

**Question Paper and Final Answer Keys for the post of  
Draughtsman Gr-III (E&M)**

Written Recruitment Examination for filling up of the post of Draughtsman Gr-III (E&M) in APWD was held on 19/02/2023 from 9.30 am to 11.30 am at Port Blair. The Question Paper and the Final Answer Keys of the written examination received from the agency engaged for conduct of examination based on the claims & objections is hereby published.

**FINAL ANSWER KEY FOR THE POST OF DRAUGHTSMAN GR.III (E & M)**

**SET-A**

Q.No	Correct Option	Q.No	Correct Option	Q.No	Correct Option	Q.No	Correct Option
1	B	26	B	51	B	76	C
2	B	27	C	52	C	77	B
3	A	28	C	53	A	78	B
4	A	29	D	54	B	79	D
5	C	30	B	55	D	80	C
6	C	31	A	56	C	81	A
7	A	32	D	57	B	82	A
8	A	33	C	58	D	83	A
9	A	34	C	59	D	84	-
10	A	35	A	60	D	85	-
11	C	36	C	61	C	86	C
12	A	37	A	62	D	87	C
13	D	38	D	63	D	88	A
14	D	39	A	64	D	89	D
15	D	40	B	65	A	90	C
16	A	41	A	66	D	91	D
17	B	42	B	67	D	92	C
18	C	43	C	68	B	93	D
19	C	44	C	69	A	94	B
20	A	45	A	70	C	95	D
21	A	46	C	71	C	96	C
22	A	47	B	72	B	97	D
23	A	48	C	73	A	98	A
24	A	49	A	74	C	99	C
25	A	50	A	75	A	100	C

**Note: Q. No. 84 & 85 are treated as Null & Void due to Error in the Question/Option, hence evaluation of OMR is done out of 98 Questions**

All question is carrying equal marks. Only one answer is correct.

Time : 2.0 hours

1. When creating an isometric drawing in Auto-CAD the drafter can utilize the Dynamic Input and Polar Coordinate system to place both vertical and horizontal lines. A line created from one point 3 inches at 180 degrees would be a \_\_\_\_\_ line. ( )

- A. Horizontal
- B. Vertical
- C. Inclined
- D. None of these

2. In U.S. structural and architectural drafting, all dimensions of this length are usually expressed in feet and inches: ( )

- A. One inch or over
- B. One foot or over
- C. One yard or over
- D. One rod or over

3. Inserting blocks into a drawing file usually requires exacting placement. The drafter should insure that \_\_\_\_\_ is turned on. ( )

- A. O Snaps
- B. Ortho
- C. Grid
- D. Dynamic Input

4. The maximum and minimum sizes of a feature are identified by a \_\_\_\_\_ tolerance. ( )

- A. Limits
- B. GD&T
- C. Reference
- D. Allowance

5. Welding drawings are a special type of this kind of drawing: ( )

- A. Symbol
- B. Perspective
- C. Assembly
- D. Isometric

6. PDM is the acronym for: ( )

- A. Project drawing management
- B. Product drawing manipulation
- C. Product data management
- D. Project data manipulation

7. Drafters should use a \_\_\_\_\_ in a section view of a mechanical part that includes the cylindrical view of a threaded hole. ( )

- A. Center line
- B. Hatch line
- C. Poly line
- D. Dimension line

8. In order to create an accurate assembly drawing the drafter should create the \_\_\_\_\_ drawings first. ( )

- A. Detail
- B. Title block
- C. Parts list
- D. Isometric

9. When filling an area with a hatch pattern in Auto-CAD the drafter needs to be able to \_\_\_\_\_ ( )

- A. See the entire bounding area to hatch
- B. Set Ortho on
- C. Turn ISO grid off
- D. Set the layer to Defpoints

10 Understanding the Cartesian coordinate system will help the beginning drafter \_\_\_\_\_ ( )

- A. Control the accuracy of the drawing
- B. Produce a visible grid system
- C. Select a different text style
- D. Choose various line types

11. This is a thin solid line directing attention to a note or dimension and starting with an arrowhead or dot: ( )

- A. Dimension line
- B. Extension line
- C. Leader
- D. Specification

12. The size of a shaper is given by \_\_\_\_\_.

- A) Length of stroke B) Motor power ( )  
C) Mass of machine D) Height of machine

13 Under which type of the following fire, metal should be included?

- A) Class -A B) Class -B C) Class -C D) Class -D ( )

14 In which of the following type of projection, one plane can make any angle from horizontal plane?

- A) Isometric projection B) Orthographic projection ( )  
C) Oblique projection D) Perspective projection

15 Which of the following is not a type of assembly drawing ?

- A) General assembly drawing B) Unit assembly drawing ( )  
C) Design assembly drawing D) Uninstallation assembly drawing

16. When one object is symmetrical, it is not necessary to create a complete sectional view, what type of sectional view is appropriate in this situation?

- A) Half sectional view B) Continuous section ( )  
C) Removed section D) Broken out section

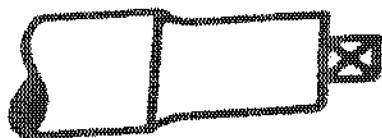
17. What is the main objective of the 5S concept?

- A) To reduce the wastage of money ( )  
B) To increase the productivity while reducing the wastage of money  
C) To reduce the wastage of money and investment  
D) To reduce the wastage of money and time

18. Height of letter of main title is kept -


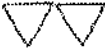


- A) 2 to 4 mm B) 4 to 6 mm C) 6 to 8 mm D) 10 to 12 mm ( )

19.) The picture shows a symbol, what type of symbol is this ?



- A) Straight knurling on shaft B) Diamond knurling on shaft ( )  
C) Square on shaft D) Thread on shaft

20. Symbol for roughness grades N11 and N10 is

- A)  B)  ( )  
C)  D) 

21. Which one of the following is not an angle measuring device? ( )

- A) Angle iron B) Bevel Protector C) Sine bar D) Combination set

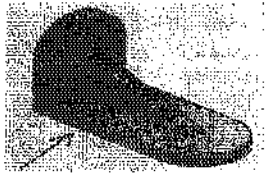
22. Which of the following clearance fit comes under Hole Basis System?

- A) 20H7/g11      B) 20H7/p6      C) 20H7/z11      D) 20E8/g11

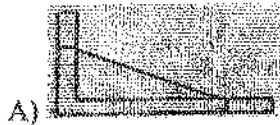
23. Which of the following commands is used to create a rectangle? ( )

- A) Line      B) Circle      C) Ellipse      D) Arc

24. Identify the front view of isometric view given below?



( )



25. Which of the following is a type of clearance fit? ( )

- A) Slide fit      B) Force fit      C) Push fit      D) Tight fit

26. What is shown in thin lines on structural part given in the picture?



( )

- A) Iron metal      B) Hatching  
C) Broken part      D) Hollow part

27. The picture shows a symbol, what type of symbol is this?



( )

- A) Surface is considerable for machining      B) Metal layer will be removed by machining  
C) Metal layer removal is not possible      D) It is for special surface specification

28. What is the full form of B.I.S of standardization in engineering drawing.

- A) Bureau of Indian security      B) British Indian Standards ( )  
C) Bureau of Indian Standards      D) Bureau of International Standards

29. Identify the rivet as shown in figure – ( )



- A) A simple rivet  
 B) Counter sunk rivet from back side  
 C) Counter sunk rivet from front side  
 D) Counter sunk rivet from both front side & back side

30. What is the color code for metal waste bin? ( )

- (A) Blue (B) Red  
 (C) Yellow (D) Green

31. As per Indian Standards, size of D3 drawing board is

- A)  $500 \times 350 \times 15$  mm  
 B)  $700 \times 550 \times 15$  mm  
 C)  $1000 \times 700 \times 25$  mm  
 D)  $1500 \times 1000 \times 25$  mm

32. A mini drafter serves the purpose of all these, except ..... ( )

- A) Scales B) Set squares C) Protractor D) Compass

33. A sphere can be described in how many views? ( )

- A) Four B) Three C) One D) Two

34. The depth of a feature can be dimensioned in ( )

- A) Front view B) Top view  
 C) Both top view and side view D) Side view

35. How many units are available in AutoCAD? ( )

- A) 5 B) 4 C) 3 D) 2

36. Which flat belt drive system has two pulleys mounted on driven shaft and one pulley on driving shaft? ( )

- A) Cone pulley drive B) Multiple belt drive  
 C) Fast and loose pulley drive D) Jokey pulley drive

37. In aligned system of dimensioning, the dimensions may be read from \_\_\_\_\_ ( )

- A) Bottom or right-hand edges B) Bottom or left-hand edges  
 C) Only from bottom D) Only from left side

38. When two prisms intersect at right angle, the curve of intersection is ( )

- A) Circular arc B) Elliptical arc C) Curved line D) Straight line

39. Which type of coupling is used for connecting shafts whose axes are parallel but not in one line? ( )

- A) Oldham's coupling B) Universal coupling C) Flange coupling D) None of these

40. One critical issue, drafters need to pay close attention to is the ( )

A) Size of the sheet B) Designers intent C) Scale factor D) None of these

41. Which type of wiring gives more mechanical and fire protection? ( )

A) Cashing capping wiring B) Batten wiring

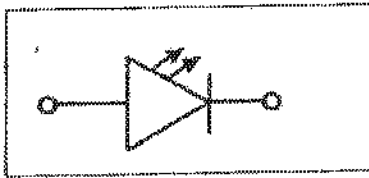
C) Conduit wiring D) Cleat wiring

42. Read the below Electrical Signs or Symbols. ( )



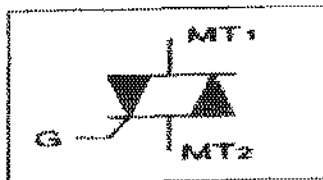
A) Socket 2 pin, 3 pin B) Ceiling Rose 2-pin, 3-pin C) Two-way switch D) Lamp

43. Read the below Electrical Signs or Symbols. ( )



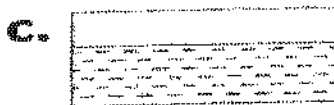
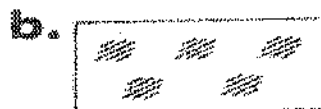
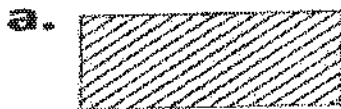
A) Diode B) Photo diode C) Light emitting diode (LED) D) Amplifier

44. Read the below Electrical Signs or Symbols.



A) DIAC B) SCR C) TRIAC D) FET ( )

45. Which of the following convention is used for Aluminium? ( )



46. The areas of the two successive sizes of drawing sheet are in the ratio \_\_\_\_\_ ( )

A) 1:5 B) 1:4 C) 1:2 D) 1:10

47. What is the expansion of ABC in first aid treatment? ( )

A) Airway Bleeding Circulation B) Airway Breathing Circulation

C) Airway Breathing Carefulness D) Accident Breathing Carefulness

48. What will happen to the value of earth resistance, if length of the earth pipe is increased?

A) Remain same B) Increases C) Decreases D) Infinity ( )

49. Where the variable air capacitors are used? ( )  
 A ) Radio receivers      B ) Oscillators      C ) Amplifiers      D ) RF filters
50. What is the name of property that the flux density always lagging behind the magnetising force? ( )  
 A ) Hysteresis      B ) Magnetic intensity      C ) Magnetic induction      D ) Residual magnetism
51. Which effect is produced, if the current is passed through a conductor? ( )  
 A ) Thermal effect      B ) Magnetic effect      C ) Chemical effect      D ) Electrostatic effect
52. What is the goal of the occupational health safety? ( )  
 A ) To maintain discipline      B ) To co-operate with co-workers  
 C ) To provide a safe work environment      D ) To keep the work place neat and clean
53. What is the condition, if zero current is flowing through the galvanometer in Wheat stone bridge? ( )  
 A ) Balanced      B ) Unbalanced      C ) Short-circuited      D ) Open circuited
54. What is unit of inductance? ( )  
 A ) Weber      B ) Henry      C ) Ampere turns      D ) wb/m<sup>2</sup>
55. What is the output voltage of lithium cell? ( )  
 A ) 1.2 V      B ) 1.5 V      C ) 1.8 V      D ) 2.5 V
56. What is the effect if one cell is connected with reverse polarity in a parallel combination circuit? ( )  
 A ) Voltage become zero      B ) Become open circuit  
 C ) Will get short circuited      D ) No effect will function normally
57. What is the outcome at the positive plate, after the chemical reaction in lead acid battery during charging? ( )  
 A ) Sponge lead(Pb)      B ) Lead peroxide(PbO<sub>2</sub>)  
 C ) Lead sulphate(PbSO<sub>4</sub>)      D ) Lead sulphate + water
58. How the conduit pipes are specified? ( )  
 A ) Length in metre      B ) Wall thickness in mm  
 C ) Inner diameter in mm      D ) Outer diameter in mm
59. What is the effect of low current rated cable used to connect higher current load? ( )  
 A ) Voltage drop increases      B ) Load current increases  
 C ) Voltage drop decreases      D ) Cable damage due to heat
60. Calculate the voltage regulation in percentage of the transformer if the no load voltage is 240 volt and full load voltage is 220 volt ? ( )  
 A ) 7.2 %      B ) 8.3 %      C ) 8.71 %      D ) 9.09 %
61. What is the purpose of providing explosion vent in a power transformer? ( )  
 A ) Air releasing      B ) Heat releasing      C ) Pressure releasing      D ) Moisture releasing



62. What is the function of stirrer motor in micro wave oven? ( )  
 A) Draws cooling air inside      B) Spreads the heat uniformly  
 C) Exhausts the hot air outside      D) Revolves and reflects the electromagnetic energy
63. Which error if the energy meter disc rotating continuously on no load? ( )  
 A) Speed error:      B) Phase error      C) Friction error      D) Creeping error
64. Which is the semiconductor material? ( )  
 A Eureka      B Ebonite      C Manganin      D Germanium
65. The basic function of a circuit breaker is to ( )  
 (A) extinguish the arc      (B) ionize the surrounding air  
 (C) trAnsmitt voltage by arcing      (D) produce the arc
66. What is the purpose of back up protection? ( )  
 A) To increase the speed      B) To increase the reach  
 C) To leave no blind spot      D) To guard against failure of primary
67. Which is the instrument used to draw parallel lines fast? ( )  
 A) Set square      B) Ruler scale      C) Protractor      D) Roll-n-draw ruler
68. The side opposite to right angle in Right angled triangle is called \_\_\_\_\_. ( )  
 A) Adjusant side      B) Hypotenuse      C) Opposite side      D) Line
69. The sum of the interior angle and the corresponding external angle is \_\_\_\_\_. ( )  
 A)  $180^\circ$       B)  $90^\circ$       C)  $360^\circ$       D)  $120^\circ$
70. Which of the following is NOT main types of engineering drawing? ( )  
 A) Mechanical engineering drawings      B) Electrical Engineering drawings  
 C) Air engineering drawings      D) Civil Engineering drawings
71. Scale of an instrument will be uniform if ( )  
 A. Deflecting torque varies directly as the deflection angle  
 B. Control torque varies directly as the deflection angle  
 C. Both (a) and (b)  
 D. Damping torque varies directly as the deflection angle
72. Which of the following is the most popular method for measuring low resistance? ( )  
 A) ducer ohmmeter method      B) kelvin double bridge method  
 C) ammeter-voltmeter method      D) potentiometer method
73. Range of an electrical instrument depends on \_\_\_\_\_ ( )  
 A) current      B) voltage      C) power      D) resistance प्रतिरोध

74. In which method of orthographic projection the object is placed below H.P. and behind V.P.?

- (A) 1st angle projection (B) 2nd angle projection ( )  
(C) 3rd angle projection (D) 4th angle projection

75. What are the three principal planes in orthographic projection? ( )

- (A) Frontal, horizontal, profile (B) Back, top, profile  
(C) Top, front, right side (D) Front, Top, profile

76. Which among the following is a type of direct measuring instrument of roughness?

- (A) Micro interferometer (B) Micro meter ( )  
(C) Profilometer (D) Surface dynamometer

77. The thickness/radius of sheet metal/wire is indicated by a series of number, which is called as

- (A) Number size (B) Gauge ( )  
(C) Standard size (D) None of the above

78. Which view in general is used to create a new drawing view which is enlarged portion of existing view? ( )

- (A) Named view (B) Three view (C) Sectional view (D) Detail view

79. How the visibility of Isometric views are drawn by? ( )

- (A) Full scale (B) Enlarged scale (C) True scale (D) True length

80. When a square surface is parallel to the plane of projection, the resulting projection will be

- (A) Straight line (B) True length of edge ( )  
(C) True shape of the surface (D) Reduced shape of the surface

81. AGMSY, CIOUA, EKQWC, ?, IOUAG, KQWCI ( )

- (A) GMSYE (B) FMSYE (C) GNSYD (D) FMYES

82. M is the son of P. Q is the granddaughter of O, who is the husband of P. How is M related to O? ( )

- (A) Son (B) Daughter (C) Mother (D) Father

83. If 'x' means 'addition' '-' means 'division', '+' means 'subtraction' and '÷' means 'multiplication', then which of the following equations is correct? ( )

- (A)  $16 + 5 - 10 \times 4 \div 3 = 9$  (B)  $16 - 5 \times 10 \div 4 + 3 = 12$   
(C)  $16 + 5 \div 10 \times 4 - 3 = 9$  (D)  $16 \times 5 \div 10 \div 4 - 3 = 19$

84. Writer : Pen :: ? ( )

- (A) Needle (B) Artist :: Tailor Brush (C) Painter (D) Teacher : Canvas : Class

85. Statement- "Buy pure and natural Oil of company HOL" – An ad. in a newspaper. ( )

Assumptions- I. People do not mind paying more for pure and natural oil.

II. Artificial oil can be prepared.

A. If only assumption I is Implicit

B. If only assumption II is Implicit

C. If either I or II is Implicit

D. If neither I nor II is Implicit

E. If both I and II are implicit

86. Statements: All purses are mobile. All mobile are phones. Some mobile are rings. No ring is purse. Which Conclusion is right? ( )

(a) Some purse is ring.

(b) No mobile is ring.

(c) Some phones are purse.

(d) All rings are mobile.

87. A man starts walking towards Northeast diagonally from the left corner of a square plot and turns right after reaching the centre of the plot. After some distance, he again turns right and continues walking. Which direction is he facing now? ( )

(a) East

(b) West

(c) South

(d) North

88. Which of the following is the branch of Artificial Intelligence? ( )

a) Machine Learning

b) Cyber forensics

c) Full-Stack Developer

d) Network Design

89. Which of the following machine requires input from the humans but can interpret the outputs themselves? ( )

a) Actuators

b) Sensor

c) Agents

d) AI system

90. Agnimitra was the hero of Kalidasa's play \_\_\_\_ ( )

(A) Raghu vansam

(B) Mega Dhutam

(C) Malavikagnimitram

(D) Sakunthalam

91. The holy book of the Sikhs is \_\_\_\_ ( )

(A) Mahabharatham

(B) Ramayanam

(C) Gita

(D) Granth Sahib

92. The Indus Valley, civilization had overseas trade contacts with \_\_\_\_ ( )

(A) Egypt

(B) Spain

(C) China

(D) Russia

93. Van Mahotsav includes ( )

a) Planting and protecting trees

b) Destruction of trees should be curtailed

c) Restoration of green cover

d) All the above

94. Public health depends on sufficient amounts of good quality \_\_\_\_ safe drinking \_\_\_\_ and adequate \_\_\_\_ ( )

(A) Water, food and shelter

(B) Food, Water and Shelter

(C) Shelter, food and water

(D) Water, shelter and food

95. Soil pollution can be controlled by ( )

- a) Reducing, reusing and recycling of wastes
- b) Production of Biogas from agriculture wastes and animal refuse
- c) Conducting awareness programme to propagate organic farming
- d) All the above

96. Which of the following type of computer is mostly used for automatic operations? ( )

- a) analog
- b) digital
- c) hybrid
- d) remote

97. Which of the following is the first neural network computer? ( )

- a) AN
- b) AM
- c) RFD
- d) SNARC

98. Which of the following package allows individuals to use personal computers for storing and retrieving their personal information? ( )

- a) Personal assistance package
- b) Graphics package
- c) Spreadsheet package
- d) Animation package

99. Who among the following was the president of the Constituent Assembly ? ( )

- A) Lal Bahadur Shastri
- B) Dr. B.R. Ambedkar
- C) Dr. Rajendra Prasad
- D) P. Upendra

100. The Creamy Layer, concept refers to ( )

- A) The grouping based on social status
- B) The grouping based on castes
- C) The grouping based on economic status
- D) The grouping based on milk consumption