

# Trade Theory(2<sup>nd</sup> Year)

Multiple Choice  
Practice  
Questions for  
ONLINE/OMR  
AITT-2020

DRAUGHTSMAN CIVIL

TRADE:-SECOAND YEAR DRAUGHTSMAN CIVIL  
TRADE THEORY

## **REINFORCE CEMENT CONCRETE STRUCTURE**

1. The strength and quality of concrete depends on -  
(a) Great of the concrete (b) Water cement ratio  
(c) Grade of the ratio (d) All of these
2. The entrained air in concrete-  
(a) Increases workability (b) Decreases workability  
(c) Decreases strength (d) None of these
3. After casting an ordinary cement concrete on drying-  
(a) Expends (b) Shrink  
(c) Remains unchanged (d) swells
4. For slabs and beams, the grade of the concrete mixed, generally should not be less than-  
(a) 1:1:4 (b) 1:3:6  
(c) 1:2:4 (d) None of these
5. When R.C.C beam is subjected to bending and the top most layer elongates and the bottom on shortens, then that beam is called-  
(a) Fixed beam (b) Simply supported beam  
(c) Cantilever beam (d) Doubly reinforced beam
6. A reinforced concrete beam will crack if tensile stress set up in the concrete below neutral is-  
(a) Less than permissible stress (b) More than permissible stress  
(c) Equal to the permissible stress (d) none of these
7. For a simply supported slab of span (L) the overall minimum thickness of the slab should be-  
(a)  $L/35$  (b)  $L/30$   
(c)  $L/20$  (d)  $L/12$
8. The minimum thickness of the floor for building is usually-  
(a) 2CM (b) 5CM  
(c) 9CM (d) 45CM
9. In a two way slab, the torsion steel is provided at-  
(a) Top (b) Bottom  
(c) Top and bottom (d) None of these

10. The minimum percentage of reinforcement in R.C.C short column is-
- (a) 0.8% (b) 2.5%
- (c) 6% (d) 8%
11. Horizontal loads on domestic stairs, Internal balustrade or parapets are generally taken as-
- (a) 305kg/m (b) 75kg/m
- (c) 200kg/m (d) 35kg/m
12. As per IS 456 recommendations the thickness of footing edge on soils should not be less than-
- (a) 10cm (b) 12cm
- (c) 15cm (d) 20cm
13. The maximum number of steps in flight of a stair case should be restricted up to-
- (a) 8 (b) 10
- (c) 12 (d) 16
14. The maximum size of reinforcement bars in RCC column is-
- (a) 12mm (b) 8mm
- (c) 10mm (d) 18mm
15. For RCC column a considered to be short if the effective length to the least side ratio is less than-
- (a) 30 (b) 24
- (c) 12 (d) 16
16. Plain concrete is strong in-
- (a) Tension (b) Compression
- (c) Shear (d) bending
17. The material in which steel is used along with cement concrete is called-
- (a) RCC (b) CC
- (c) PCC (d) SCC
18. \_\_\_\_\_ is the horizontal distance between centre to center of walls.
- (a) Span (b) Effective span
- (c) Spacing (d) Gauging
19. Cover is the distance from the surface concrete to surface\_\_\_\_\_. .
- (a) Steel (b) Aggregate
- (c) Cement (d) Centre of steel

20. Weight of 10 mm diameter bar is\_\_\_\_\_ kg/m.  
 (a) 0.52 (b) 0.62  
 (c) 0.72 (d) 0.82
21. The form work may be constructed by the components of\_\_\_\_\_.  
 (a) Steel and cement (b) Steel and concrete  
 (c) Cement and concrete (d) Steel and concrete
22. The type of aggregate which passes thru IS sieve no.480 is\_\_\_\_\_ aggregate.  
 (a) Fine (b) Coarse  
 (c) Medium (d) Mixed
23. What minimum grade of concrete shall be used in RCC?  
 (a) M5 (b) M7.5  
 (c) M10 (d) M15
24. In RCC lintel, main reinforcement is provided at\_\_\_\_\_.  
 (a) Bottom of the lintel (b) Top of the lintel  
 (c) Middle of the lintel (d) Both of the lintel
25. In simply supported RCC beam, the value of BM at supports, will be \_\_\_\_\_.  
 (a) Maximum (b) Zero  
 (c) Two times (d) Three times
26. Beam in which, one end is fixed and other end is free is called-  
 (a) Fixed beam (b) Secondary beam  
 (c) Rectangular beam (d) Cantilever beam
27. In RCC beam, the main reinforcement provided only in tension zone is called-  
 (a) Transverse reinforcement beam (b) Shear reinforcement beam  
 (c) Singly reinforcement beam (d) Doubly reinforcement beam
28. How many number of minimum main bar are provided in a RCC beam?  
 (a) 2 numbers (b) 3 numbers  
 (c) 4 numbers (d) 6 numbers
29. What is the minimum number of steps in one flight?  
 (a) 18 numbers (b) 15 numbers  
 (c) 13 numbers (d) 12 numbers
30. What is the approximate percentage of steel reinforcement required for beam?  
 (a) 0.721% (b) 1 to 2 %  
 (c) 1 to 3 % (d) 1 to 4%

Answer :- **REINFORCE CEMENT CONCRETE STRUCTURE**

1- D	2- A	3- B	4- C	5- C	6- B	7- B	8- C	9- C	10- A
11- D	12- C	13- C	14- A	15- C	16- B	17- A	18- B	19- A	20- B
21- D	22- A	23- D	24- A	25- B	26- D	27- C	28- A	29- D	30- B

## **BUILDING BY LAWS**

1. \_\_\_\_\_ common word used in place of earthquake.
 

(a) Gravity	(b) Seismic
(c) Global	(d) None of these
2. The wave responsible for horizontal earth motion –
 

(a) Short seismic	(b) Long seismic
(c) P-waves	(d) None of these
3. The pattern of seismic waves recorded by seismograph is known as –
 

(a) Seismogram	(b) P-waves
(c) Z-waves	(d) None of these
4. What should be the area of kitchen for a plot of 50 m<sup>2</sup> ?
 

(a) 7.50m <sup>2</sup>	(b) 9.50m <sup>2</sup>
(c) 3.30m <sup>2</sup>	(d) 4.50m <sup>2</sup>
5. The width of the bathroom for a plot larger than 50 m<sup>2</sup> should be-
 

(a) 1.20 m <sup>2</sup>	(b) 1.30 m <sup>2</sup>
(c) 1.40 m <sup>2</sup>	(d) 1.50 m <sup>2</sup>
6. What should be the area of store for the plots upto 50 m<sup>2</sup>?
 

(a) 1.80 m <sup>2</sup>	(b) 2.20 m <sup>2</sup>
(c) 2.40 m <sup>2</sup>	(d) No limit
7. The area of windows for hot climate should be \_\_\_\_\_ of the area of court.
 

(a) 1/5	(b) 1/10
(c) 1/15	(d) 1/20
8. The complete name of FAR is-
 

(a) Flow area ratio	(b) Food area ratio
(c) Floor area ratio	(d) Flange area ratio
9. The total constructed area at a commercial place should not be more than \_\_\_\_\_ of the area of that place.
 

(a) 50%	(b) 75%
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- (c) 100% (d) 25%
10. The other name of building line is –  
(a) Control line (b) Foundation line  
(c) Setback line (d) Empirical line
11. The value fixed for the building line in national and state highways is –  
(a) 30m (b) 60m  
(c) 90m (d) 120m
12. The value fixed for control line for village roads is –  
(a) 18m (b) 15m  
(c) 12m (d) 9m
13. Following formula is used for the width of the foundation –  
(a) Line formula (b) Design formula  
(c) Empirical formula (d) Area formula
14. What is the number of people decided for one toilet by the standards?  
(a) 5 (b) 10  
(c) 20 (d) 25
15. Green belt is related to –  
(a) Industries (b) Plants and trees  
(c) Light (d) plots
16. The components of prefabricated structure are-  
(a) Steel (b) Concrete  
(c) Reinforced concrete (d) All of these
17. The structure build during prefabricated process is –  
(a) Pre-stress (b) Pre-tension  
(c) Both A and B (d) None of these
18. Which of the following belongs to superstructure prefabrication category?  
(a) Roof (b) Girder  
(c) Both A and B (d) None of these
19. Prefabrication of superstructure prefabrication is done in –  
(a) Precast yard (b) Precast concrete  
(c) Both A and B (d) non of these

20. \_\_\_\_\_ technique that shows the best performance in the replacement of roof.
- (a) Full depth precast concrete panel (b) Moulding  
(c) Superstructure concrete (d) None of these
21. \_\_\_\_\_ is used in adjacent panels present in full depth precast concrete panels.
- (a) Grouted joint (b) Steel connector  
(c) Both A and B (d) None of these
22. During the moulding process, connectors made by steel bar are moulded into-
- (a) Hoop (b) base  
(c) Precast beam (d) None of these
23. The category of precast segment assembling is –
- (a) Long line (b) Short line  
(c) Both A and B (d) Non of these
24. The method which is widely used in precast segment assembling is –
- (a) Long line (b) Short line  
(c) Both A and B (d) Non of these
25. The method used in the construction of cross-c bridges is –
- (a) Prefabricated (b) Assembling  
(c) Both A and B (d) None of these
26. \_\_\_\_\_ section is used by prefabrication in the structures.
- (a) Reinforced concrete (b) Reinforced steel  
(c) Both A and B (d) None of these
27. The components used for playground construction-
- (a) Accessibility (b) Age separation  
(c) Sight line (d) all of these
28. Surface that come under playing area, is given special attention by –
- (a) Accessibility (b) sight line  
(c) age separation (d) super vision

29. The centre of gravity of an earth-quake resisting building should be kept as \_\_\_\_\_ as possible.
- (a) Low (b) High  
(c) Middle (d) edge
30. Building area usually preferred in highly seismic zones –
- (a) Load bearing wall (b) Single story  
(c) Framed (d) None of these
31. The region of peninsular India is considered as a region remarkable
- (a) Unstable (b) Danger  
(c) Highly seismic (d) stability
32. In grade of concrete, M150(cement,chips,sand) for roof is the ratio of \_\_\_\_\_
- (a) 1:2:4 (b) 1:3:6  
(c) 1:5:10 (d) 1:11/3:3
33. What is the technical name for steel used in the concrete?
- (a) Fe 413 (b) Fe 414  
(c) Fe 415 (d) Fe 416
34. Building planning is essential and must be taken care of before –
- (a) Execution of the construction work (b) Allocation of budget  
(c) Purchase for land for the construction (d) None of these
35. Planning of building is don't create \_\_\_\_\_ condition for living.
- (a) Finance condition (b) Healthy condition  
(c) Fashionable condition (d) Playing condition
36. The maximum height of compound wall on road side shall be –
- (a) 3.5m (b) 2.5m  
(c) 1.5m (d) 4.5m
37. The residential building should not lack –
- (a) Privacy (b) Good orientation  
(c) Good construction (d) All of these



38. Lift shall be provided for buildings having more than –
- (a) Five floor excluding the ground floors (b) Four floor excluding the ground floors
- (c) Three floor excluding the ground floor (d) Two floor excluding the ground floor
39. Soak pits and septic tanks shall be provided for each building where –
- (a) There is provision of sewer at present (b) There is no provision of sewer at present
- (c) There is provision of enough space present for construction (d) None of these
40. Building planning is governed by the expected future –
- (a) Failure of the building (b) Expansion of the building
- (c) Seismic force of the building (d) Foundation failure of the building
41. The margin on road side wall be –
- (a) 5.9m (b) 6.9m
- (c) 2.9m (d) 4.5m
42. Which of the following material is a handling device during the construction?
- (a) Black and tackle (b) Skids
- (c) Pipeline (d) All of these
43. A 'bin card' is used to keep record of –
- (a) Material leaving the bin (b) Balance material
- (c) Material entering the bin (d) All of these
44. The minimum area of living rooms shall be –
- (a) 19.4m<sup>2</sup> (b) 15.4m<sup>2</sup>
- (c) 9.4m<sup>2</sup> (d) 5.4m<sup>2</sup>
45. Asbestos sheets consists of mixture of asbestos and \_\_\_\_\_
- (a) Cement (b) Lime
- (c) Mortar (d) Cement concrete
46. Planning of a building means \_\_\_\_\_ thinking of arrangement of different items in a building.
- (a) Post (b) Pre
- (c) No (d) None of these
47. A sloping of horizontal structure provided over opening of external wall for protection from sun and rain is called –
- (a) pillar (b) Beam
- (c) Chhajja (d) slab
48. Floor area is the total \_\_\_\_\_ area of a building.
- (a) Unusable (b) waste
- (c) open (d) usable
49. F.A.R means in reference to a building is –
- (a) Floor area ratio (b) Flight area ratio
- (c) Flat area ratio (d) None of these
50. Service lane is the lane provided at the \_\_\_\_\_ of a plot for service purposes.
- (a) Site (b) Center

51. (c) Back (d) top  
The height of a parapet wall on edge of a roof terrace should not be more than \_\_\_\_\_ meter.  
(a) 1 (b) 1.5  
(c) 1.75 (d) 2
52. Minimum width of bathroom is \_\_\_\_\_.  
(a) .9m (b) 1.2m  
(c) 1.5m (d) 1.8m
53. For proper lighting, the area of windows should not be less than \_\_\_\_\_.  
(a) 1/10 of floor area (b) ¼ of floor area  
(c) ½ of floor area (d) 20% of floor area
54. The term 'elegance' is used to indicate \_\_\_\_\_.  
(a) Link between various room in a building (b) Architectural effect produced by elevation  
(c) Placing of various room (d) The effect derived from space of a room
55. Proper orientation of a house results in \_\_\_\_\_.  
(a) Good appearance of building (b) Flexibility of room  
(c) increase fresh air and sunshine in the house (d) better circulation area
56. The term 'ventilation' is referred to mean \_\_\_\_\_.  
(a) Supply of oxygen and removal of carbon dioxide (b) Supply of light  
(c) Reducing temperature and humidity (d) Controlling the odors
57. The practice of assembling components of structure in a factory away from the construction site is called-  
(a) PRE-STRESSING (b) PRE-FABRICATION  
(c) STANDARDIZING (d) PRE-TENSIONING

Answer:-

**BUILDING BY LAWS**

1- B	2- B	3- A	4- C	5- A	6- D	7- B	8- C	9- B	10- C
11- A	12- A	13- C	14- D	15- B	16- D	17- C	18- C	19- C	20- A
21- C	22- A	23- C	24- B	25- C	26- C	27- D	28- A	29- A	30- C
31- D	32- A	33- C	34- A	35- B	36- C	37- D	38- C	39- B	40- B
41- D	42- D	43- D	44- C	45- A	46- B	47- C	48- D	49- A	50- A
51- B	52- B	53- A	54- B	55- C	56- A	57- B			

## **AUTO CAD**

1. The most common input device used nowadays into the computer is-
 

(a) Mother board	(b) CPU
(c) Keyboard	(d) System unit1.
2. To align objects with other objects in 2D and 3D in AutoCAD command is-
 

(a) ALIGN	(b) GAIN
(c) MIX	(d) TOBEMIX
3. For copying in the AutoCAD, the command is-
 

(a) CUT	(b) COPIED
(c) COPY	(d) ALL OF THESE
4. In AutoCAD converting an arc to a circle with for\_\_\_\_\_ command.
 

(a) Complete	(b) Join
(c) Union	(d) All of these
5. The most commonly used computer in today's world is \_\_\_\_\_computer.
 

(a) Home	(b) Super
(c) Main frame	(d) personal
6. ROM stands in reference to computer terminology is-
 

(a) Read only memory	(b) Real open memory
(c) Read open memory	(d) Real only memory
7. The physical parts of a computer are called \_\_\_\_\_ware.
 

(a) Soft	(b) Hard
(c) Multi	(d) virus
8. The process of entering data is called-
 

(a) Inputting	(b) Outputting
(c) Processing	(d) resulting
9. Line command in Auto CAD draws the line between\_\_\_\_\_ points.
 

(a) One	(b) Two
(c) No	(d) Three
10. In AutoCAD, the expansion of CAD is computer aided\_\_\_\_\_.
 

(a) Drafting	(b) Drawing
(c) Design	(d) detail
11. The key F9 is used to\_\_\_\_\_.
 

(a) Toggled between command window ON and OFF
(b) Switch among isoplanes top, right and left
(c) toggle between ortho mode ON and OFF
(d) toggle between snap mode ON and OFF
12. The command which reverses the effects of series of previously used commands and thus allows back stepping is
 

(a) PEDIT	(b) ERASE
(c) U	(d) OFFSET
13. Which command is used to draw parallel lines in Auto CAD?
 

(a) Line	(b) arc
(c) offset	(d) polygon

14. The drawing or sheet set made before can be opened through –  
 (a) New (b) Open  
 (c) Save (d) publish
15. Current drawing can be saved in different design web formats through-  
 (a) Open (b) Save  
 (c) Expert (d) publish
16. File can be prepared for printing or output in service bureau by-  
 (a) Open (b) expert  
 (c) Print (d) publish
17. The properties of a file can be set by –  
 (a) Setting view (b) Drawing utilities  
 (c) Open (d) Expert
18. The benefit of Auto CAD is –  
 (a) Editing can be done easily (b) Dimensioning can easily done  
 (c) Coloured drawing can be made multi pen plotter (d) All of these
19. The required RAM for 32 bit operating system is-  
 (a) 1GB (b) 2GB  
 (c) 550MB (d) NON OF THESE
20. The command for erasing line is-  
 (a) Line (b) Trim  
 (c) Erase (d) undo

Answer :-

**AUTO CAD**

- |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1- C  | 2- A  | 3- C  | 4- B  | 5- D  | 6- C  | 7- B  | 8- A  | 9- B  | 10- B |
| 11- D | 12- C | 13- C | 14- B | 15- C | 16- D | 17- B | 18- D | 19- B | 20- C |

## STEEL STRUCTURE

1. A strut is a –
 

(a) Flexible member	(b) Compression member
(c) Tension member	(d) Torsion member
2. A tie is a –
 

(a) Flexible member	(b) Compression member
(c) Torsion member	(d) Tension member
3. The rivets which are driven at atmospheric temperature are known as –
 

(a) Private driven shop rivets	(b) Hand driven rivets
(c) Cold driven rivets	(d) Non of these
4. When one member is placed above the other and they are connected by means of rivets, the joint is known as –
 

(a) Lap joint	(b) Double cover butt joint
(c) Butt joint	(d) Single cover butt joint
5. Rolled steel angled sections are classified –
 

(a) Equal angle	(b) Unequal angle
(c) Bulb angle	(d) Non these
6. Slenderness ratio of a compression member is the ratio of effective length of member to the –
 

(a) Critical load	(b) Reduce of gyration
(c) Area of cross section	(d) Weight of the section
7. As compared to riveting , welding is preferred these days because –
 

(a) It is a silent process	(b) It is more economical
(c) It has more efficiency	(d) All of these
8. On which steel, end hooks are not required?
 

(a) Mild steel bar	(b) Round bar
(c) Torque steel	(d) Steel bar
9. A temporary pier made in the river bed is called \_\_\_\_\_
 

(a) Pillar	(b) Column
(c) Caissons	(d) cribs
10. If the nominal diameter of rivet is 30 mm, what is the gross diameter of rivet hole?
 

(a) 30mm	(b) 31mm
(c) 32mm	(d) 33mm
11. A single row of rivets parallel to the edge of the over lapped plates is called as \_\_\_\_\_
 

(a) Single lap joint	(b) Single riveted lap joint
(c) Single lap zig zag joint	(d) Over lap joint
12. In roof trusses, tension members are called as \_\_\_\_\_
 

(a) Principal rafter	(b) Struts
(c) Straining beam	(d) Tie beam
13. The construction of welded plate girders can be used up to \_\_\_\_\_
 

(a) 100 m span	(b) 120 m span
(c) 150 m span	(d) 200 m span

14. The type of bars which are turned at 45 degree at a length of \_\_\_\_\_  
 (a) L/2 to L/3 (b) L/3 TO L/4  
 (c) L/4 TO L/5 (d) L/5 TO L/6
15. Hooks to the reinforcement are provided at \_\_\_\_\_ of steel rods.  
 (a) CENTRE (b) ENDS  
 (c) SIDES (d) ONE FOURTH LENGTH
16. When plates are placed end to end and flush with each other and are joined by means of cover plate, the joint is known as \_\_\_\_\_ joint.  
 (a) Lap (b) Butt  
 (c) Diagonal (d) triple
17. The minimum pitch allowed in riveted joints is \_\_\_\_\_ times effective diameter of rivet.  
 (a) 2 (b) 3  
 (c) 4 (d) 5
18. Welded structures are \_\_\_\_\_ than riveted structure.  
 (a) Lighter (b) Heavier  
 (c) Thinner (d) thicker
19. A member subjected to direct tension is known as \_\_\_\_\_ member.  
 (a) Compression (b) Bending  
 (c) Shear (d) tension
20. The strength of tension member depends on \_\_\_\_\_ area of the section.  
 (a) Net (b) Effective  
 (c) Gross (d) Cross sectional
21. Slenderness ratio of the compression member is the ratio of effective length to \_\_\_\_\_ radius of gyration.  
 (a) Least (b) Maximum  
 (c) Minimum (d) light
22. In the designation of ISHB, the letter 'H' stands for \_\_\_\_\_.  
 (a) High (b) Heat  
 (c) Heavy (d) hot
23. Load carrying capacity of a compression member depends on \_\_\_\_\_ area.  
 (a) Net (b) Effective  
 (c) Gross (d) Cross sectional
24. Seasoning of timber is done for the remove the excess \_\_\_\_\_ from wood.  
 (a) Heat (b) Moisture  
 (c) Vapour (d) temperature
25. IN ISMB 450, the value 450 stands for overall \_\_\_\_\_ in millimeter.  
 (a) Depth (b) Increase  
 (c) Stiffness (d) shear
26. Stiffness area the members provided to \_\_\_\_\_ buckling of web.  
 (a) Allow (b) Increase  
 (c) Decrease (d) prevent

27. The strength of a beam depends on \_\_\_\_\_ modulus of beam.  
 (a) Section (b) Strength  
 (c) Stiffness (d) shear
28. For a simply supported beam, the allowable deflection is equal to \_\_\_\_\_ of the span.  
 (a)  $L/320$  (b)  $L/325$   
 (c)  $L/330$  (d)  $L/335$
29. Junction between flange and web of a beam is known as \_\_\_\_\_.  
 (a) FILLER (b) FILLET  
 (c) RADIUS (d) JUNCTION
30. The economical spacing of roof truss is \_\_\_\_\_.  
 (a)  $\frac{1}{4}$  TO  $\frac{1}{5}$  (b)  $\frac{1}{5}$  TO  $\frac{1}{6}$   
 (c)  $\frac{1}{3}$  TO  $\frac{1}{4}$  (d) NON OF THESE

Answer :-

### **STEEL STRUCTURE**

- |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1- B  | 2- D  | 3- C  | 4- A  | 5- D  | 6- B  | 7- D  | 8- C  | 9- D  | 10- C |
| 11- B | 12- D | 13- A | 14- C | 15- B | 16- B | 17- B | 18- A | 19- D | 20- A |
| 21- A | 22- C | 23- C | 24- B | 25- A | 26- D | 27- A | 28- B | 29- B | 30- A |

## ROAD

1. The portion of road surface which is used by the vehicular traffic is known as –
 

(a) Carriage way	(b) Shulder
(c) Express way	(d) None of these
2. As per I.R.C. the camber on cement concrete road should be –
 

(a) 1 in 6 to 5	(b) 1 in 45 to 60
(c) 1 in 60 to 50	(d) 1 in 12 to 16
3. The maximum design gradient for vertical profile of a road is –
 

(a) Ruling gradient	(b) Limiting gradient
(c) Exceptional gradient	(d) Minimum gradient
4. Cause ways are type of –
 

(a) Side drains	(b) Cross drainage structures
(c) Jelly drains	(d) Sub surface drainage structure
5. As per IRC, the minimum width of median in rural areas is –
 

(a) 10m	(b) 8m
(c) 5m	(d) 2m
6. Bituminous pavements are –
 

(a) Rigid pavement	(b) Semi rigid pavement
(c) Semi flexible pavement	(d) Flexible pavement
7. CBR test is widely used in the design of-
 

(a) Flexible pavement	(b) Rigid pavement
(c) Semi flexible pavement	(d) All of these
8. As per IRC, the maximum width of a vehicle should be –
 

(a) 2m	(b) 2.44 m
(c) 3.8m	(d) 1.58m
9. The trees were planted on either side of roads for giving shade to travelers and the rest houses were provided during the regime of \_\_\_\_\_
 

(a) Chandragupta maurya	(b) MD tuglaq
(c) Asoka	(d) shershah
10. Alternative roads provided to divert traffic to avoid obstruction,, is called \_\_\_\_\_
 

(a) Ring road	(b) Bypass road
(c) Loop road	(d) Outer road
11. Which islands are raised areas constructed within the carriage way to provide physical channels to guide the vehicular traffic?
 

(a) Traffic island	(b) Guide island
(c) Refuse island	(d) Channelizing island
12. A road which carry above 600 vehicles per day is called \_\_\_\_\_
 

(a) Very heavy traffic road	(b) Heavy traffic road
(c) Medium traffic road	(d) Light traffic road
13. Which one is a circular curve that consists of a single are of uniform radius as tangential to both the straight line?
 

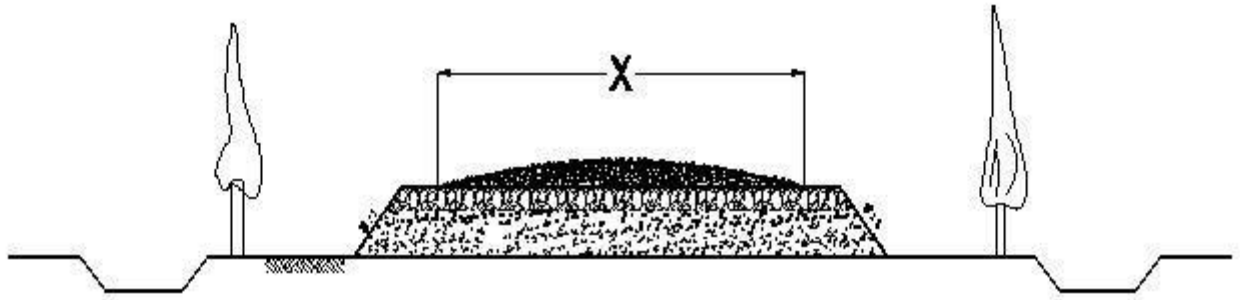
(a) Simple curve	(b) Compound curve
(c) Reserve curve	(d) Transition curve



14. Which of the following is provided at the top of vent pipe?  
 (a) Outlet pipe (b) Fresh inlet pipe  
 (c) Trap (d) cowl
15. The vertical cutting of river-bed is known as \_\_\_\_\_  
 (a) 1.676m (b) 1.767m  
 (c) 1.667m (d) 1.762m
16. The circumferential road constructed around an urban area to enable free flow of traffic is called \_\_\_\_\_ road.  
 (a) Radial (b) Outer  
 (c) Ring (d) inner
17. Formation width is the \_\_\_\_\_ width of a road embankment of excluding the side drains.  
 (a) Bottom (b) Top  
 (c) Side (d) inclined
18. The distance along to centre line of a road at which a driver has visibility of a stationary object or moving at a specified height above the carriage way is called \_\_\_\_\_ distance.  
 (a) Visible (b) Over tracking side  
 (c) Carriage (d) sight
19. The surface layer of a road in which road at which a driver has visibility of a stationary object or moving at a specified height above the carriage way is called \_\_\_\_\_ distance.  
 (a) Rock (b) Water  
 (c) Soil (d) earthy
20. The maintenance of national highway is under the control of \_\_\_\_\_  
 (a) PWD (b) CRPI  
 (c) Public health dept (d) CPWD
21. The gradient slope of a cement concrete surface is –  
 (a) Maximum (b) Minimum  
 (c) Zero (d) None of these
22. The inner part of a road bent downwards from the edge at a place with a curve or bend is –  
 (a) Elevation (b) Carpet  
 (c) Sub crust (d) Super elevation
23. Which kerb has the maximum height from line edge of the road?  
 (a) Low of mountable kerb (b) Semi barrier kerb  
 (c) Barrier kerb (d) All of these
24. The percentage of 1 in 20 in a vertical gradient is –  
 (a) 20% (b) 15%  
 (c) 10% (d) 5%
25. \_\_\_\_\_ is used while determining the road alignment.  
 (a) Ruling gradient (b) Maximum or limiting gradient  
 (c) Exceptional gradient (d) Floating gradient
26. Road alignment should be done-  
 (a) On a ground with good soil (b) At minimum curve  
 (c) Both A and B (d) ON A FERTILE LAND

27. What is the maximum ruling gradient as per IRC?  
 (a) 1 IN 500 (b) 1 IN 100  
 (c) 1 IN 20 (d) 1 IN 30
28. Which system of transportation is the fastest and provides more comfort for men and material?  
 (a) Railways (b) Airways  
 (c) Waterways (d) Roadways
29. 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
30. Where did the Central Road Research Institute Started?  
 (a) England (b) Nagpur  
 (c) New Delhi (d) France
31. When did the IRC was set up?  
 (a) 1943 (b) 1860  
 (c) 1934 (d) 1973
32. 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
33. 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
34. Which is the highest point of a cross section of highway?  
 (a) Camber (b) Sub base  
 (c) Carriage way (d) Crown
35. What is the time required for a driver to realize the necessity of applying brakes to the vehicles?  
 (a) Reaction (b) Reflection  
 (c) Perception (d) Sight distance
36. Which alternative road is provided to divert traffic to avoid obstruction?  
 (a) Loop (b) Ring  
 (c) Trunk (d) By pass

37. What is marked as 'X'?



- |                  |                  |
|------------------|------------------|
| (a) Right of way | (b) Formation    |
| (c) Roadway      | (d) Carriage way |
38. 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    |
39. Which is the portion of the road constructed for vehicular traffic?
- |                  |               |
|------------------|---------------|
| (a) Right way    | (b) Formation |
| (c) Carriage way | (d) Road way  |
40. Which is the basic requirement of alignment?
- |                                       |            |
|---------------------------------------|------------|
| (a) Crosses maximum number of bridges | (b) Short  |
| (c) Lengthy straight routes           | (d) Curves |
41. 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 |
42. Which survey established the centre line of the actual highway?
- |                    |                 |
|--------------------|-----------------|
| (a) Location       | (b) Preliminary |
| (c) Reconnaissance | (d) Cadastral   |
43. Which survey is conducted to find the number of possible alternative routes between two points?
- |                 |                    |
|-----------------|--------------------|
| (a) Preliminary | (b) Reconnaissance |
| (c) Location    | (d) Detailed       |
44. Which is the classification of road according to importance?
- |                     |                      |
|---------------------|----------------------|
| (a) State highways  | (b) Second class     |
| (c) Cement concrete | (d) Express highways |

45. What is the normal recommended land width of national highway in open area?
- (a) 24m (b) 25m  
(c) 35m (d) 45m
46. Which road connects areas of production and market with state highways and railways?
- (a) National highway (b) Major district  
(c) Village (d) Other district
47. What is the minimum width of shoulders provided in national highways?
- (a) 1m (b) 1.5m  
(c) 2m (d) 2.5m
48. 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
49. 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
50. 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
51. 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
52. What is the another name of continuous bay method?
- (a) Alternate (b) Strip  
(c) Expansion (d) Traverse
53. Which circular curve consists of a single arc of uniform radius?
- (a) Compound (b) Simple  
(c) Reverse (d) Transition
54. 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
55. Which transition curve is recommended by the IRC in the horizontal alignment of highway?
- (a) Spiral (b) Lemniscates  
(c) Cubic parabola (d) Summit

56. Which instrument is used for setting out curves in angular method?

- (a) Compass (b) Tape  
(c) Chain (d) Theodolite

57. 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

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

59. 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

60. What is the minimum width provided for the cycle track in urban areas?

- (a) 1m (b) 1.5m  
(c) 2m (d) 3m

61. What is the minimum shoulder width recommended by IRC?

- (a) 1.30m (b) 1.85m  
(c) 2m (d) 2.5m

62. What is the value of minimum gradient?

- (a) 1 in 14.3 (b) 1 in 20  
(c) 1 in 30 (d) 1 in 200

63. What is the minimum sight distance recommended by IRC for minor roads?

- (a) 11m (b) 15m  
(c) 18m (d) 20m

64. 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

65. Which shape of the surface drain is most preferred for heavy discharge in road?

- (a) Rectangular (b) U shaped

- (c) Semicircular (d) V shaped
66. 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
67. Which drain is suitable for small streets of less discharge?
- (a) V shaped (b) Semi circular
- (c) Rectangular (d) U shaped

Answer:-

ROAD

1-A	2- C	3- A	4- B	5- C	6- D	7- A	8- B	9- C	10- C
11- A	12- A	13- A	14- D	15- C	16- C	17- B	18- D	19- B	20- D
21- C	22- D	23- C	24- D	25- A	26- C	27- D	28-B	29-A	30-C
31-C	32-C	33-D	34-D	35-C	36-A	37-D	38-B	39-C	40-B
41-A	42-A	43-B	44-B	45-D	46-B	47-C	48-B	49-B	50-A
51-B	52-B	53-B	54-B	55-A	56-D	57-A	58-B	59-A	60-C
61-D	62-D	63-B	64-B	65-A	66-D	67-B			

## BRIDGE

1. The sub structure of the bridge supports super structure consists-
 

(a) Door, window, lintels	(b) Abutments, wing wall, foundations for piers and abutments ETC
(c) Masonry bond of English bond , Flemish bond garden bond	(d) None of these
2. Determinate and indeterminate bridge are classified under –
 

(a) Classification based on degree redundancy
(b) Classification based on span length
(c) Classification based on loadings
(d) Classification based on material used for construction
3. Highway bridges and railway bridges are classified under –
 

(a) Classification based on degree redundancy	(b) Classification based on span length
(c) Classification based on loading	(d) Classification based on purpose
4. In case of deck bridge, the platform of the bridge is supported –
 

(a) At the top of the bridge	(b) At the side of the bridge
(c) At the bottom of the bridge	(d) None of these
5. In open spandrel area bridge floor is supported –
 

(a) More than one arches	(b) Beam and column
(c) Suspenders	(d) None of these
6. The framework of horizontal and cross beam laid in alternate layers is called –
 

(a) Grip	(b) Crib
(c) Drip	(d) None of these
7. The end support of a bridge superstructure is known as \_\_\_\_\_
 

(a) Wind wall	(b) Abutment
(c) Pier	(d) Retaining wall
8. A bridge composed of several small spans for crossing a valley is called as –
 

(a) An aqueduct	(b) A viaduct
(c) Foot bridge	(d) highway
9. According to the road engineers, the major bridges are constructed in the span of
 

(a) 6m to 15m	(b) 15m to 20m
(c) 20m to 30m	(d) Over 30 m
10. If the bridge is constructed at an angle of 90 degree to the direction of flow, it is called \_\_\_\_\_
 

(a) Skew bridge	(b) Straight bridge
(c) Suspension	(d) RCC bridge
11. A culvert has a span less than \_\_\_\_\_ meter.
 

(a) 3	(b) 9
(c) 6	(d) 12
12. In intermediate support in the bridge is called-
 

(a) Abutment	(b) Pier
(c) Wing wall	(d) tunnel

13. The difference between HFL, and RL is called –  
 (a) Free board (b) Strong board  
 (c) Flux board (d) afflux
14. Scouring\_\_\_\_\_ the stability of bridge.  
 (a) Increase (b) Decrease  
 (c) Non effect in (d) Stabilizes
15. The length of communication route affected by the layout of the design of the bridge of both the ends are called-  
 (a) Abutments (b) Obstruction  
 (c) Approaches (d) Wings wall
16. The minimum value of a free board is –  
 (a) 40m (b) 30m  
 (c) 60m (d) 70m
17. Which foundation is used at a riverbed that has various types of soils with very less bearing capacity?  
 (a) Pile foundation (b) Spread foundation  
 (c) Raft foundation (d) Caisson foundation
18. \_\_\_\_\_ is used inside water-  
 (a) Caisson foundation (b) Pile foundation  
 (c) Raft foundation (d) Spread foundation
19. The top of a cofferdam should be higher than water level by –  
 (a) 5m (b) 4m  
 (c) 2m (d) 1m
20. The ratio of gradient of a Rock full cofferdam is –  
 (a) 1:1 (b) 2:1  
 (c) 1:2 (d) 2:2
21. The slab of a slab culvert is made of \_\_\_\_\_  
 (a) Clay (b) Free board  
 (c) RCC (d) All of these
22. In which dam is 20 meter deep area waterproofed?  
 (a) Earthen cofferdam (b) Rockfill cofferdam  
 (c) Single walled cofferdam (d) Cellular cofferdam
23. Why is shaft A used in a pneumatic caisson?  
 (a) To remove the eroding soil (b) For filling concrete  
 (c) For movement of workers (d) All of these
24. Water is removed from a caisson –  
 (a) Through compressed air (b) Through even current  
 (c) Through disturbed current (d) none of these



25. 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
26. Which is the intermediate support of a bridge superstructure?
- (a) Foundation (b) Pier  
(c) Abutment (d) Wing wall
27. Which is the temporary pier made in the river bed?
- (a) Kerb (b) Scuppers  
(c) Afflux (d) Cribs
28. What is the minimum distance between the specified position on a bridge?
- (a) Bearings (b) Clearance  
(c) Afflux (d) Water way
29. Which foundation is suitable for the construction of bridge?
- (a) Pile (b) Shallow  
(c) Grillage (d) Inverted arch
30. Which material is suitable for caisson of open well type?
- (a) Cast iron (b) RCC  
(c) Steel (d) Timber
31. 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
32. Which is most common type of coffer dam?
- (a) Wells (b) Dike  
(c) Pneumatic (d) Box
33. What is the shape of the wing wall if it is inclined in plan?
- (a) Straight (b) Return wall  
(c) Square (d) Splayed

34. What is the name of the abutment shown in figure?



- |                      |                        |
|----------------------|------------------------|
| (a) Straight         | (b) Splayed wing wall  |
| (c) Return wing wall | (d) Straight wing wall |

35. What is the name of the wing wall if the angle of splay  $90^\circ$ ?

- |              |                  |
|--------------|------------------|
| (a) Splayed  | (b) Return       |
| (c) Straight | (d) Tee abutment |

36. Which bridge composed of several small spans for crossing a valley?

- |              |          |
|--------------|----------|
| (a) Aqueduct | (b) Fort |
| (c) Viaduct  | (d) Deck |

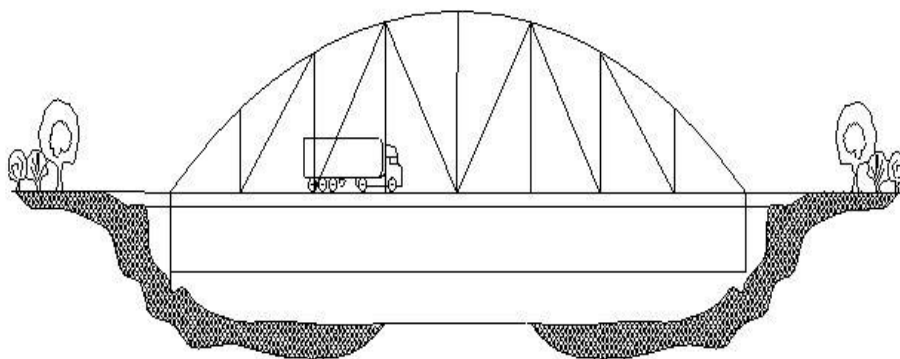
37. What is the maximum span of culvert?

- |         |         |
|---------|---------|
| (a) 2 m | (b) 3 m |
| (c) 5 m | (d) 6 m |

38. Which bridge is mostly used for railway bridges of small spans?

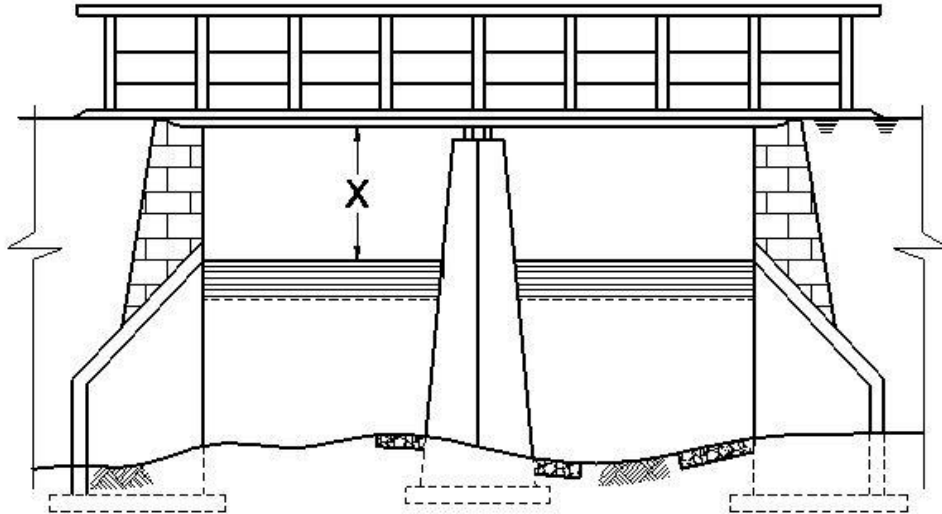
- |                  |                        |
|------------------|------------------------|
| (a) Steel girder | (b) Steel trough plate |
| (c) Suspension   | (d) Steel truss        |

39. Which bridge is shown in figure?



- (a) Semi through (b) Deck  
(c) Through (d) Suspension

40. What is marked as 'x'?



- (a) Clearance (b) Approach  
(c) Free board (d) Apron

41. 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

42. 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

43. 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

44. 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

45. Which foundation is adopted when the loose soil extends to a great depth?

- (a) Spread (b) Raft  
(c) Caisson (d) Pile

46. 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
47. Which caisson the ratio of sinking effort to skin friction is maximum?
- (a) Circular well (b) Box  
(c) Dumb well (d) Pneumatic caisson
48. 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%
49. 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

Answer:-

### BRIDGE

1-B	2- A	3- D	4- A	5- A	6- B	7- B	8- B	9- D	10- A
11- C	12- B	13- A	14- B	15- C	16- C	17- C	18- A	19- D	20- A
21- C	22- D	23- A	24- A	25-C	26-B	27-D	28-B	29-A	30-A
31-C	32-B	33-D	34-C	35-B	36-C	37-D	38-B	39-C	40-C
41-C	42-C	43-A	44-A	45-D	46-B	47-A	48-D	49-A	

## **RAILWAY**

1. Railways transports requires least amount of power as compared to its –  
 (a) length (b) Width  
 (c) Weight (d) None of these
2. Proper amount \_\_\_\_\_ must be provided to outer rail above the inner rail.  
 (a) Tangent (b) Super elevation  
 (c) Gauge (d) All of these
3. The standard length of the rails for B.G is as per Indian railways-  
 (a) 12.8m (b) 13.8m  
 (c) 14.8m (d) 11.8m
4. Creep of rails is prevented by using –  
 (a) Anticorrosive system (b) Anti buckling system  
 (c) Anti creepers (d) All of these
5. The fittings which are permanently fastened in the track for making connections of rails to rail and rail to sleepers are referred as –  
 (a) Fixture (b) Rattle  
 (c) Fastenings (d) Non of these
6. Fish plates are usually made of –  
 (a) Wrought iron (b) High carbon steel  
 (c) Mild steel (d) All of these
7. The standard level of metal sleepers is –  
 (a) 1.23m (b) 2.13m  
 (c) 3.98m (d) 2.68m
8. The members laid transversely under the rail for supporting and flexing them to the gauge distance apart are referred as –  
 (a) Sleepers (b) Rail bolts  
 (c) Track bolts (d) All of these
9. The railway track from which the train is diverted is called –  
 (a) Division track (b) Through track  
 (c) Gape track (d) Null track
10. In India, the first train was run in between \_\_\_\_\_  
 (a) Madras to arakkonam (b) Madras to Madurai  
 (c) Bombay to thane (d) Delhi to Calcutta
11. What is the size of board gauge?  
 (a) 1.676m (b) 1.767m  
 (c) 1.667m (d) 1.762m
12. IRC stands for \_\_\_\_\_  
 (a) Indian road congress (b) Indian road council  
 (c) Indian road corporation (d) Indian railways committee
13. What is the minimum depth of ballast for board gauge?  
 (a) 10cm (b) 15cm  
 (c) 18cm (d) 20cm

14. As per the recommendation of the railway board, what is the minimum distance between centre to track?  
 (a) 4.250m (b) 4.620m  
 (c) 4.725m (d) 4.527m
15. Disc signal is also known as \_\_\_\_\_  
 (a) Shunting signal (b) Outer signal  
 (c) Home signal (d) Starter signal
16. The minimum length of platform in B.G railway track is \_\_\_\_\_  
 (a) 183m (b) 200m  
 (c) 250m (d) 300m
17. The following transportation is used for transporting large no. of people and goods over longer distances in a country –  
 (a) Waterways (b) Airways  
 (c) Railways (d) roadways
18. The clear \_\_\_\_\_ between inner face of the two rails forming a track is known as gauge.  
 (a) Horizontal (b) Vertical  
 (c) Inclined (d) Slope distance
19. The width of a board gauge track is \_\_\_\_\_  
 (a) 1.676m (b) 16.76m  
 (c) .1676m (d) 1.762m
20. The \_\_\_\_\_ way is to provided permanent facility for safe and quick movement of traffic between starting and destination points.  
 (a) Temporary (b) Permanent  
 (c) Fixed (d) None of these
21. The members laid \_\_\_\_\_ under the rails for supporting and fixed them to the gauge distance apart are known as sleepers  
 (a) Longitudinally (b) Transversely  
 (c) Inclined (d) At some angle
22. The function of ballast is to distribute the load of train from the sleepers on a \_\_\_\_\_ area.  
 (a) Small (b) Wider  
 (c) Large (d) bigger
23. Scrap value of concrete in a sleeper is –  
 (a) Zero (b) One  
 (c) High (d) low
24. Which of the following sleeper has the maximum elasticity?  
 (a) Concrete sleeper (b) Steel sleeper  
 (c) Cast iron sleeper (d) Wooden sleeper
25. Which type of ballast is used in a railway track?  
 (a) Round (b) Saves(coarse with no saves)  
 (c) Both A and B (d) None of these
26. The resistance of creeping in railway tracks is done by-  
 (a) Anchor (b) Anti creeping  
 (c) Brittle joint (d) Non of these

27. Which joint is used on the ends of railway tracks?  
(a) Butt joint (b) Lap joint  
(c) Brittle joint (d) Non of these
28. Fish plates are made of \_\_\_\_\_  
(a) Carbon (b) silicon  
(c) manganese (d) all of these
29. How many jaws are used in the chairs for bonding and stability?  
(a) 4 (b) 3  
(c) 1 (d) 2
30. The number of gang in telescopic method is \_\_\_\_\_  
(a) 1 (b) 2  
(c) 3 (d) 4
31. Who started the development of railways in India?  
(a) George Stephenson (b) Lord Dalhousie  
(c) Lord Curzon (d) Lord ripon
32. Which gauge is adopted for main cities and routes of maximum intensities?  
(a) Broad (b) Narrow  
(c) Metre (d) Wide
33. What is the process for filling the ballast around the sleepers?  
(a) Creep (b) Turn table  
(c) Boxing (d) Coning
34. What is the width of broad gauge?  
(a) 0.16 m (b) 0.762 m  
(c) 1.00 m (d) 1.676 m
35. 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
36. What is the name of the defect in rail due to abnormality of heavy load?  
(a) Hogging (b) Wear  
(c) Creep (d) Kink
37. What is the length of bull headed rail?  
(a) 16.7 m (b) 18.29 m  
(c) 18.6m (d) 19.2mm

38. 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
39. What is the minimum depth of ballast for broad gauge?
- (a) 20 cm (b) 30 cm  
(c) 40 cm (d) 50 cm
40. What is the minimum spacing between sleepers in broad gauge?
- (a) 200 mm (b) 250 mm  
(c) 300 mm (d) 500 mm
41. Which is a cast iron sleeper?
- (a) Duplex (b) Steel  
(c) Pot (d) Box
42. What is the standard size of ballast for wooden sleepers?
- (a) 25 mm (b) 40 mm  
(c) 50 mm (d) 60 mm
43. What is used for fixing the rails to the wooden sleepers?
- (a) Spikes (b) Bearing plates  
(c) Fish bolt (d) Rail chair
44. Which is used for changing the direction of engine?
- (a) Rail joint (b) Turn table  
(c) Points and crossing (d) Terminal station
45. Which is used for joining the rail?
- (a) Spikes (b) Rail chairs  
(c) Fish plates (d) Bearing plate
46. 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
47. Which direction does rail creep occurs?
- (a) Longitudinal (b) Lateral  
(c) Vertical (d) Transverse



48. Which is used to reduce creeping of rail?
- (a) Bearing plates (b) Spikes  
(c) Anchors (d) Chairs
49. 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
50. Which area wear of rails maximum?
- (a) Top of rail (b) End of rail  
(c) Inner side of rail (d) Head of rail
51. 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
52. What is the process of tightly ramming the ballest under the sleepers to transmit the load?
- (a) Packing (b) Laying  
(c) Boxing (d) Fixing
53. What is the name of the spike is in figure?



- (a) Round (b) Screw  
(c) Elastic (d) Dog
54. Which Warner signal is first seen by the driver in railway station?
- (a) Disc signal (b) Home signal  
(c) Outer signal (d) Routing signal

55. 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  |

Answer:-

### RAILWAY

1-C	2- B	3- A	4- C	5- A	6- C	7- D	8- A	9- B	10- C
11- A	12- A	13- D	14- C	15- A	16- D	17- C	18- A	19- A	20- B
21- B	22- C	23- A	24- D	25- B	26- C	27- A	28- D	29- D	30- C
31-B	32-A	33-C	34-D	35-B	36-B	37-B	38-C	39-A	40-D
41-C	42-C	43-A	44-B	45-C	46-B	47-A	48-C	49-D	50-B
51-C	52-A	53-D	54-C	55-A					

## HOUSE DRAINAGE SYSTEM

1. The liquid waste conveyed by a sewer is known as-  
 (a) Sewer (b) Sewerage  
 (c) Sewage (d) No of these
2. The solid content of sewage is usually-  
 (a) 99% (b) .9%  
 (c) 0.9% (d) 0.1%
3. The manhole cover are usually made of-  
 (a) Cement (b) Wood  
 (c) cast iron
4. The velocity of in sewers should be-  
 (a) At least 30 cm/s (b) Not more than 50 cm/s  
 (c) Less than cleaning velocity (d) More than cleaning velocity
5. Trap are in used in house in household drainage systems to-  
 (a) Prevent entry of foul gases in the house (b) Restrict the flow of water  
 (c) Provide partial vacuum (d) Trap the solid west
6. All type liquid waste in a building is called \_\_\_\_\_  
 (a) Rubbish (b) Sewer  
 (c) Garbage (d) ashes
7. All type of hose waste and garbage in dry from is called \_\_\_\_\_  
 (a) Refuse (b) Sewer  
 (c) Drainage (d) sludge
8. Which is the organic material?  
 (a) Glass (b) Tile  
 (c) Leaves of trees, paper material (d) Waste building material
9. Which sewage undergoes decomposition and emits offensive odors?  
 (a) Strom sewage (b) Raw sewage  
 (c) Dilute sewage (d) septic sewage
10. The removal of sludge is a \_\_\_\_\_ job in septic tank.  
 (a) Easy (b) Difficult  
 (c) Simple (d) good
11. Which pipe carries liquid waste from sink, wash basin, bathroom and kitchen?  
 (a) Waste pipe (b) Sewer pipe  
 (c) Soil pipe (d) House sewer pipe
12. In septic tank, inlet and outlet pipe are bent \_\_\_\_\_.  
 (a) Downwards (b) Straight  
 (c) Vertical (d) side
13. In septic tank, the size of free board is assumed as-  
 (a) 10cm (b) 15cm  
 (c) 20cm (d) 30cm
14. What is the quantity of scum storage per capita in septic tank?  
 (a) 1.00m<sup>3</sup> (b) 0.1m<sup>3</sup>  
 (c) 0.01m<sup>3</sup> (d) 0.001m<sup>3</sup>

15. Which is the surface sources of water?  
 (a) River (b) Springs  
 (c) Wells (d) Infiltration well
16. The measurement of DPC is taken in \_\_\_\_\_.  
 (a) cm (b) sq m  
 (c) cu m (d) m
17. Hardness of portable water is \_\_\_\_\_.  
 (a) 1 to 4 degrees (b) 5 to 8 degrees  
 (c) 6 to 9 degrees (d) 7 to 10 degrees
18. The slab and stall type urinals are generally provided in \_\_\_\_\_.  
 (a) Residential building (b) Apartment  
 (c) Quarters (d) Cinema theatre
19. in a \_\_\_\_\_ pipe system of plumbing work, waste pipe are separated  
 (a) one (b) two  
 (c) separate (d) combined
20. Inspection chamber is provided within \_\_\_\_\_ meter from the house gully.  
 (a) 6 (b) 7  
 (c) 8 (d) 9
21. In water carriage system, \_\_\_\_\_ is used as median for the collection and conveyance of sewage.  
 (a) Liquid (b) Waste water  
 (c) Reused water (d) Water
22. Manholes are constructed on \_\_\_\_\_ side of small sewer line.  
 (a) Up (b) down  
 (c) Lower (d) Tilting
23. The underground structure in the form of circular and rectangular for admitting sewage is clear pool.  
 (a) Swimming (b) Difficult  
 (c) Cess (d) waste

Answer:-

### HOUSE DRAINAGE SYSTEM

- 1-B    2- D    3- C    4- D    5- A    6- B    7- A    8- C    9- D    10- B
- 11- A    12- A    13- D    14- C    15- A    16- B    17- B    18- D    19- D    20- A
- 21- D    22- A    23- C

## IRRIGATION

1. A hydrograph is a plot of –
 

(a) Precipitation against time	(b) Stream flow against time
(c) Surface runoff against time	(d) Recorded runoff against time
2. The instrument used for measurement of wind speed is –
 

(a) Anemometer	(b) Rota motor
(c) Odo motor	(d) Boro motor
3. Precipitation includes all the given following except-
 

(a) Snow melt	(b) Frost
(c) Stream flow	(d) Mist and fog
4. Evapotranspiration depends on –
 

(a) Hours of bright sun shine	(b) type of crop
(c) Method of irrigation	(d) All of these
5. The channel velocity given by meaning's formula is affected by –
 

(a) Hydraulic mean depth	(b) Slop of the river bed
(c) Roughness of the bed and sight	(d) All of these
6. Intensity of irrigation means –
 

(a) Total depth of water applied to a crop	(b) Present area irrigated of C.C.A
(c) Area left uncultivated during the year	(d) None of these
7. First watering to a crop is called-
 

(a) Paleo	(b) Kor
(c) Flooding	(d) None of these
8. Crop rotation means –
 

(a) Giving rest to cultivable land	(b) Adding manure
(c) Growing different crops to land	(d) All of these
9. Delta of a crop means-
 

(a) Area under the crop	(b) Crop period
(c) Depth of water required by the crop	(d) Crop production
10. Cross drainage works are the structures constructed to –
 

(a) Carry a canal across the drain	(b) Carry a roadways over the drain
(c) Control flow of silt the drainage	(d) None of these

11. Rabi crop pertains of –
- |                   |                   |
|-------------------|-------------------|
| (a) Winter season | (b) Summer season |
| (c) Manson season | (d) All of these  |
12. Perennial crop is one which lasts-
- |                        |                     |
|------------------------|---------------------|
| (a) During rabi season | (b) For eight month |
| (c) All the year       | (d) None of these   |
13. Storage dams are generally-
- |                             |                  |
|-----------------------------|------------------|
| (a) Gravity dams            | (b) Earth dam    |
| (c) Earth and rock fill dam | (d) All of these |
14. Irrigation is an\_\_\_\_\_ art of supplying water to the field.
- |                |                   |
|----------------|-------------------|
| (a) Artificial | (b) Natural       |
| (c) Pumping    | (d) None of these |
15. Flow irrigation is done from\_\_\_\_\_
- |           |            |
|-----------|------------|
| (a) Wells | (b) Rivers |
| (c) Seas  | (d) Canals |
16. Furrow irrigation is most suited to\_\_\_\_\_
- |               |              |
|---------------|--------------|
| (a) Paddy     | (b) Wheat    |
| (c) Groundnut | (d) orchards |
17. For plants growth\_\_\_\_\_ water is available.
- |                 |                   |
|-----------------|-------------------|
| (a) Hygroscopic | (b) Gravitational |
| (c) Capillary   | (d) infiltrated   |
18. Pick up the incorrect crop from the list of kharif crop.
- |                   |           |
|-------------------|-----------|
| (a) Rice          | (b) Jute  |
| (c) Spiked millet | (d) wheat |
19. Runoff is measured in\_\_\_\_\_
- |           |              |
|-----------|--------------|
| (a) Cu-m  | (b) Cu-m/sec |
| (c) M-sec | (d) m/sec    |
20. Silting of reservoir where
- |                             |                              |
|-----------------------------|------------------------------|
| (a) Reduce storage capacity | (b) Make dam weak            |
| (c) Make dams strong        | (d) Increase strong capacity |
21. Gravity dam is roughly in \_\_\_\_\_ shape.
- |                |                 |
|----------------|-----------------|
| (a) Triangular | (b) Rectangular |
| (c) Square     | (d) hexagonal   |

22. Earth dams are most suitable where \_\_\_\_\_
- (a) Valley is wide (b) Valley is narrow  
(c) Valley is moderate (d) There is no valley
23. Excess earth excavated from canal section is disposed off in \_\_\_\_\_. .
- (a) Borrow pits (b) Adjacent rivers  
(c) Spoil banks (d) berms
24. Barrage is a raised sill provided with \_\_\_\_\_. .
- (a) Filling shutter (b) Gates  
(c) Drum gates (d) Raising shutters
25. Rivers having flow thought year is called \_\_\_\_\_ irrigation.
- (a) Perennial (b) Non perennial  
(c) Flood (d) Canal
26. When a canal is carried over a natural drainage, the structure is called \_\_\_\_\_. .
- (a) Inlet (b) Outlet  
(c) Aqueduct (d) Siphon aqueduct
27. Which underground water nourishes the plant roots by capillarity?
- (a) Subsurface (b) Surface  
(c) Flood (d) Flow
28. Which method of irrigation is called trickle irrigation?
- (a) Furrow (b) Sprinkler  
(c) Drip (d) Border strip
29. What is the main advantage of irrigation?
- (a) Water logging (b) Yield of crops  
(c) Complex (d) Damper climate
30. Which irrigation method water is supplied to lower level by the action of gravity?
- (a) Flow (b) Lift  
(c) Sprinkler (d) Subsurface
31. Which crops are sown in autumn in harvested in spring?
- (a) Kharif (b) Autumn  
(c) Rabi (d) South west monsoon

32. 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)  $\Delta = (8640B / D)$
33. 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
34. 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
35. What is the first watering before sowing the crop?
- (a) Kor watering (b) Paleo  
 (c) Delta (d) Duty
36. Which is the graphical representation of average rainfall between rainfall excess?
- (a) Hyetograph (b) Hydrograph  
 (c) S-hydrograph (d) Unit hydrograph
37. Which catchment area run off will be more?
- (a) Fan shaped (b) Tree shaped  
 (c) Fern shaped (d) Circular
38. 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)  $180^\circ$
39. 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
40. Which is called safety valve of a dam?
- (a) Drainage gallery (b) Inspection gallery  
 (c) Spill way (d) Outlet sluices
41. What is the name for accumulation of water in the form of an artificial lake?
- (a) Spill ways (b) Barrages  
 (c) Reservoir (d) Groynes



42. What is the classification of dam based on use?

- |               |              |
|---------------|--------------|
| (a) Detention | (b) Debris   |
| (c) Rigid     | (d) Buttress |

43. Which of the following is non rigid dam?

- |              |               |
|--------------|---------------|
| (a) Concrete | (b) Rock fill |
| (c) Gravity  | (d) Arch      |

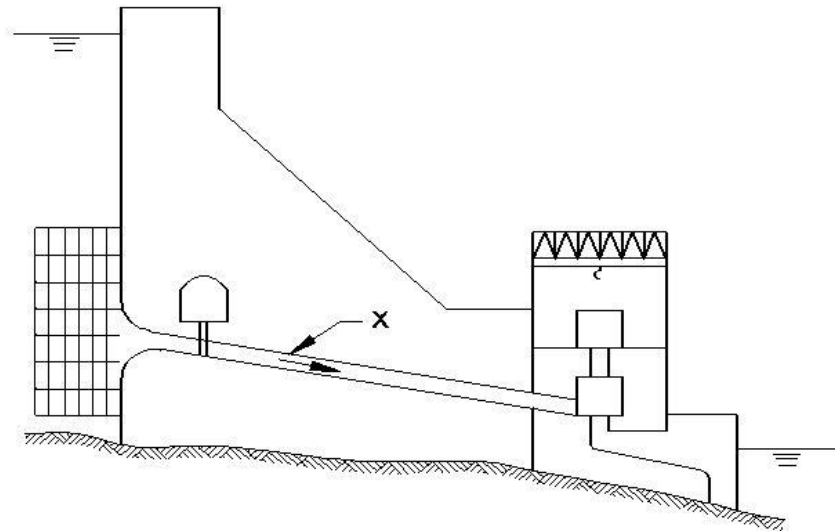
44. Where did the surplus water in weir is allowed to flow?

- |               |              |
|---------------|--------------|
| (a) Gates     | (b) Crest    |
| (c) Spill way | (d) Openings |

45. 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 |

46. What is marked as 'x'?



- |             |                |
|-------------|----------------|
| (a) Turbine | (b) Draft tube |
| (c) Gallery | (d) Pen stock  |

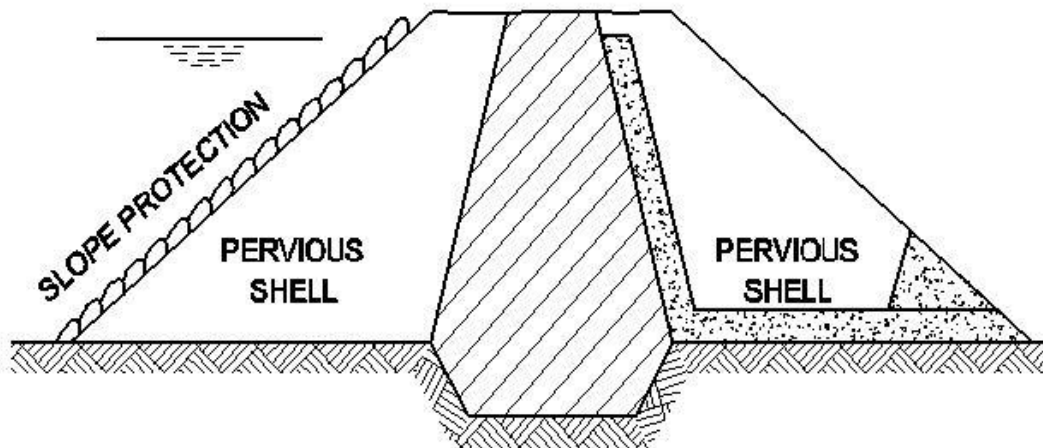
47. Which irrigation constant and continuous supply of water is assured throughout the crop period?

- |               |                |
|---------------|----------------|
| (a) Flood     | (b) Artificial |
| (c) Perennial | (d) Inundation |

48. Which crop is grown at a particular crop season?

- |                                |                                  |
|--------------------------------|----------------------------------|
| (a) Cultivable cultivated area | (b) Gross commanded area         |
| (c) Cultivable commanded area  | (d) Cultivable uncultivated area |

49. 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
50. What is the unit for measuring rainfall?
- (a) cm (b) mm  
(c) Feet (d) No unit
51. 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
52. Which is provided in the diversion headwork to scour away silt deposited?
- (a) Fish ladder (b) Groynes  
(c) Barrage (d) Under sluices
53. Which is the main factor for selection of site for a reservoir?
- (a) Maximum runoff (b) Maximum percolation  
(c) Wide opening (d) Minimum runoff
54. What is the name of dam?



- (a) Rock fill dam (b) Concrete buttress dam  
(c) Earth dam (d) Combined Earth and Rock dam
55. Which is known as spill way?
- (a) Water spread dam (b) Detention dam  
(c) Debris dam (d) Over flow dam

56. Which is the sheet of over flowing water?
- (a) Head (b) Nappe  
(c) Upstream (d) Crest
57. What is the name of the structure placed in river to increase the depth of water?
- (a) Barrage (b) Weir  
(c) Notch (d) Crest
58. 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
59. 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

Answer:-

### **IRRIGATION**

1-B	2- A	3- C	4- D	5- D	6- B	7- A	8- C	9- C	10- A
11- A	12- C	13- D	14- A	15- D	16- B	17- C	18- D	19- B	20- A
21- A	22- A	23- C	24- B	25- A	26- C	27-A	28-C	29-B	30-A
31-C	32-C	33-A	34-C	35-B	36-B	37-A	38-A	39-B	40-C
41-C	42-A	43-B	44-B	45-A	46-D	47-C	48-A	49-A	50-B
51-D	52-D	53-A	54-C	55-D	56-B	57-A	58-B	59-B	

## ESTIMATION

1. 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
2. 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
3. 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%
4. 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%
5. 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%
6. Which is rough cost estimate?
 

(a) Revised estimate	(b) Annual repair estimate
(c) Plinth area estimate	(d) Supplementary estimate
7. Which is an item rate estimate?
 

(a) Plinth area	(b) Annual repair
(c) Cubical content	(d) Preliminary
8. 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
9. What is the minimum length for bill quantity calculation?
 

(a) 0.5 mm	(b) 1 mm
(c) 1cm	(d) 10 cm

10. 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>
11. What is the unit for excavation in M.K.S system?
- (a) m (b) sq.m<sup>2</sup>  
(c) cu.m (d) No
12. 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>
13. What is the unit for cement concrete in M.K.S. system?
- (a) Nos. (b) m  
(c) sq.m (d) cu.m
14. 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.
15. 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
16. What is the unit for ridges, valleys, gutters in M.K.S system?
- (a) metre (b) sq.m  
(c) cu.m (d) Nos.
17. What is the unit for flooring in MKS system?
- (a) m (b) sq.m  
(c) cu.m (d) Nos.
18. What is the minimum lead for earth work excavation?
- (a) 10 m (b) 20 m  
(c) 30 m (d) 50 m
19. What is the minimum lift for earthwork excavation?
- (a) 1 m (b) 1.5 m  
(c) 2.0 m (d) 3.0 m

20. What is the measuring unit for soling layer?
- (a) m (b) sq.m  
(c) cu.m (d) Nos.
21. 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
22. What is the measuring unit for cornice?
- (a) m (b) sq.m  
(c) cu.m (d) mm
23. What is the measuring unit for modern door and window frames?
- (a) m (b) sq.m  
(c) cu.m (d) mm
24. 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
25. Which data is necessary for the preparation of estimate?
- (a) Labour (b) Material  
(c) Fund (d) Drawings
26. 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
27. 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
28. Which estimate is required for administrative sanction?
- (a) Approximate (b) Detailed  
(c) Revised (d) Supplementary
29. 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

30. Which brick wall thickness is measured in sq.m?
- (a) 10 cm (b) 15 cm  
(c) 20 cm (d) 30 cm
31. 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
32. What (%) percentage of steel work is provided for rivets in steel roof truss?
- (a) 3% (b) 5%  
(c) 7% (d) 10%
33. 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
34. 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
35. 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%
36. 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
37. 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
38. What percentage contractors profit is included in the analysis of rate?
- (a) 5 (b) 10  
(c) 15 (d) 20
39. 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

40. 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
41. How many nominal size bricks are required for 1m<sup>3</sup> of brick work?
- (a) 500 (b) 600  
(c) 700 (d) 800
42. 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>
43. 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
44. Who prepares the schedule of rates?
- (a) Engineering department (b) Contractors  
(c) Private agencies (d) Government agencies
45. How many mazdoor or helper is required per mason for brickwork?
- (a) 1 (b) 1.5 to 2  
(c) 3 (d) 4
46. What is the process of determining the fair price or value of a property?
- (a) Valuation (b) Estimation  
(c) Fixation (d) Taxation
47. What is the value of dismantled material?
- (a) Salvage (b) Scrap  
(c) Market (d) Book
48. What is the amount a property can fetch from open market?
- (a) Scrap value (b) Salvage value  
(c) Market value (d) Book value
49. 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



50. 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

51. 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

52. 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

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

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

55. 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) Sun dried brick work in mud mortar

50

56. What is the area by trapezoidal rule?

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

(a) 764.5 m<sup>2</sup>

(b) 770.5 m<sup>2</sup>

(c) 780.5 m<sup>2</sup>

(d) 790.5m<sup>2</sup>

57. What is the area by Simpsons rule?

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

(a) 717 m<sup>2</sup>

(b) 727 m<sup>2</sup>

(c) 959 m<sup>2</sup>

(d) 1090 m<sup>2</sup>

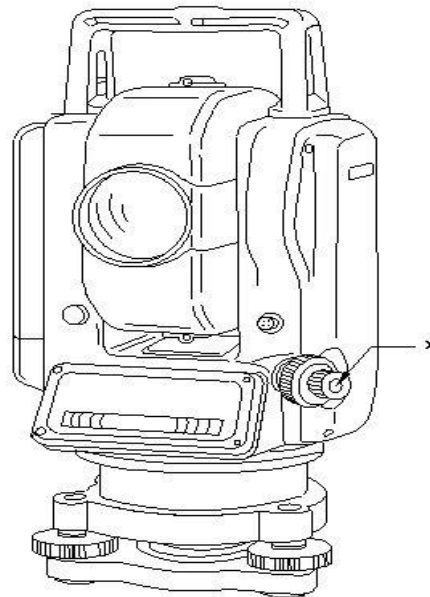
Answer :-

## ESTIMATION

1-A	2-B	3-B	4-B	5-B	6-C	7-B	8-D	9-B	10-C
11-C	12-C	13-D	14-C	15-C	16-A	17-B	18-C	19-B	20-B
21-D	22-A	23-C	24-B	25-D	26-B	27-C	28-A	29-A	30-A
31-B	32-B	33-C	34-D	35-B	36-A	37-C	38-B	39-D	40-D
41-A	42-A	43-A	44-A	45-B	46-A	47-B	48-C	49-B	50-A
51-B	52-B	53-B	54-C	55-A	56-D	57-B			

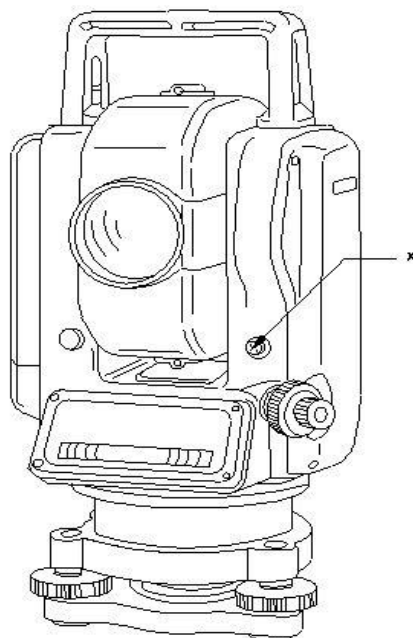
## TOTAL STATION (GPS)

1. What is marked as 'x'?



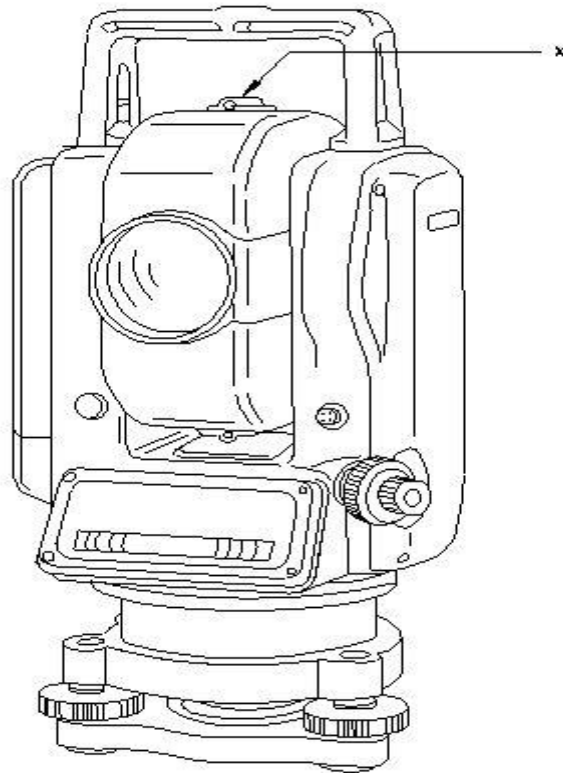
- |                        |                  |
|------------------------|------------------|
| (a) Optical plummet    | (b) Collimator   |
| (c) Data out connector | (d) Bottom plate |

2. What is marked as 'x'?



- |                     |                        |
|---------------------|------------------------|
| (a) Objective lens  | (b) Collimator         |
| (c) Optical plummet | (d) Data out connector |

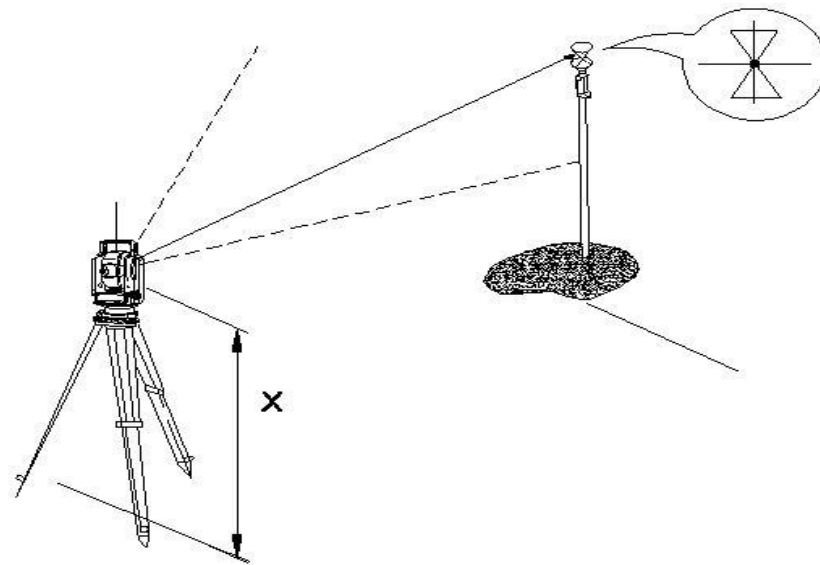
3. What is marked as 'x'?



- |                     |                        |
|---------------------|------------------------|
| (a) Top Handle      | (b) Collimator         |
| (c) Optical plummet | (d) Data out connector |
4. Which instrument is a combination of EDM, electronic Theodolite and micro processor?
- |                   |                  |
|-------------------|------------------|
| (a) Total Station | (b) Tachometer   |
| (c) Distomite     | (d) Tellurometer |
5. Which program is used for erecting perpendicular line to base line?
- |                    |                  |
|--------------------|------------------|
| (a) Stake out      | (b) Free station |
| (c) Reference line | (d) Tie distance |
6. Which program is used for setting out points?
- |                    |                   |
|--------------------|-------------------|
| (a) Resection      | (b) Stake out     |
| (c) Reference line | (d) Remote height |
7. 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 |

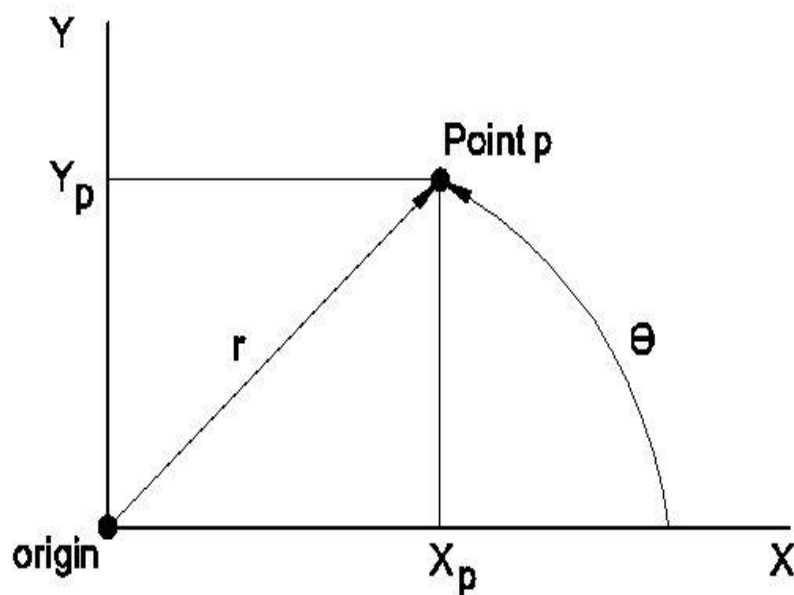
8. What is the name of measurement for distances taken to a prism on reflecting foil most accurate?
- (a) Precise measurement (b) Rapid measurement  
(c) Tracking measurement (d) Angle measurement
9. Which measurement reduces the measurement time to a prism between 0.5 and 1's for both phase shift and pulsed systems?
- (a) Precise measurement (b) Rapid measurement  
(c) Tracking measurement (d) Angle measurement
10. 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
11. What is the formula for principle of operation of EDM?
- (a)  $\text{Velocity} = \text{Time} \times \text{Distance}$  (b)  $\text{Velocity} = \text{Time} / \text{Distance}$   
(c)  $\text{Velocity} = \text{Distance} \times \text{Time}$  (d)  $\text{Velocity} = \text{Distance} / \text{Time}$
12. What is the abbreviation for EDM in surveying?
- (a) Electronic Distance Measurement (b) Engineering Distance Measurement  
(c) Electro Discharge Matching (d) Electronic Direct Mailing
13. What is the shape of a single reflector prism?
- (a) Cube corner (b) Cuboids corner  
(c) Circular (d) Triangular corner
14. In which conditions, the LCD screen does not work?
- (a) Cold (b) Hot  
(c) Warm (d) Wind
15. Faulty temperature and pressure measurement occurs by which source of error in EDM?
- (a) Personal (b) Instrumental  
(c) Natural (d) Environmental

16. What is marked as 'x'?



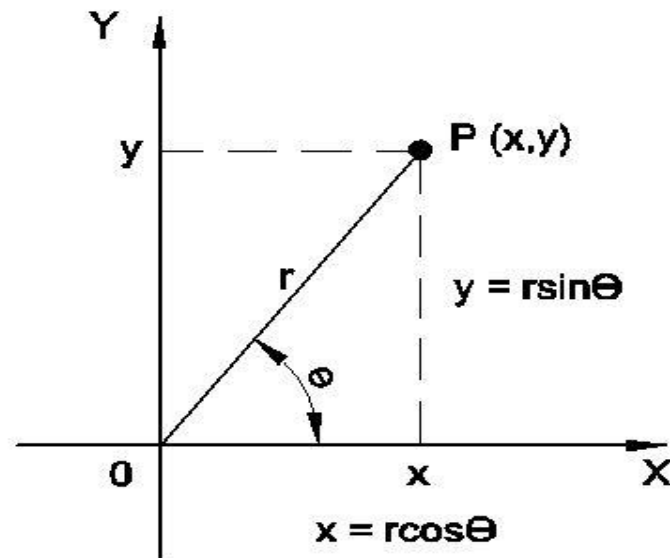
- |                           |                         |
|---------------------------|-------------------------|
| (a) Reflector height      | (b) Instrumental height |
| (c) Height of collimation | (d) Slope height        |

17. What is the name of the figure given below?



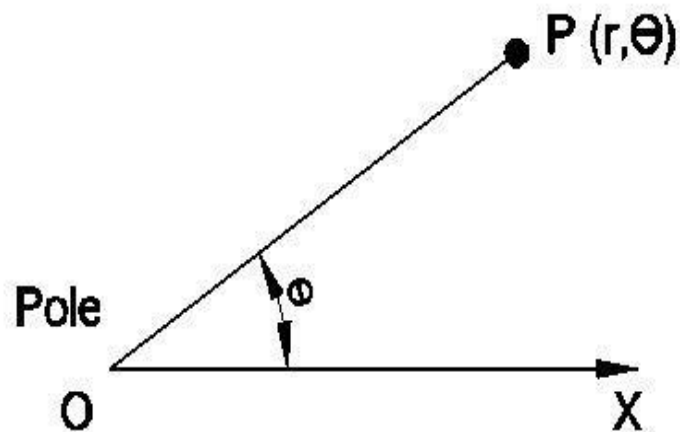
- |  |                                     |
|--|-------------------------------------|
| (a) Rectangular and polar co-ordinates | (b) Polar to Cartesian co-ordinates |
| (c) Rectangular co-ordinates           | (d) Polar co-ordinates              |

18. 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

19. 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

20. What is the formula to find out 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)  $(n + 2) \times 180^\circ$

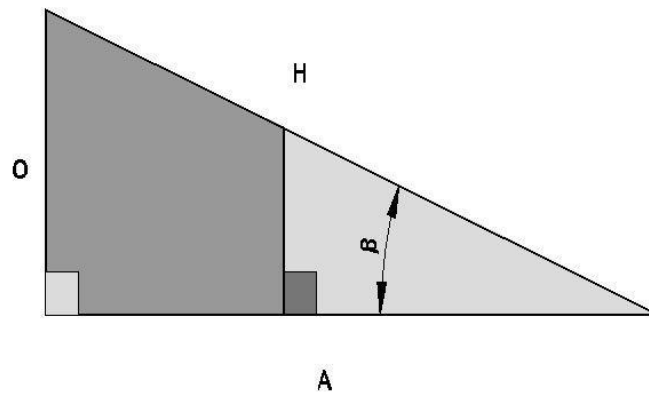
21. Which are dedicated to the particular instrument and can store and process surveying observation?

- (a) Data recorders (b) Pocket calculators  
(c) Field note books (d) Pen-drives

22. 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
23. 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
24. 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
25. Which is the total station with latest technology?
- (a) Mechanical (b) Semi automatic  
(c) Manual (d) Automatic
26. Which program is used to determine polygonal distance?
- (a) Tie distance (b) Reference line  
(c) Free station (d) Resection
27. 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
28. Where is data stored in Total Station?
- (a) Pen drive (b) Data card  
(c) Micro processor (d) External hardware
29. What is the advantage of using EDM?
- (a) Precise measurement of distance (b) Electronic batteries  
(c) Expensive (d) Accuracy affected by atmospheric condition
30. 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



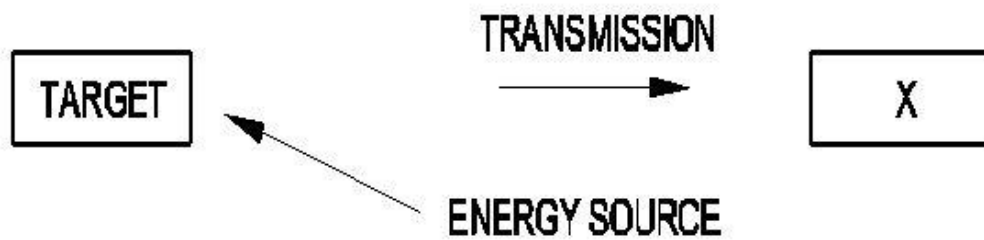
31. Which trigonometrical value is correct?



- |                        |                        |
|------------------------|------------------------|
| (a) $O/H = \sin \beta$ | (b) $A/H = \sin \beta$ |
| (c) $O/A = \sin \beta$ | (d) $H/O = \sin \beta$ |
32. 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) $1800^\circ$ |
33. Where the open traverse is used?
- |                               |                                 |
|-------------------------------|---------------------------------|
| (a) Topographic survey        | (b) Layout of engineering works |
| (c) Construction of pipelines | (d) Property measurement        |
34. Which country developed the GPS?
- |            |           |
|------------|-----------|
| (a) USA    | (b) India |
| (c) Russia | (d) Italy |
35. What is meant by GPS?
- |                                  |                                  |
|----------------------------------|----------------------------------|
| (a) Global Processing System     | (b) Global Positioning System    |
| (c) Geographic Positional System | (d) Geographic Processing System |
36. What is the orbital height for GPS?
- |               |               |
|---------------|---------------|
| (a) 10,00 km  | (b) 15,000 km |
| (c) 20,180 km | (d) 24,280 km |
37. 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  |
38. What is the distance between the UTM grid lines on topo maps?
- |            |            |
|------------|------------|
| (a) 100 m  | (b) 1000 m |
| (c) 2000 m | (d) 5000 m |

39. Where the master control station of control segment located?
- (a) Hawaii (b) Colorado  
(c) Diego Garcia (d) Kwajalein
40. How many operational satellites are available in space segment?
- (a) 24 (b) 28  
(c) 32 (d) 36
41. Which segment of GPS consists of satellite?
- (a) Control (b) Space  
(c) User (d) Navigation
42. Which segment of GPS consists of receivers?
- (a) Control (b) User  
(c) Space (d) Navigation
43. What is an advantage of GPS survey?
- (a) High precision (b) Weather dependent  
(c) Night operation only (d) Site inter visibility required
44. Which is an application of GPS for visually impaired?
- (a) MOBIC (b) GIS  
(c) Ramchers (d) Navigation
45. Which is an application of GPS for visually impaired in India?
- (a) Marine GOS (b) Drishti  
(c) Ramchers (d) GIS
46. What is meant by the study of something without direct contact?
- (a) Remote sensing (b) Geographic information system  
(c) Tachometry (d) Ranging

47. What is marked as 'x'?



- (a) Target
  - (b) Energy source
  - (c) Sensor
  - (d) Transmission
48. What is the practice of determining the geometric properties of objects from photographic images?
- (a) Photogrammetry
  - (b) Positioning
  - (c) Remote sensing
  - (d) Orientation
49. What is the another name for exposure station?
- (a) Air station
  - (b) Nadir point
  - (c) Zenith point
  - (d) Horizon point
50. What is an advantage of GPS survey?
- (a) Two dimensional
  - (b) Three dimensional
  - (c) Weather dependent
  - (d) Only day time operation
51. What is an advantage of digital signal?
- (a) High cost
  - (b) Difficult to control
  - (c) Noise immunity
  - (d) Rigidity in response to design
52. 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
53. 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

54. What is the advantage of photogrammetry?

- |                       |                       |
|-----------------------|-----------------------|
| (a) Weather dependent | (b) Covers large area |
| (c) Costlier          | (d) Complex system    |

55. What is the advantage for in setup of instrument photogrammetry?

- |                             |                       |
|-----------------------------|-----------------------|
| (a) Heavy equipments needed | (b) Weather dependent |
| (c) Less time consuming     | (d) Costlier          |

Answer :-

**TOTAL STATION (GPS)**

1-A	2-B	3-B	4-A	5-C	6-B	7-B	8-A	9-B	10-B
11-D	12-A	13-A	14-A	15-A	16-B	17-A	18-C	19-D	20-C
21-A	22-C	23-D	24-D	25-D	26-A	27-A	28-C	29-A	30-C
31-A	32-B	33-C	34-A	35-B	36-C	37-B	38-B	39-B	40-A
41-B	42-B	43-A	44-A	45-B	46-A	47-C	48-A	49-A	50-B
51-C	52-A	53-B	54-B	55-C					