210** : Faulty temperature and pressure measurement occurs by which source of error in EDM?

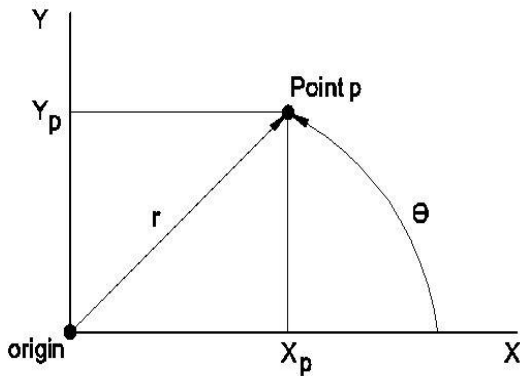
- A : Personal
- B : Instrumental
- C : Natural
- D : Environmental

**211** : What is marked as 'x'?



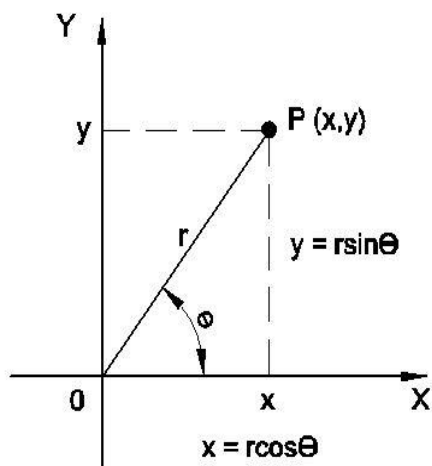
- A : Reflector height
- B : Instrumental height
- C : Height of collimation
- D : Slope height

**212** : What is the name of the figure given below?



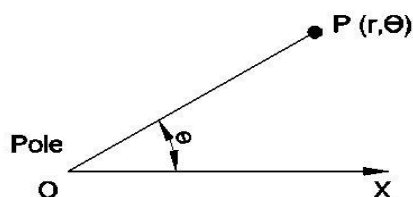
- A : Rectangular and polar co-ordinates
- B : Polar to cartesian co-ordinates
- C : Rectangular co-ordinates
- D : Polar co-ordinates

**213** : What is the name of the figure given below?



- A : Rectangular and polar co-ordinates
- B : Polar to cartesian co-ordinates
- C : Rectangular co-ordinates
- D : Polar co-ordinates

**214** : What is the name of the figure given below?



- A : Rectangular and polar co-ordinates
- B : Polar to cartesian co-ordinates

- C : Rectangular co-ordinates
- D : Polar co-ordinates

**215** : What is the formula to findout the sum of interior angles of a closed polygon traverse?

- A :  $(n - 2) \times 360^\circ$
- B :  $(n + 2) \times 360^\circ$
- C :  $(n - 2) \times 180^\circ$
- D :  $(n + 2) \times 180^\circ$

**216** : Which are dedicated to the particular instrument and can store and process surveying observation?

- A : Data recorders
- B : Pocket calculators
- C : Field note books
- D : Pen-drives

**217** : Which is fitted with a total station capable of storing 900 to 10000 points?

- A : Memory card
- B : Data recorder
- C : Internal memory
- D : Field computer

**218** : What is the advantage of Total Station?

- A : The instruments costly
- B : Does not provide field note
- C : Direct observation of sum not possible
- D : Greater accuracy in area computation

**219** : What is the disadvantage of Total Station?

- A : Automation of old maps
- B : Local language support
- C : Full GIS creation
- D : The instrument is costly

**220** : Which is the total station with latest technology?

- A : Mechanical
- B : Semi automatic
- C : Manual
- D : Automatic

**221** : Which program is used to determine polygonal distance?

- A : Tie distance
- B : Reference line
- C : Free station
- D : Resection

## Draughtsman Civil– Semester 4 Module 9 – Total Station

Reviewed and updated on: 01<sup>st</sup> November 2019 Version 1.1

**222** : Which program is used to determine the position of new station with reference to two known points?

- A** : Free station
- B** : Tie distance
- C** : Remote height
- D** : Reference line

**223** : Where is data stored in Total Station?

- A** : Pen drive
- B** : Data card
- C** : Micro processor
- D** : External hardware

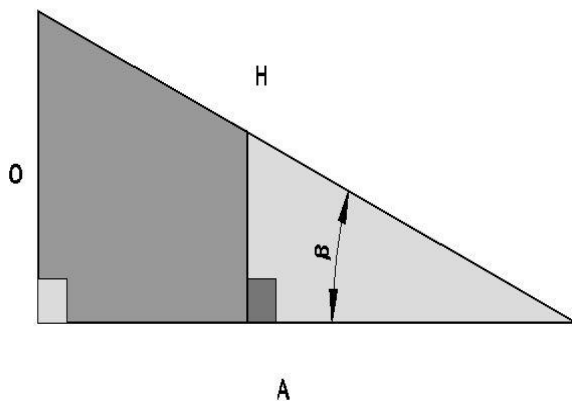
**224** : What is the advantage of using EDM?

- A** : Precise measurement of distance
- B** : Electronic batteries
- C** : Expensive
- D** : Accuracy affected by atmospheric condition

**225** : What is the disadvantage of using EDM?

- A** : Capable of measuring long distances
- B** : Precise measurement of distance
- C** : Accuracy affected by atmospheric conditions
- D** : Relectorless are single person operation

**226** : Which trigonometrical value is correct?



- A** :  $O/H = \sin \beta$
- B** :  $A/H = \sin \beta$
- C** :  $O/A = \sin \beta$
- D** :  $H/O = \sin \beta$

**227** : What is the sum of the interior angles of a closed polygon traverse that has of 8 sides?

- A** :  $720^\circ$
- B** :  $1080^\circ$
- C** :  $1440^\circ$
- D** :  $1800^\circ$

**228** : Where the open traverse is used?

- A** : Topographic survey
- B** : Layout of engineering works
- C** : Construction of pipelines
- D** : Property measurement

**229** : Which country developed the GPS?

- A** : USA
- B** : India
- C** : Russia
- D** : Italy

**230** : What is meant by GPS?

- A** : Global Processing System
- B** : Global Positioning System
- C** : Geographic Positional System
- D** : Geographic Processing System

**231** : What is the orbital height for GPS?

- A** : 10,00 km
- B** : 15,000 km
- C** : 20,180 km
- D** : 24,280 km

**232** : Which is the common choice of co-ordinate for specifying position?

- A** : Latitude, departure and elevation
- B** : Latitude, longitude and elevation
- C** : Northing, southing and easting
- D** : Southing, azimuths and elevation

**233** : What is the distance between the UTM grid lines on topomaps?

- A** : 100 m
- B** : 1000 m
- C** : 2000 m
- D** : 5000 m

**234** : Where the master control station of control segment located?

- A** : Hawaii
- B** : Colorado
- C** : Diego Garcia
- D** : Kwajalein

**235** : How many operational satellites are available in space segment?

- A** : 24
- B** : 28
- C** : 32
- D** : 36

**236** : Which segment of GPS consists of satellite?

- A** : Control
- B** : Space
- C** : User
- D** : Navigation

**237** : Which segment of GPS consists of receivers?

- A** : Control
- B** : User
- C** : Space
- D** : Navigation

**238** : What is an advantage of GPS survey?

- A** : High precision
- B** : Weather dependent
- C** : Night operation only
- D** : Site intervisibility required

**239** : Which is an application of GPS for visually impaired?

- A** : MOBIC
- B** : GIS
- C** : Ramchers
- D** : Navigation

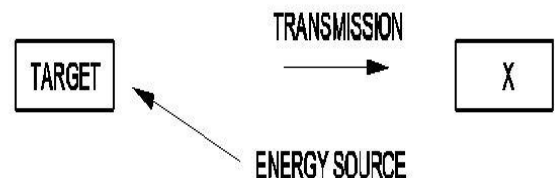
**240** : Which is an application of GPS for visually impaired in India?

- A** : Marine GOS
- B** : Drishti
- C** : Ramchers
- D** : GIS

**241** : What is meant by the study of something without direct contact?

- A** : Remote sensing
- B** : Geographic information system
- C** : Tachometry
- D** : Ranging

**242** : What is marked as 'x'?



- A** : Target
- B** : Energy source
- C** : Sensor
- D** : Transmission



**243** : What is the practice of determining the geometric properties of objects from photographic images?

- A** : Photogrammetry
- B** : Positioning
- C** : Remote sensing
- D** : Orientation

**244** : What is the another name for exposure station?

- A** : Air station
- B** : Nadir point
- C** : Zenith point
- D** : Horizon point

**245** : What is an advantage of GPS survey?

- A** : Two dimensional
- B** : Three dimensional
- C** : Weather dependent
- D** : Only day time operation

**246** : What is an advantage of digital signal?

- A** : High cost
- B** : Difficult to control
- C** : Noise immunity
- D** : Rigidity in response to design

**247** : What is the process of getting digital equivalent of analog signals for processing?

- A** : Data acquisition
- B** : Data processing
- C** : Image recognition
- D** : Pattern recognition

**248** : What is an advantage of digital over analog signal processing?

- A** : Digital system is difficult to reprogramme
- B** : Digital signal processing provides better control of accuracy
- C** : Digital signals are difficult to store without deterioration
- D** : More ancient signal processing algorithms can be used

**249** : What is the advantage of photogrammetry?

- A** : Weather dependent
- B** : Covers large area
- C** : Costlier
- D** : Complex system

**250** : What is the advantage for in setup of instrument photogrammetry?

- A** : Heavy equipments needed
- B** : Weather dependent
- C** : Less time consuming
- D** : Costlier

---

**ANSWERS :**

---

1:B; 2:A; 3:C; 4:C; 5:C; 6:D; 7:D; 8:C; 9:A; 10:D; 11:B; 12:C; 13:B; 14:A; 15:A; 16:B; 17:B; 18:D; 19:B; 20:C; 21:B; 22:B; 23:A; 24:B; 25:B; 26:B; 27:B; 28:A; 29:D; 30:A; 31:B; 32:A; 33:C; 34:D; 35:D; 36:B; 37:B; 38:A; 39:D; 40:B; 41:C; 42:B; 43:D; 44:B; 45:A; 46:A; 47:C; 48:B; 49:D; 50:C; 51:B; 52:C; 53:D; 54:B; 55:C; 56:C; 57:C; 58:C; 59:A; 60:A; 61:D; 62:B; 63:A; 64:D; 65:A; 66:B; 67:A; 68:C; 69:D; 70:B; 71:B; 72:B; 73:C; 74:A; 75:D; 76:C; 77:C; 78:A; 79:B; 80:C; 81:B; 82:A; 83:C; 84:D; 85:B; 86:C; 87:A; 88:D; 89:C; 90:A; 91:A; 92:C; 93:B; 94:A; 95:C; 96:C; 97:A; 98:C; 99:B; 100:B; 101:A; 102:A; 103:B; 104:C; 105:C; 106:A; 107:B; 108:B; 109:A; 110:D; 111:C; 112:A; 113:A; 114:B; 115:D; 116:D; 117:A; 118:C; 119:D; 120:B; 121:A; 122:B; 123:B; 124:B; 125:D; 126:A; 127:B; 128:C; 129:B; 130:A; 131:B; 132:A; 133:B; 134:A; 135:B; 136:D; 137:B; 138:A; 139:A; 140:B; 141:B; 142:B; 143:B; 144:C; 145:B; 146:D; 147:B; 148:C; 149:C; 150:C; 151:D; 152:C; 153:C; 154:A; 155:B; 156:C; 157:B; 158:B; 159:D; 160:A; 161:C; 162:B; 163:D; 164:B; 165:C; 166:A; 167:A; 168:A; 169:B; 170:B; 171:C; 172:D; 173:B; 174:A; 175:C; 176:B; 177:D; 178:D; 179:A; 180:A; 181:A; 182:A; 183:B; 184:A; 185:B; 186:C; 187:B; 188:A; 189:B; 190:B; 191:B; 192:C; 193:A; 194:D; 195:B; 196:A; 197:B; 198:B; 199:A; 200:C; 201:B; 202:B; 203:A; 204:B; 205:B; 206:D; 207:A; 208:A; 209:A; 210:A; 211:B; 212:A; 213:C; 214:D; 215:C; 216:A; 217:C; 218:D; 219:D; 220:D; 221:A; 222:A; 223:C; 224:A; 225:C; 226:A; 227:B; 228:C; 229:A; 230:B; 231:C; 232:B; 233:B; 234:B; 235:A; 236:B; 237:B; 238:A; 239:A; 240:B; 241:A; 242:C; 243:A; 244:A; 245:B; 246:C; 247:A; 248:B; 249:B; 250:C;