

IIIrd GRADE OVERSEER, TRACER (CIVIL)

PWD/IRRIGATION

Cat no: 696/2022

Exam held on

14-07-2023



| | Cubinat | Maylea |
|-------|------------------------------|--------|
| SI.No | Subject | Marks |
| 1 | Basic Engineering Drawing | 7 |
| 2 | Surveying | 15 |
| 3 | Building Materials | 11 |
| 4 | Building Construction | 11 |
| 5 | Estimation | 11 |
| 6 | Concrete Technology | 4 |
| 7 | Water Resource Engineering | 8 |

| SI.No | Subject | Marks |
|-------|-----------------------------------|-------|
| 8 | Reinforced Cement Concrete | 3 |
| 9 | Workshop calculation | 4 |
| 10 | Applied Mechanics | 2 |
| 11 | Computer fundamentals and AutoCAD | 8 |
| 12 | Environmental Engineering | 6 |
| 13 | Steel Structures | 3 |
| 14 | Transportation Engineering | 7 |



- Gross income-outgoings =
 - Net income
 - Net return B.
 - Both A and B
 - None of these D.



RANKERS

വിവിധ സിവിൽ എഞ്ചിനീയറിംഗ് മത്സരപരിക്ഷകളിലെ സിവിലിയന്റസ്പിൽ നിന്നുള്ള ഒന്നാം റാങ്കുകാരാണിവർ







AE-PWD (DC)



Prijil P T AE-LSGD (DC)



Pouthramanu V AE-PCB



Junior Instructor Draftsman Civil

Adwaith Vilas

Surveyor Gr II GW Dept

സിവിൽ എഞ്ചിനിയറിംഗ് പി.എസ്.സി. പരീക്ഷയുടെ ചരിത്രത്തിൽ ആദ്യമായി 100 ൽ 100 മാർക്കും നേടി സിവിലിയൻസിലെ ഉദ്യോഗാർത്ഥി



Hannath N M Work Superintendent SS&SC Dept.



Answara S Lecturer Gr. Rural Egg.



Gargi S Work Superintendent SS&SC Dept



Sithara T P FACT Technician-



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PWD/IRRIGATION OVERSEER GR.I



AE-Irrigation

SCANDIDATES IN RANKLIST IS FROM CIVILIANZ. One in every

AE-LSGD

SCANDIDATÉS IN RANKLIST IS FROM CIVILIANZ.

56RANKS 100 **AE-PCB**

Junior Instructor

Overseer

Two in every

THE RANKLIST IS FROM CIVILIANZ



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Tradesman (Survey) TECHNICAL EDUCATION Dept



Tracer-Soil Conservation



Work Supervisor-KSFCL



2. A semi Corrugated or Tafford sheet has a standard width of

A. 0.9 m

B. 1m

C. 1.05 m

D. 1.10 m



- 3. Painting coefficient for partly panelled and partly glazed or gauged doors and windows
 - A. $2\frac{1}{4}$ times one surface area for both sides
 - B. 1 time one surface area for both sides
 - C. 3 times one surface area for both sides
 - D. 2 times one surface area for both sides



4. In measuring formwork, no deduction is made for opening upto (IS 1200 - Part 5 1982)

- A. 1 sq.m
- B. 0.5 sq.m
- C. 0.4 sq.m
- D. 0.7 sq.m



- 5. ____estimate is required to decide the financial position and policy for administrative sanction by the competent administrative authority.
 - A. Detailed estimate
 - B. Revised estimate
 - C. Approximate estimate
 - D. All of the above





6. Quantity of cement required for one unit of RCC 1: 1.5:3

A. 3.3 kg

B. 3.8 kg

C. 4.32 kg

D. 4.83 kg



7. The multiplying factor which when multiplied by the net income gives capitalized value of the property of the present time

- A. Year's purchase
- B. Sinking fund
- C. Capital cost
- D. Rate of interest



8. Density of mild steel

- A. 0.785 gram/cum
- B. 7850 sq.cum
- C. 78.5 kg.cum
- D. All of these





Earth work for open-well excavation of diameter 6m, the rate increased for the first 1.5 m depth after the initial depth of 1.5 m is

10%

B. 15%

20%

25% D.



- 10. Pick up the right statement regarding deduction in plastering.
- A. No deduction made on area of opening exceeding 3 m²
- B. Deductions are made on area of openings of 0.5 m?
- C. Deductions made on one side for area of opening 0.5 m^2 to 3 m^2
- D. Deductions on both sides are made for area of opening of $0.5\ m^2$



- 11. If the payments of annuity continue for a indefinite period it is known as
 - A. Annuity due
 - B. Deffered annuity
 - C. Perpetual annuity
 - D. Annuity certain



- 12. For the supply of stiff paint, unit of measurement in MKS system is
 - A. Litre
 - B. Per bottle
 - C. Kg
 - D. None of these



13. In a map, if 20 miles is represented as 5 cm. Find the length of kilometre scale if maximum length to be measured is 5 km.

- A. 4 cm
- B. 64.36 cm
- C. 6.436 cm
- D. 0.7768 cm

20 miles -> 5cm 20 × 1.61 Km -> 5cm 5 km -> 90 $\mathcal{L} = 5 \times 5$ 20 ×1-61 = 0.7768 cm



14. A line of length X cm lied on HP turned 60° with respect to HP keeping one of its ends fixed and attained inclined length of Y cm from top view. True statement is

$$A. X = Y$$

B.
$$X = 2 \times Y$$

$$C. X = \times Y$$



15. The ratio of long to short dashes in a chain line ranges from

A. 3:1 to 2: 1

B. 6:1 to 4: 1

C. 8:1 to 10: 1

D. 5:1 to 7:1



16. Folding method of drawing sheet as per method 1 is

A.
$$297 \times 210$$

SECTION 4 FOLDING OF DRAWING PRINTS

[Based on IS 11664: 1986]

4.1 Scope

This section covers two methods of folding of drawing prints.

4.1.1 The first method is intended for drawing prints to be filed or bound, while the second method is intended for prints to be kept individually in filing cabinet.

4.2 Basic Principles

The basic principles in each of the above methods are to ensure that:

 a) all large prints of sizes higher than A4 are folded to A4 sizes;

- b) the title blocks of all the folded prints appear in topmost position; and
- c) the bottom right corner shall be outermost visible section and shall have a width not less than 190 mm.
- **4.3** Depending on the method of folding adopted, suitable folding marks are to be introduced in the tracing sheets as guide.

4.4 Method of Folding of Drawing Prints

The methods recommended for folding are indicated in Fig. 4.1 and 4.2



17. The asymptotes of any hyperbola intersects at

- A. On the directrix
- B. On the axis
- C. At focus
- D. Centre

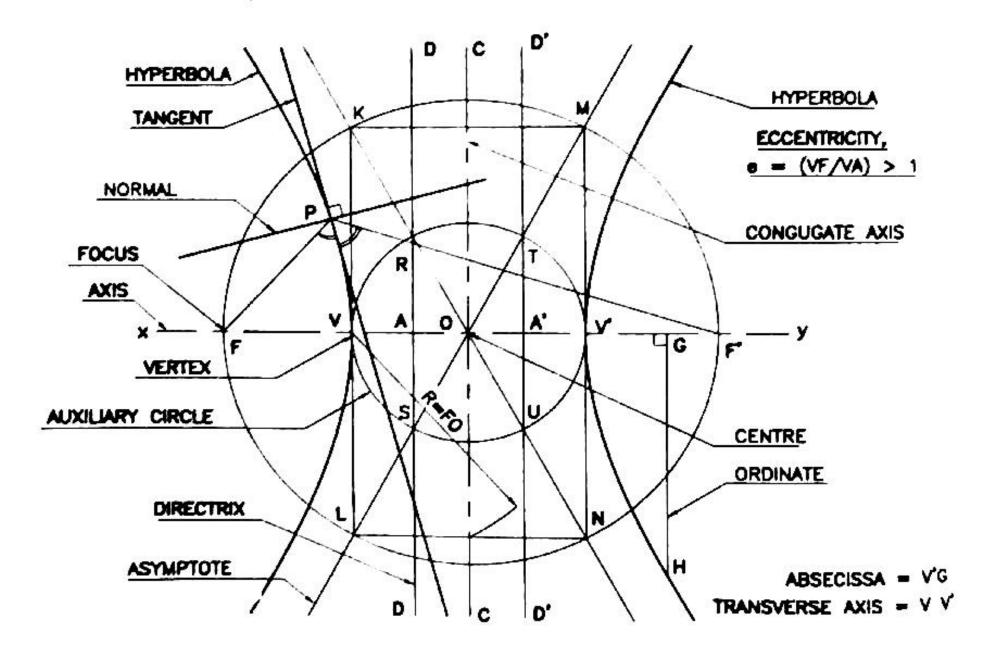


Fig. 6.38 Terminology of hyperbola



18. Which of the following grades of leads is the hardest?

A. 4B

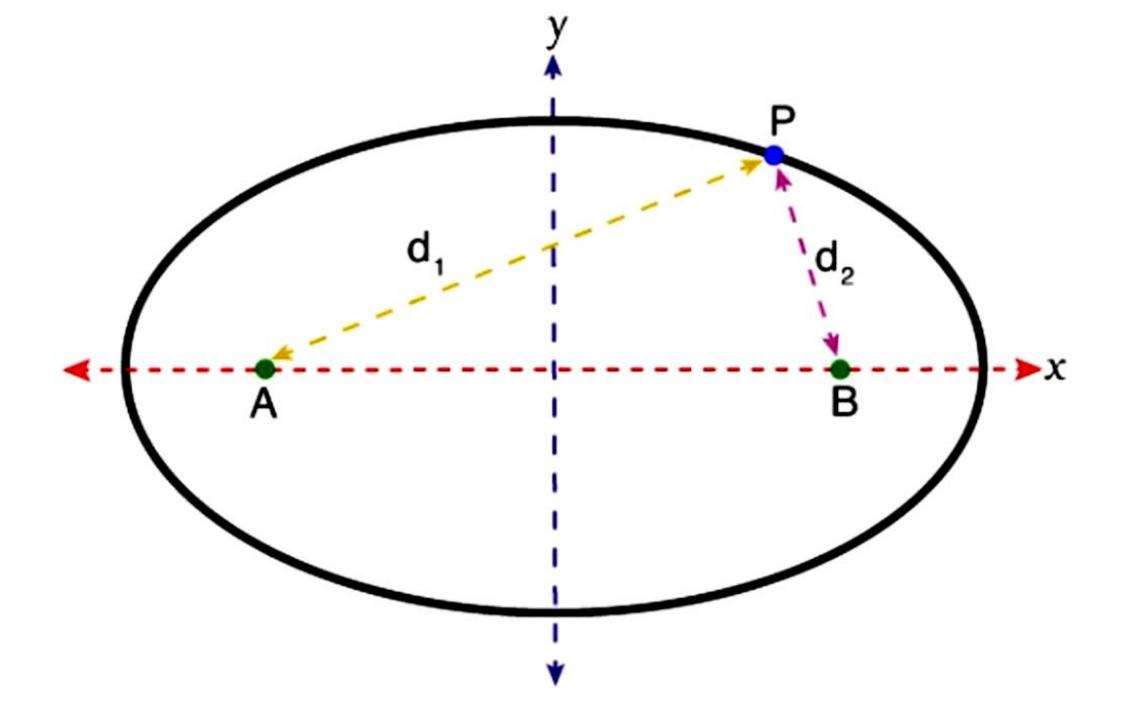
B. F

C. HB

D. 6B



- 19. For an ellipse, the sum of the distances to a point on the curve from the foci is
- A. Not a constant
- B. Constant and is equal to the length of the major axis
- C. Constant and is equal to the length of the minor axis
- D. None of these





- 20. In lettering A the height of capital letters is divided into
 - A. 10 equal parts
 - B. 8 equal parts
 - C. 14 equal parts
 - D. 12 equal parts



- 21. Impact test is used to find the
 - A. The hardness of a stone
 - B. The toughness of a stone
 - C. Compressive strength of stone
 - D. Rate of wear of stones





- 22. Which of the following constituents imparts the uniform shape to the bricks?
 - A. Lime
 - B. Oxide of iron
 - C. Silica
 - D. Alumina





23. The commonly used lime in white washing

- A. Fat lime
- B. Hydraulic lime
- C. Lean lime
- D. Quick lime



24. How many operations are involved in the manufacture of fat lime?

A. 1

B. 2

C. 3

D. 4



- 25. The defect which is denoted by the presence of original rounded surface on a manufactured piece of timber is known as
 - A. Chip mark
 - B. Torn grain
 - C. Wane
 - D. Diagonal grain



26. Aldural is also known as

- A. Aluminium bronze
- B. Alclad
- C. Delta metal
- D. Autoclave



27. The name of burning zone of blast furnace

- A. Hearth
- B. Throat
- C. Bosh
- D. Tuyeres



28. Which type of water reducing admixtures usually retard the setting time of concrete by one to three hours?

A. Type A

B. Type B

C. Type C

D. Type D



29. Recommended Slump of normal RCC work

A. 20 to 40 mm

B. 80 to 150 mm

C. 40 to 50 mm

D. 90 to 100 mm





30. The first burning of polished terracotta is known as

- A. Biscuiting
- B. Falence
- D. Static porcelain
- C. Zircon porcelain





31. The bulk density of heavy mortar is more than

A. 50 KN/mm³

B. 15 KN/mm³

C. 500 KN/mm³

D. 115 KN/mm³



- 32. The workability of concrete is determined by
 - A. Voids test
 - B. Slump test
 - C. Arbitrary test
 - D. Compressive strength test





- 33. Which type of paint is widely used for showrooms, auditoriums etc.?
 - A. Plastic paint
 - B. Oil paint
 - C. Luminous paint
 - D. Inodorous paint



34. In coursed rubble masonry II sort the thickness of the mortar joints is

A. 12 mm

B. 10 mm

C. 14 mm

D. 16 mm



- 35. The termination of a wall in a stepped fashion is known as
 - A. Squint quoin
 - B. Bullnose
 - C. Toothing
 - D. Racking back



36. The maximum safe bearing capacity value for soft rocks is

 $A. 150 \, KN/m^2$

B. 50 KN/m²

C. 450 KN/m²

D. 250 KN/m²



- 37. Example of four centred arch is
 - A. Drop arch
 - B. Segmental arch
 - C. Tudor arch
 - D. Bull's eye arch





38. The usual concrete mix for RCC lintel is

A. 1:2:4

B. 1:3:4

C. 1:3:5

D. 1:4:6





39. The angle of inclination of the stair with the floor is known as

A. Run

B. Scotia

C. Pitch

D. Nosing



- 40. Which of the following is the vertical member carrying the axial load?
 - A. Cantilever beam
 - B. Slab
 - C. Column
 - D. One way slab





- 41. The window project outside the external walls of a room is known as
 - A. Dormer window
 - **B.** Corner window
 - C. Bay window
 - D. Clerestorey window



- 42. Name of a two storey truss
 - A. Truncated truss
 - B. Bel-fast truss
 - C. Mansard truss
 - D. Steel truss



- 43. The size of rivet is expressed by
 - A. Diameter of shank
 - B. Diameter of head
 - C. Shape of head
 - D. Length of shank



44. The minimum clear cover required for column is

A. 25 mm

B. 15 mm

C. 40 mm

D. 50 mm



45. Weight/m of 6 mm diameter round bar is

A. 0.22 kg/m

B. 0.62 kg/m

C. 2.45 kg/m

D. 0.39 kg/m





46. Suitable span for a double joint timber floor is

A. 3.60 m to 7.50 m

B. 8 m to 12 m

C. 12 m to 14 m

D. 14 m to 16 m





47. Number of Mangalore tiles required for covering one square meter of roof area is

A. 50

B. 15

C. 40

D. 25



- 48. Which pile is to be preferred for foundation in black cotton soil?
 - A. Franke pile
 - B. Under reamed pile
 - C. Fender pile
 - D. Friction pile





- 49. A flexible damp proofing material which is easy to lay and available in rolls
 - A. Bricks
 - **B. Stones**
 - C. Hot bitumen
 - D. Bituminous felt



- 50. The inclined member of a stair which supports the ends of steps is known as
 - A. Tread
 - **B.** Winder
 - C. String
 - D. Walking line



51. How much yield stress does a twisted bar have more than an ordinary mild steel bar?

A. 50%

B. 10%

C. 20%

D. 30%



- 52. In a cantilever bear the main reinforcement should be provided in
 - A. Top at free end of beam
 - B. Middle at free end of beam
 - C. Top at fixed end of beam
 - D. Bottom at free end of beam



- 53. Type of survey used to determine different strata of earth's crust is
 - A. Geological survey
 - B. Mine survey
 - C. Topographical survey
 - D. Geodetic survey





54. In prismatic compass, when the needle points north, the reading under the prism should be

A. 180°

B. 90°

D. 270°

C. 0°





- 55. The point on which both the fore sight and back sight readings are taken from the previous and new positions of instrument is
 - A. Bench Mark
 - B. Datum
 - C. True Meridian
 - D. Change point



- 56. The bearing of line AB expressed in the direction A to B, then the bearing is
 - A. Fore bearing of AB
 - B. Back bearing of AB
 - C. Fore bearing of BA
 - D. Reduced bearing





- 57. Orientation by back sighting is done by using
 - A. Trough compass
 - B. Alidade
 - C. Spirit level
 - D. Prismatic compass



- 58. The process of placing the contour lines proportionally between the plotted ground points is known as
 - A. Interpolation
 - **B.** Estimation
 - C. Reconnaissance
 - D. Relief



- 59. An imaginary line joining the intersection of the cross hairs with optical centre of the object glass and its continuation, is called
 - A. Vertical axis
 - B. Axis of level tube
 - C. Axis of telescope
 - D. Line of collimation



- 60. When the vertical circle on the left of the telescope and the target on telescope is up, then it is called
 - A. Telescope normal
 - **B.** Least count
 - C. Resection
 - D. Traversing



- 61. A circular curve which is comprised of a series of two or more simple curves of different radii which turn in the same direction is called
 - A. Simple curve
 - B. Reverse curve
 - C. Summit curve
 - D. Compound curve





- 62. An electronic optical instrument widely used in modern surveying is
 - A. Digital theodolite
 - **B.** Auto level
 - C. Plane table
 - D. Total station





- 63. Where is data stored in Total Station?
 - A. Pen drive
 - B. Data card
 - C. Micro processor
 - D. External hardware



- 64. Which equipment is used to reflect rays back precisely in the same direction?
 - A. Micro processor
 - B. Prism
 - C. Tilting level
 - D. Theodolite





- 65. What is meant by GPS?
 - A. Global Processing System
 - **B.** Geographic Positional System
 - C. Global Positioning System
 - D. Geodetic Positional System



66. How many GPS satellites are available in space segment?

A. 33

B. 21

C. 48

D. 28



67. In autocad effective diameter of the cursor on the screen is called

- A. Aperture
- **B.** Coordinate
- C. Origin
- D. Spline



- 68. What is the full form of GUI?
 - A. Graphical User Installation
 - **B. Global User Installation**
 - C. Graphical User Interface
 - D. Geometrical User Information



- 69. The command used in autocad to erase a part of an object between two points is called
 - A. Chamfer
 - B. Break
 - C. Extend
 - D. Mirror





- 70. What is the use of function key F8 in autocad?
 - A. Osnap
 - B. Ortho
 - C. Print
 - D. Save as





71. What is the use of shortcut key 'M'?

A. Multi text

B. Modify text

C. Move

D. Offset



72. In autocad the method for indicating point locations using existing drawing objects as references is called

- A. Object snap
- **B.** Aperture
- C. Array
- D. Offset





73. In autocad the origin of drawing is

A. 1, 1

B. 1. 0

C. 0, 0

D. 0.1



74. Which command is used to copy the properties from one object to one or more objects?

A. Match properties

B. Copy

C. Property palette

D. Grid



75. What denotes letter K in MKS system?

- A. Kilogram
- **B.** Kilometer
- C. Kelvin
- D. Millimetre



76. What is the ratio of power output to power input?

- A. Work
- B. Efficiency
- C. Acceleration
- D. Energy



- 77. What is the name of fixed or supporting point of a lever?
 - A. Mechanical advantage
 - B. Effort
 - C. Load
 - D. Fulcrum



78. When θ increases, sine value

- A. Increases
- B. Decreases
- C. Constant
- D. 0





79. Curved area of cylinder is

- A. $4/3 \pi r^3$
- **B.** 2 π Γ
- C. $2 \pi rh$
- D. 2h(I+b)



80. How many millimetres are there in 1 inch?

- A. 2.54 mm
- B. 25.4 mm
- C. 24.5 mm
- D. 2.45 mm





81. The irrigation capacity of unit quantity of water

- A. delta
- B. Duty
- C. base period
- D. crop period



- 82. The canal aligned at right angles to the Contour of a Country is known as
 - A. side slope canal
 - B. contour canal
 - C. water shed canal
 - D. branch canal



83. The season in which the crops are sown by the beginning of south - west monsoon and they are harvested in autumn

- A. rabi
- B. Kharif
- C. both A. and B.
- D. none of these



84. The device which is placed infront of head regulator for silt removal is

- A. weir
- B. Barrage
- C. silt excluder
- D. silt extractor



- 85. With reference to hydro power station, the graphical representation of discharge and time is
 - A. hyetograph
 - B. load duration curve
 - C. load curve
 - D. hydrograph



- 86. Check flooding method of irrigation is used for
 - A. closed growing crops
 - B. crops which can stand in undulation of water for some time
 - C. tracks with flat gradients
 - D. none of these





87. On the recommendations of Indian Road Congress, the ruling gradient in plains, is

A. 1 in 15

B. 1 in 20

C. 1 in 30

D. 1 in 45



- 88. A curve whose radius gradually changes from an infinite value to a finite value or viceversa is called
 - A. circular curve
 - B. transition curve
 - C. simple curve
 - D. compound curve





- 89. The stopping sight distance depends upon the
 - A. reaction time
 - B. braking time
 - C. speed of vehicle
 - D. all of these



90. The standard size of wooden sleepers on broad gauge railway track

- A. $152 \text{ cm} \times 15 \text{ cm} \times 10 \text{ cm}$
- B. $183 \text{ cm x } 20 \text{ cm } \times 11 \text{ cm}$
- C. 275 cm x 25 cm x 13 cm
- D. None of these



91. Minimum packing space provided between two sleepers is

- A. 250 mm to 300 mm
- B. 350 mm to 400 mm
- C. 300 mm to 350 mm
- D. None of these



92. The width of top portion of a flat - footed rail, is

- A. 66.68 mm
- B. 69.80 mm
- C. 73.25 mm
- D. 75.87 mm



- 93. Skew bridge has an angle
 - A. 0 degree
 - B. 90 degree
 - C. both A. and B.
 - D. other than right angle



94. Which is the temporary pier made in the river bed?

- A. kerb
- B. Scuppers
- C. Abutment
- D. cribs





- 95. The effluent from the septic tank is discharged into
 - A. drainage
 - B. oxidation pond
 - C. Sewer
 - D. soak pit



- 96. Permanent hardness of water can be removed by
 - A. adding alum
 - B. adding chlorine
 - C. zeolite process
 - D. boiling





- 97. The pipe through which liquid waste carrying human excreta flows.
 - waste pipe
 - soil pipe
 - vent pipe
 - all of these



98. In India which type of sewer system are preferred?

- A. partial
- B. Combined
- C. Direct
- D. separate



- 99. Garbage is a
 - A. semi liquid waste
 - B. Liquid waste
 - C. dry waste
 - D. None of these





100. Design period for slow sand filters as suggested

- A. 30 years
- B. 50 years
- C. 25 years
- D. 10 years

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