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**AP GRAMA/WARD SACHIVALAYAM GRAND TEST – 1**  
**CAT- 2 B**

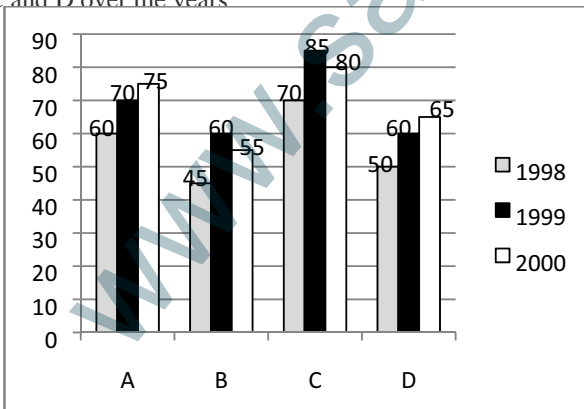
**MARKS : 150**No. of Questions: 150

**Time : 150 Minutes**

**(-)five marks: 0.25**

- The costs of two watches were in the ratio 16 : 23. The cost of first watch increases by 10% and that of second by Rs. 477. Now the costs of two watches are in the ratio 11 : 20. The price of the second watch (in Ts.) in the beginning was  
 (a) 932 (b) 1219 (c) 1696 (d) 848
- Amit had a certain amount with him. He spent 20% of that to buy a car and 5% of the remaining on maintenance of a bike. Then he gifted 120 Rs. If he is left with Rs. 1400. Then find the total amount?  
 (a) Rs. 2000 (b) Rs. 21000  
 (c) Rs. 18000 (d) Rs. 15000
- Tap 'A' can fill a tank in 10 hours. Due to leak it emptied in 15 hours. In how many hours leak alone can empty the half tank?  
 (a) 30 hours (b) 6 hours (c) 15 hours (d) 20 hours
- A journey of 800 km is done in a total of 10 hours, If 320 km is travel by train and remaining by bus. The same journey is done in 8 hours if 240 km is travel by train and remaining is done by bus. Find the ratio of the speed of train to bus.  
 (a) 2:11 (b) 3:11 (c) 1:11 (d) 4:11
- A sum of money invested for 7years in Scheme 1 which offers SI at a rate of 8% pa. The amount received from Scheme 1 after 7 years invested for 2 years in Scheme 2 which offers CI rate of 10% pa. If the interest received from Scheme B was Rs.1638. What was the sum invested in Scheme 1?(approx)  
 (a) Rs.7500 (b) Rs.5000  
 (c) Rs.8200 (d) Rs.9000

**Directions (6-8):** Study following Bar graph carefully and answer the question given below The graph represents the production of Wheat in thousand tonnes) in four States A, B, C and D over the years



- The difference (in thousand tones) between the average production of wheat by four states in 1999 and average production by them state in 1998 is:  
 (a) 12.5 (b) 13.5 (c) 17 (d) 21.5
- Which of the given state has recorded the maximum percentage growth in production of wheat from 1999 to 2000?  
 (a) A (b) A and B (c) D (d) None of these

- Which of the four states has recorded the maximum percentage growth in production of wheat from 1998 to 1999?  
 (a) A (b) D (c) A and D both (d) None of these
- In a certain code language, "CONGO" is written as "RZPRD" and "TREAT" is written as "UQGWX". How is "PHONE" written in that code language?  
 (a) JNQIJ(b) KMQHK  
 (c) MKQKH(d) LLPIL
- Vineet travels 16 km towards west, turns right and travels another 12 km, and then takes two successive left turns covering 8 km and 12 km in each turn respectively. Finally, he takes a right turn and travels 10km further. How far is he now from his original position?  
 (a) 46 km(b) 34 km(c) 40 km(d) 38 km
- In the following question below are given some statements followed by some conclusions. Taking the given statements to be true even if they seem to be at variance from commonly known facts, read all the conclusions and then decide which of the given conclusion logically follows the given statements.

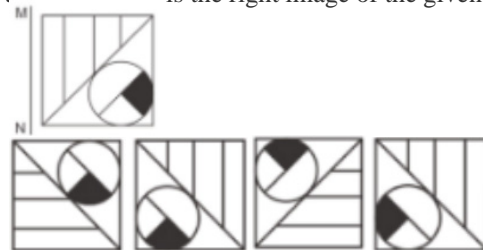
**Statements:** Some pens are pencils.

All pencils are erasers.

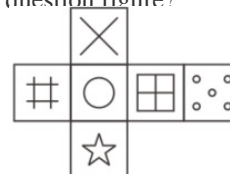
**Conclusions:** I. Some pencils are not pens.

II. Some erasers are not pens.

- Only conclusion (I) follows.
  - Only conclusion (II) follows.
  - Neither conclusion (I) nor conclusion (II) follows.
  - Both conclusions follow.
- If a mirror is placed on the line MN, then which of the answer figures is the right image of the given figure?



- Which of the following cube in the answer figure cannot be made based on the unfolded cube in the question figure?



**Direction (Q. No. 14-16) :** In each of the following questions a sentence consists of a blank and it is followed by four options namely a, b, c and d. One of the options fills up the blank. Choose the appropriate option.

14. I am \_\_\_\_\_ my book  
(a) look for (b) look about  
(c) looking for (d) look on
15. As the pilgrims were hungry, they ate \_\_\_\_\_  
(a) instantly (b) speedily  
(c) greedily (d) frequently
16. Can you tell me who were the first persons to \_\_\_\_\_ the Everest?  
(a) Climbed (b) Win  
(c) Victory (d) Scale
17. Famous writer Krishna Sobti died recently. She has won which of the following awards in her life span?  
A. Jnanpith Award  
B. Sahitya Akademi Award  
C. Vyas Samman  
D. Padma Bhushan  
(a) A and C (b) B and C  
(c) A, C and D (d) A and B
18. Which country will host the annual G20 leaders' summit on 21-22 November 2020?  
(a) UAE (b) Syria (c) Qatar (d) Saudi Arabia
19. Who took over as Prime Minister of Britain in July 2019?  
(a) Michael Gove (b) Boris Johnson  
(c) Nigel Farage (d) Rory Stewart
20. Who is the author of the book titled 'New age technology and Industrial Revolution 4.0'?  
(a) Raushan Ganduly (b) Manoj Jha  
(c) Suresh Gopi (d) Narendra Jadhav
21. Which among the following is the newest high court in India?  
(a) Chhattisgarh High Court  
(b) Andhra Pradesh High Court  
(c) Jharkhand High Court (d) Manipur High Court
22. What is the toll free number of Spandhana?  
(a) 1800-425-4440 (b) 1800-524-3330  
(c) 1800-524-2220 (d) 1800-625-5550
23. On which date farmer day was celebrated in Andhra Pradesh?  
(a) July 8<sup>th</sup> (b) June 8<sup>th</sup> (c) Aug 8<sup>th</sup> (d) May 8<sup>th</sup>
24. Rajanna Badi bata started from which date to date?  
(a) July 14<sup>th</sup> to 17<sup>th</sup> (b) June 14<sup>th</sup> to 17<sup>th</sup>  
(c) Aug 14<sup>th</sup> to 17<sup>th</sup> (d) Sep 14<sup>th</sup> to 17<sup>th</sup>
25. What is the scheme name of Mid Day meals program in Government school?  
(a) Y. S. R. Akshaya Patra (b) Rajanna Canteen  
(c) N.T. R Canteen (d) None of the above
26. How much financial assistant provided to the farmer on the name of Y.S. R. Rythu Barosa  
(a) 14500 (b) 13500 (c) 6000 (d) 12500
27. In which country more magnetic reserves are located  
(a) Australia (b) Turkey (c) North Sweden  
(d) China
28. Integrated Circuits are manufactured with  
(a) Silver (b) Silicon (c) Iron (d) Nickel
29. Fourth state of matter is called as

- (a) Solid (b) Liquid (c) gases (d) Plasma
30. Dinosaurs were  
(a) Cenozoic reptiles (b) Mesozoic birds  
(c) Paleozoic amphibians (d) Mesozoic reptiles
31. The Raichur Doab is formed by the Confluence of Rivers  
(a) Krishna and Tungabhadra  
(b) Tunga and Bhadra  
(c) Krishna and Godavari  
(d) Kagna and Krishna
32. Which of the following places is an evidence of Chalcolithic age in Andhra  
(a) Sanganakallu (b) Tekkala Kota  
(c) Palavoy (d) Patapadu
33. Which literature refers to Andhras as 'Andhakaratta'  
(a) Vedic literature (b) Buddhist literature  
(c) Jain literature (d) Taitareya brahmana
34. Who among the following located Satavahanas in Ballari (Bellary) district on the basis of Myakadoni Inscription  
(a) V.V. Mirashi (b) R.G. Bhandarker  
(c) V.S Sukthankar (d) S.A. Joglekar
35. Name the capital of a place known as "Anupa" under Goutami Putra Satakarni?  
(a) Mahishmati (b) Vidisha  
(c) Ujjain (d) Podana
36. The following expenditure shall be charged on the consolidated fund of India, except  
(a) Debt charges for which the government of India is liable  
(b) Salaries, allowances and pensions payable to or in respect of Supreme Court judges  
(c) The pensions payable to or in respect of judges of any high court  
(d) The pensions payable to or in respect of governors of any state
37. All following statements regarding the privileges of Parliament members are correct except  
(a) Freedom from arrest  
(b) Freedom of attendance as witness  
(c) Freedom of speech  
(d) Members individual freedom only allowed, house as a whole do not have freedom
38. Article 17 and 18 provide  
(a) Social equality (b) Economic Equality  
(c) Political Equality (d) Religious Equality
39. Prices in India increase mainly not because of  
(a) Indiscriminate increase in public expectations  
(b) Hoarding of essential commodities  
(c) Oil price shocks  
(d) Less agricultural production
40. The control inflation  
(a) it may be sufficient to use monetary policy

- (b) fiscal policy measures would alone be sufficient
- (c) inflation should be targeted aggressively
- (d) a combination of monetary, fiscal and exchange rate policies may be required

41. The expert committee to review and strengthen the monetary policy framework, in recent times was headed by

- (a) N. Vaghul
- (b) SS Tarapore
- (c) Urjit Patel
- (d) Aravind Panagaria

42. The Banking Regulation Act 1949 gave extensive regulatory powers to

- (a) State Bank of India
- (b) Government of India
- (c) Reserve Bank of India
- (d) All Nationalized Banks

43. An example of all India Development Finance institutions is

- (a) Small Industries Development Bank of India (SIDBI)
- (b) EXIM Bank
- (c) UTI
- (d) Export credit and guarantee corporation of India (ECGCI)

44. Which of the following statements is true?

- (a) As on 2013-14, Direct taxes accounted for less than half of the total tax revenue of the Central Government
- (b) Of all the taxes levied by the centre, corporate tax is the most important one in terms of revenue generation
- (c) Income tax has played a crucial and positive role in income redistribution in rural India
- (d) GST is not related to income

45. Match the following List I with List II (Northern hemisphere) and choose the correct answer.

**List I**

- a. Winter solstice
- b. Summer solstice
- c. Vernal equinox
- d. Autumnal equinox

**List II**

- I. December, 22
- II. June, 21
- III. March, 21
- IV. September, 23

**Codes:**

- |          |          |          |          |
|----------|----------|----------|----------|
| <b>a</b> | <b>b</b> | <b>c</b> | <b>d</b> |
| (a) IV   | III      | II       | I        |
| (b) I    | II       | III      | IV       |
| (c) I    | II       | IV       | III      |
| (d) IV   | II       | III      | I        |

46. Which of the following statement's rightly explain/s about tropopause?

- i) Seasonal variation occurs in the height of tropopause ?
- ii) It is the transition zone between troposphere and stratosphere.
- iii) It lies below the stratosphere

- (a) (ii) and (iii)
- (b) (i) and (ii)
- (c) (i), (ii) and (iii)
- (d) (i) and (iii)

47. The Suez Canal connects

- (a) Baltic Sea and Pacific Ocean
- (b) Mediterranean Sea and Atlantic Ocean
- (c) Baltic Sea and Mediterranean Sea
- (d) Mediterranean Sea and Red Sea

48. Match the following:

**List I (Crops)**

- A. Barley
- B. Groundnut
- C. Ragi
- D. Rice

**List II (Chief Producer)**

- I. Karnataka
- II. Uttar Pradesh
- III. Gujarat
- IV. West Bengal

**Code:**

- |          |          |          |          |
|----------|----------|----------|----------|
| <b>A</b> | <b>B</b> | <b>C</b> | <b>D</b> |
| (a) I    | II       | III      | IV       |
| (b) II   | III      | I        | IV       |
| (c) IV   | III      | II       | I        |
| (d) III  | IV       | II       | I        |

49. How many mandals have been alienated from Telangana and annexed to Andhra Pradesh during reorganization due to their submergence issues under the Polavaram Project?

- (a) 5
- (b) 6
- (c) 7
- (d) 9

50. After reorganization, what is the position of Andhra Pradesh in terms of meting targets laid down under FRBM?

- (a) The targets are under control
- (b) The targets could not be met
- (c) The targets are lowered
- (d) Correct data is not available

51. In order to determine the natural features such as valleys, rivers, lakes etc., the surveying preferred is

- (a) city surveying
- (b) Locating surveying
- (c) cadastral surveying
- (d) topographical surveying

52. French crosstaff is used for setting out an offset at angle of

- (a) 90°
- (b) 45°
- (c) 180°
- (d) Both (a) and (b)

53. Which of the following is not a well conditioned triangle?

- (a) 34°, 76°, 70°
- (b) 50°, 65°, 65°
- (c) 44°, 53°, 83°
- (d) 93°, 27°, 60°

54. Correction of slope when the angle of slope of ground ( $\theta$ ) is known

- (a)  $1(1-\cos\theta)$
- (b)  $1(1-\sin\theta)$
- (c)  $1(\sin\theta-1)$
- (d)  $1(\cos\theta-1)$

55. Compensating errors that occur in chaining are proportional to

Where L = Length of the line.

- (a) L
- (b)  $\sqrt{L}$
- (c) 1/L
- (d)  $1/\sqrt{L}$

56. The tension, at which the effects of pull and sag for a tape are neutralized, is known as

- (a) initial tension
- (b) absolute tension
- (c) surface tension
- (d) normal tension

57. A check line in a chain surveying





- (a) checks the accuracy of the framework
- (b) enables the surveyor to locate the interior details far away from the main chain lines

- (c) fixes up the directions of all other lines  
(d) all of the above
58. The horizon glass in an optical square is  
(a) wholly silvered  
(b) wholly unsilvered  
(c) one-fourth silvered and three-fourth unsilvered  
(d) half silvered and half unsilvered
59. The instrument used for setting out an offset at a right angle, is called  
(a) open cross-staff (b) french cross-staff  
(c) adjustable cross-staff (d) optical square
60. Collimation method is used in  
(a) profile levelling (b) differential levelling  
(c) check levelling (d) Both (a) and (b)
61. The height of instrument is equal to  
(a) reduced level of bench mark + back sight  
(b) reduced level of bench mark + fore sight  
(c) reduced level of bench mark + intermediate sight  
(d) back sight + fore sight
62. The method of leveling in which the heights of mountains are found by observing the temperature at which water boils is known as  
(a) barometric levelling (b) reciprocal levelling  
(c) longitudinal levelling (d) hypometry
63. A line normal to the plumb line at all points is known as  
(a) horizontal line (b) vertical line  
(c) level line (d) line of collimation
64. The traversing by the method of deflection angles is chiefly used in  
(a) canals (b) highways  
(c) railways (d) all of these
65. In precision theodolite traverse for roads and railways, the angular error of closure should not exceed  
(a)  $15''\sqrt{N}$  (b)  $30''\sqrt{N}$  (c)  $45''\sqrt{N}$  (d)  $1''\sqrt{N}$
66. When the angular measurements of a traverse are more precise than the linear measurements, the balancing of traverse is done by  
(a) transit rule (b) empirical rule  
(c) Bowditch's rule (d) any one of these
67. The method of surveying used for determining the relative height of points on the surface of the earth is called  
(a) levelling (b) simple leveling  
(c) longitudinal levelling (d) differential levelling
68. In leveling, the effect of refraction may be taken as \_\_\_\_\_ of that due to curvature.  
(a) one-half (b) one-third  
(c) one-fifth (d) one-seventh
69. The contour lines can cross one another on map only in the case of  
(a) a vertical cliff (b) a valley  
(c) a ridge (d) an overhanging cliff
70. Following offsets are taken from a survey line to a hedge.

Distance (in m)	0	5	10	15	20	30	40
Offsets (in m)	3	4	5.5	5	6	4	4.5

The area between survey line and the hedge is [By trapezoidal method]

- (a)  $185.5m^2$  (b)  $187.5m^2$  (c)  $189.5m^2$  (d)  $289.5m^2$
71. Size of  $A_2$  drawing paper is \_\_\_\_\_

- (a)  $594\text{ mm} \times 841\text{ mm}$  (b)  $841\text{ mm} \times 1189\text{ mm}$   
(c)  $420\text{ mm} \times 594\text{ mm}$  (d)  $210\text{ mm} \times 297\text{ mm}$
72. Surface of  $A_0$  size is  
(a)  $0.9m^2$  (b)  $1m^2$  (c)  $1.42m^2$  (d)  $0.81m^2$
73. Which angle projection is used in India?  
(a) First Angle Projection  
(b) Second Angle Projection  
(c) Third Angle Projection  
(d) Fourth Angle Projection
74. The length of  $30^\circ - 60^\circ$  set square is  
(a) 30 cm (b) 25 cm (c) 20 cm (d) 15 cm
75. BIS recommended two line widths on a drawing. Ratio between the thin (narrow) and thick (wide) lines on a drawing shall not less than  
(a) 1 : 1 (b)  $1:\sqrt{2}$  (c)  $\sqrt{2} : 1$  (d) 1 : 2
76. The angle are marked to \_\_\_\_\_ accuracy at the circumferential edge of a protractor.  
(a)  $1^\circ$  (b)  $2^\circ$  (c)  $\frac{1}{2}^\circ$  (d)  $2''$
77. The nature of lateral surface of sphere is  
(a) plane surface (b) single curved surface  
(c) double curved surface (d) None of the above
78. The length to height ratio of a closed filled arrow head is  
(a) 2:1 (b) 1:1 (c) 3:1 (d) 2:3
79. Single stroke letters are of \_\_\_\_\_ types  
(a) 4 (b) 3 (c) 5 (d) 2
80. 1 mile = \_\_\_\_\_ km  
(a) 1.51 (b) 1.61 (c) 1.71 (d) 1.81
81. Inclined letters lean to the right, the slope being \_\_\_\_\_ with horizontal & \_\_\_\_\_ with vertical  
(a)  $45^\circ, 45^\circ$  (b)  $60^\circ, 30^\circ$  (c)  $75^\circ, 15^\circ$  (d)  $90^\circ, 0^\circ$
82. How many qualities are there in drawing pencil?  
(a) 16 (b) 18 (c) 3 (d) 4
83. Combined instrument of 'T' square, set square, protractor and scale  
(a) Mini drafter (b) French curve  
(c) compass (d) Chinograph
84. Which line is also used to show the cut section of an object?  
(a) Outline (b) Short break line  
(c) Hidden line (d) Object line
85. Which among the following is not to be used as height of letter in engineering drawing?  
(a) 5 (b) 7 (c) 2.5 (d) 7.5
86.  is the symbol for which material  
(a) steel (b) wood (c) brick (d) stone
87.  is the symbol for which material  
(a) brick (b) steel (c) aluminium (d) rock
88.  Symbol represents  
(a) water reservoir (b) water treatment plant  
(c) water pumping station (d) waste water reservoir
89.  represents  
(a) street inlet (b) cleaning well  
(c) draining well (d) manhole





represents

- (a) Brick masonry (b) Ashlar masonry  
(c) Wooden masonry (d) None of these
91. When the diagonals of a quadrilateral are perpendicular to each other, then it called as  
(a) square (b) trapezium  
(c) rhombus (d) parallelogram
92. The straight line drawn from the apex to the circumference of the base of a cone is  
(a) generator (b) bisector  
(c) principal plane (d) emitter
93. The angle between the arrow mark may be from  
(a) 45° to 135° (b) 15° to 90°  
(c) 5° to 40° (d) 0° to 90°
94. In which projection, plane of projection is assumed to be transparent?  
(a) First Angle Projection  
(b) Third Angle projection  
(c) Fourth Angle proportion  
(d) Both (b) and (c)
95. Icosahedron has equilateral triangular faces  
(a) 12 (b) 16 (c) 20 (d) 24
96. RF of a scale is always  
(a) Less than 1 (b) Equal to 1  
(c) Greater than 1 (d) Any of these
97. Diagonal of a square can be measured by a  
(a) plain scale (b) diagonal scale  
(c) vernier scale (d) all of these
98. RF of scale on a mini-drafter is  
(a) 0 (b) 2 (c) 1 (d) 10
99. Which type of line has precedence over all other types of lines?  
(a) A hidden line (b) A lenter line  
(c) A visible line (d) None of these
100. Eccentricity of a circle is  
(a) 0 (b) > 1 (c) < 1 (d) 1
101. Depression provided in the face of brick is called  
(a) Lock (b) Key (c) Frog (d) Joint
102. Brick which is half as a full brick (ie cutting along lengthwise)  
(a) king closer (b) queen closer  
(c) bewelled closer (d) mitred closure
103. Which bond consists of alternate course of headers and stretchers.  
(a) Flemish Bond (b) English Bond  
(c) Header Bond (d) Raking Bond
104. Consumption of cement mortar is high in  
(a) Stone masonry (b) Brick masonry  
(c) Both (a) and (b) (d) Neither (a) or (b)
105. The form work of concrete roof should be removed after how many days  
(a) 7 (b) 14 (c) 28 (d) 2
106. \_\_\_\_\_ truss is used for spans from 9 to 14m  
(a) steel truss (b) king post truss  
(c) queen post truss (d) None of these
107. The thickness of corrugated aluminium sheets vary from \_\_\_\_\_ cm to \_\_\_\_\_ cm for roofing  
(a) 0.8 to 0.12 (b) 0.2 to 0.4  
(c) 0.5 to 0.8 (d) 0.6 to 0.12
108. In Asbestos cement sheets, percentage of asbestos fibre is  
(a) 10% (b) 30% (c) 15% (d) 40%
109. Which of the following foundation is used for weaker soil?  
(a) column footing (b) grillage footing  
(c) raft footing (d) All of these
110. A type of foundation most suitable for bridges is  
(a) pier foundation (b) raft foundation  
(c) pile foundation (d) strap foundation
111. The minimum depth of foundation for buildings on clay is  
(a) 0.2 to 0.4m (b) 0.4 to 0.6 m  
(c) 0.6 to 0.9m (d) 0.9 to 1.6m
112. For a rectangular foundation of width b, the eccentricity of the load should not be greater than  
(a) b/3 (b) b/4 (c) b/5 (d) b/6
113. For the pre-cast reinforced concrete piles, the quality of concrete recommended is  
(a) M 100 to M 150 (b) M 150 to M 200  
(c) M 200 to M 250 (d) M 250 to M 300
114. The minimum covering of the reinforcement for the pre-cast reinforced piles used in sea water, is  
(a) 40 mm (b) 55 mm (c) 75 mm (d) 100 mm
115. Sheet piles are made of  
(a) wood (b) steel (c) concrete (d) all of these
116. The maximum load on the wooden pile should not exceed  
(a) 50 kN (b) 100 kN (c) 150 kN (d) 200 kN
117. A semi-rigid material which forms an excellent impervious layer for damp-proofing, is called  
(a) bitumen (b) mastic asphalt  
(c) aluminial (d) bituminous felt
118. The cavity wall is generally provided for  
(a) preventing dampness (b) heat insulation  
(c) sound insulation (d) all of these
119. A flexible material used for D.P.C is  
(a) bitumen sheeting (b) plastic sheeting  
(c) mastic asphalt (d) cement concrete
120. The dampness in a building is due to  
(a) ground moisture (b) rain water  
(c) defective construction (d) all of these
121. Hearting is the portion of a  
(a) wall not exposed to weather  
(b) brick cut across the width  
(c) wall between facing and backing  
(d) brick cut in such a manner that its one long face remains uncut
122. A course of stone provided immediately below a cornice, is called  
(a) blocking course (b) coping  
(c) frieze (d) parapet
123. The total horizontal pressure at the retaining wall acts at \_\_\_\_\_ from the base.  
(a)  $\frac{h}{2}$  (b)  $\frac{h}{3}$  (c)  $\frac{h}{4}$  (d)  $\frac{h}{5}$
124. In a raking bond,  
(a) all the bricks are laid as headers  
(b) all the bricks are laid as stretchers  
(c) the arrangement of bricks is similar to English bond  
(d) the bonding bricks are laid at any angle other than zero or ninety degree
125. The process of filling up all nail holes, cracks etc. with putty is known as  
(a) knotting (b) priming (c) stopping (d) finishing

- (a) 1 in 20 (b) 1 in 25 (c) 1 in 30 (d) 1 in 40
127. Creep is the \_\_\_\_\_ movement of rail.  
 (a) longitudinal (b) lateral (c) vertical (d) None
128. For undeveloped areas, the type of gauge is adopted.  
 (a) meter gauge (b) narrow gauge  
 (c) broad gauge (d) None of the above
129. The width of top portion of a flat-footed rail, is  
 (a) 66.67 mm (b) 69.80 mm  
 (c) 73.25 mm (d) 75.87 mm
130. For broad gauge track, in Indian railways, the standard length of the rail is  
 (a) 10.06 m (b) 10.97 m (c) 11.89 m (d) 12.8 m
131. The rail section is designated by its  
 (a) total length (b) total weight  
 (c) cross-sectional area (d) weight per metre length
132. The standard size of wooden sleepers on broad gauge railway track is  
 (a) 1.52 m × 15 cm × 10 cm  
 (b) 1.83 m × 20 cm × 11 cm  
 (c) 2.74 m × 25 cm × 13 cm (d) any one of these
133. A reflux valve, in a water distribution system, is provided at  
 (a) low points (b) high points  
 (c) junction points (d) all of these
134. An egg-shaped cross-section of a sewer  
 (a) is economical than circular cross-section  
 (b) is more stable than circular cross-section  
 (c) provides self cleaning velocity in dry weather  
 (d) none of the above
135. A drop manhole is provided if  
 (a) a sewer drops from a height  
 (b) a branch sewer discharges into the main sewer at a higher level  
 (c) both (a) and (b) (d) none of these
136. In one pipe system of plumbing, waste water is carried away from  
 (a) bath rooms (b) kitchens  
 (c) wash basins (d) all of these
137. For large sewers, the maximum distance between manholes should be  
 (a) 75 m (b) 150 m (c) 200 m (d) 300 m
138. The self cleaning velocity, recommended for Indian conditions, in order to prevent settling down of sewage at the bottom or on the sides of a large sewer is  
 (a) 0.25 m/s (b) 0.50 m/s (c) 0.75 m/s (d) 1.5 m/s
139. The open wells or dug wells are also known as  
 (a) shallow wells (b) draw wells  
 (c) percolation wells (d) all of these
140. The yield of a underground source may be obtained by  
 (a) pumping test (b) recuperating test  
 (c) both (a) and (b) (d) none of these
141. The type of rolled steel section mainly used as structural member is  
 (a) rolled steel I-section (b) rolled steel channel section  
 (c) rolled steel T-section (d) all of these
142. For rivet diameters upto 24 mm, the diameter of rivet hole is larger than the diameter of rivet by  
 (a) 1 mm (b) 1.5 mm (c) 2 mm (d) 2.5 mm
143. The size of rivet is expressed by the  
 (a) length of shank (b) diameter of shank  
 (c) type of head (d) all of these
144. The value of Poisson's ratio for steel within the elastic region ranges from  
 (a) 0.17 to 0.25 (b) 0.25 to 0.33  
 (c) 0.33 to 0.41 (d) 0.41 to 0.49
145. Minimum pitch in a riveted joint should not be  
 (a) less than 200 mm (b) more than 200 mm  
 (c) greater than 2.5 times the gross diameter of the rivet  
 (d) less than 2.5 times the gross diameter of the rivet
146. If the same number of rivets are used in the joints, then which of the following pattern will yield highest efficiency?  
 (a) Chain riveting (b) Zig-zag riveting  
 (c) Diamond riveting (d) all of these
147. The distance measured along one rivet line from the centre of a rivet on it to the centre of the adjoining rivet on the adjacent parallel rivet line, is known as  
 (a) staggered pitch (b) alternate pitch  
 (c) reeled pitch (d) any one of these
148. In a super-passage, the F. S. L of the canal is  
 (a) lower than the underside of the trough carrying drainage water  
 (b) above the bed level of the drainage trough  
 (c) in level with the drainage trough  
 (d) none of the above
149. The camber of road should be approximately equal to \_\_\_\_\_ the longitudinal gradient.  
 (a) one-half (b) two times  
 (c) three times (d) four times
150. The equilibrium super-elevation is given by  
 (a)  $\frac{v^2}{R}$  (b)  $\frac{v^2}{g.R}$  (c)  $\frac{v^2}{127 R}$  (d) none of these

\*\*\*\*\* ALL THE BEST \*\*\*\*\*

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AP GRAMA/WARD SACHIVALAYAM  
GROUP BGRAND TEST –1ANSWER KEY

1	b	21	b	41	c	61	a	81	c	101	c	121	c	141	d
2	a	22	a	42	c	62	d	82	b	102	b	122	a	142	b
3	c	23	a	43	a	63	c	83	a	103	b	123	b	143	b
4	c	24	b	44	d	64	d	84	b	104	a	124	d	144	b
5	b	25	a	45	b	65	d	85	d	105	b	125	c	145	d
6	a	26	d	46	d	66	a	86	c	106	c	126	a	146	c
7	c	27	c	47	d	67	a	87	b	107	c	127	a	147	d
8	d	28	b	48	b	68	d	88	a	108	c	128	b	148	a
9	b	29	d	49	c	69	d	89	c	109	d	129	a	149	b
10	b	30	d	50	b	70	c	90	b	110	c	130	c	150	c
11	c	31	a	51	d	71	c	91	c	111	d	131	d		
12	d	32	d	52	d	72	b	92	a	112	d	132	c		
13	c	33	b	53	d	73	a	93	b	113	b	133	a		
14	c	34	c	54	a	74	b	94	b	114	b	134	c		
15	c	35	a	55	a	75	d	95	c	115	d	135	b		
16	d	36	d	56	d	76	a	96	d	116	d	136	d		
17	d	37	d	57	a	77	c	97	d	117	b	137	d		
18	d	38	a	58	d	78	c	98	c	118	d	138	c		
19	b	39	d	59	a	79	d	99	c	119	a	139	d		
20	d	40	d	60	a	80	b	100	a	120	d	140	c		