PRELIMINARY INTERVIEW BOARD

TERRITORIAL ARMY COMMISSION : PRACTICE TEST PAPER - 1

PAPER–1: REASONING & ELEMENTARY MATHEMATICS

A1

Max Time : 2 Hours **(Please Read The Instructions Carefully)** **Max Marks : 100**

Roll No……..

INSTRUCTIONS

1. Paper 1 has two parts: Part I & Part II
   (a) Part I : Reasoning (50 marks)
   (b) Part II: Elementary Mathematics (50 marks)
2. Each section carries 50 objectives type of questions.
3. There will be four possible answers to every question. Candidates are required to fill correct answer in the OMR sheet with Black ball pen.
4. For each correct answer, 1 mark will be granted and 0.33 mark will be deducted for every wrong answer.
5. If a candidate gives more than one answer, it will be treated as a wrong answer and 0.33 mark will be deducted. There will be no penalty for questions left unanswered.
6. Candidates should not mark in the question paper. They can use blank pages provided in the question paper for rough work.
7. To be eligible to qualify, a candidate must obtain minimum 40% marks each in Part I & II separately and a minimum of 50% aggregate in total.

PART–1 : REASONING

Direction In each of the following question a number of series is given with one term missing. Choose the correct alternative that will continue the same pattern.

Q1. $\frac{1}{2}, \frac{3}{4}, \frac{5}{8}, \frac{7}{16}$?

(a) $\frac{9}{32}$ (b) $\frac{10}{17}$ (c) $\frac{11}{34}$ (d) $\frac{12}{35}$

Q2. 2, 5, 9, ?, 20, 27

(a) 14 (b) 16 (c) 18 (d) 24

Direction In each of the following questions, various terms of an alphabet series are given with one missing term as shown by (?) choose the missing term out of the given alternatives.

Q3. R, U, X, A, D, ?

(a) F (b) G (c) H (d) I

Q4. PMT, OOS, NQR, MSQ, ?

(a) LUP (b) LVP (c) LVR (d) LWP

Q5. _ _ aba _ _ ba _ ab

(a) abbba (b) abbab (c) baabb (d) bbaba

Q6. 2ZG, 7Y7, 14X9, 23W11. 34V13, ?

(a) 27U24 (b) 45U15 (c) 47U15 (d) 47V14

Direction Choose the correct alternative which shows the same relationship.

Q7. Ship: Sea :: Camel : ?

(a) Forest (b) Land (c) Mountain (d) Desert

Q8. Skirmish: War :: Disease : ?

(a) Medicine (b) Patient (c) Epidemic (d) Infection

Q9. Reading: Knowledge :: Work : ?

(a) Experience (b) Engagement (c) Employment (d) Experiment

Direction Choose the correct alternative which shows the same group relationship.

Q10. Violet : Orange: Yellow : ?

(a) Purple (b) Blue (c) White (d) Pink

Q11. Root : Stem : Branch : ?
(a) Wood (b) Leaf (c) Tree (d) Fertiliser

Direction Choose the odd one out.

Q12. Find the odd one out.
(a) Malaria (b) Plague (c) Dengue (d) Tetanus

Q13. Find the odd one out.
(a) Necklace (b) Ornament (c) Bangle (d) Ring

Directions: In each of the following questions, certain pairs of words are given, out of which the words in all pairs except one, bear a certain common relationship. Choose the pair in which the words are diffently related

Q14. (a) Sky : Cloud (b) Purse : Wallet (c) Cupboard : Almirah (d) Chair : Stool

Q15. (a) Malaria: Protozoa (b) Yeast : Fungi (c) Typhoid: Bacteria (d) Polio : Virus

Q16. In a certain code, BASIC is written as DDULE. How in LEADER written in that code?
(a) NGCFGT (b) NHCGGU (c) OGDFHT (d) OHDGHU

Q17. If TRUTH is coded as SUQSTVSUGI, then the code for FALSE will be
(a) EGZBKMRDE (b) EGZKMRTDF (c) EGZBKMRTDF (d) FGZBKNRTDF

Q18. If 'paper' is called 'wood', 'wood' is called 'straw', 'straw' is called 'grass', 'grass' is called 'rubber and 'rubber' is called 'cloth', what is the furniture made up of ?
(a) Paper (b) Wood (c) Straw (d) Grass

Q19. On another planet, the local terminology for 'earth', water', 'light', 'air' and 'sky' are 'sky, light', 'air, water' and 'earth' respectively. If someone is thirsty there, what would he drink?
(a) Light (b) Air (c) Sky (d) Water

Q20. Pointing to a man on the stage, Rashi said, "He is the brother of the daughter of the wife of my husband." How is the man on the stage related to Rashi?
(a) Son (b) Husband (c) Cousin (d) Nephew

Q21. Introducing a man, a woman said, "His wife is the only daughter of my father." How is that man related to the woman?
(a) Brother (b) Father–in–law (c) Maternal uncle (d) Husband

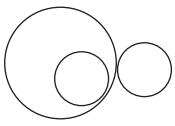
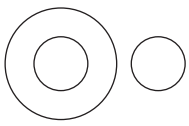
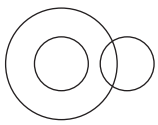
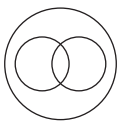
Q22. Five persons are standing in a line. One of the two persons at the extreme ends is a professor and the other a business man. An advocate is standing to the right of a student. An author is to the left of the business man. The student is standing between the professor and the advocate, Counting from the left, the advocate is at which place?
(a) 1st (b) 2nd (c) 3rd (d) 5th

Q23. A, B, C, D and E are five friends. A is shorter than B but taller than E. C is the tallest. D is shorter than B and taller than A. Who has two persons taller and two persons shorter than him/her?
(a) A (b) B (c) C (d) D

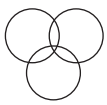
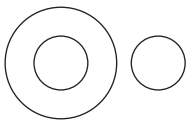
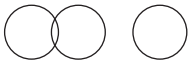
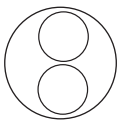
Q24. Gopal starts from his house towards West. After 11 metres walking a distance of 30 metres, he turned towards right and walked 20 metres. He then turned left and moving a distance of 10 metres, turned to his left again and walked 40 metres. He now turns to the left and walks 5 metres. Finally he turns to his left. In which direction is he walking now?
(a) North (b) South (c) East (d) South–west

Q25. Raju drives 25 km North and turns left and travels 5 km and reaches point 'O'. He, then turns right and covers another 5 km. Afterwards turns to East and drives 5 km. How much distance he has to travel to go back to the starting point?
(a) 30 km (b) 20 km (c) 25 km (d) 35 km

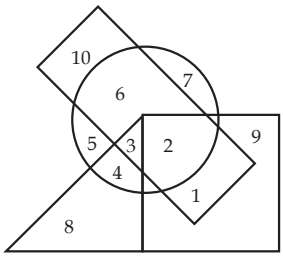
Q26. Which of the following diagrams indicates the best relation between Doctors, Human Beings and Married People?

(a)  (b)  (c)  (d) 

Q27. Which of the following diagrams indicates the best relation between Judge, Thieves and Criminals?

(a)  (b)  (c)  (d) 

Q28. In the following figure, the boys who are athletes and disciplined are indicated by which number?



The triangle represents girls, the circle athletes, the rectangle boys and the square disciplined.
(a) 1 (b) 2 (c) 6 (d) 10

Q29. In a row of boys, A is thirteenth from the left and D is seventeenth from the right. If in this row A is eleventh from the right then D from the left? what is the position of D from the left?
(a) 6th (b) 7th (c) 10th (d) 12th

Q30. In a class of 35 students, Kunal is placed seventh from the bottom whereas Sonali is placed ninth from the top. Pulkit is placed exactly in between the two. What is Kunal's position from Pulkit?
(a) 9 (b) 10 (c) 11 (d) 13

Q31. Kailash remembers that his brother Deepak's birth day falls after 20th May but before 28th May, while Geeta remembers that Deepak's birthday falls before 22nd May but after 12th May. On what date Deepak's birthday falls?
(a) 20th May (b) 21st May (c) 22nd May (d) Cannot be determined

Q32. Reaching the place of meeting 20 minutes before 8.50 hrs Sumit found himself thirty minutes earlier than the man who came 40 minutes late. What was the scheduled time of the meeting? (c) 8.10.
(a) 8.00 (b) 8.05 (c)8.10 (d) 8.30

Q33. If '+' means 'divided by'. means 'added to', '×' means 'subtracted from' and ' ÷ ' means ' multiplied by', then what is the value of 24 ÷ 12 – 18 + 9?
(a) – 25 (b) 0.72 (c) 15.30 (d) 290

Q34. If × means ÷, – means ×, ÷ means + and + means –, then (3 – 15 ÷ 19) × 8 + 6 = ?
(a) – 1 (b) 2 (c)4 (d) 8

Q35. If Q means 'add to', J means 'multiply by', T means 'subtract from' and K means 'divide by', then 30 K 2 Q 3 J 6 T 5 = ?
(a) 18 (b) 28 (c) 31 (d) 103

Q36. Find the missing term.

3	6	8
5	8	4
4	7	?

(a) 6 (b) 7 (c) 8 (d) 9

Q37. Find the missing term.

11	6	8
17	12	?
25	34	19
19	28	11

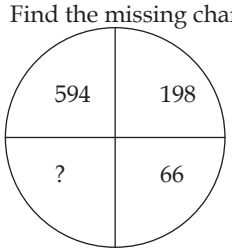
(a) 9 (b) 13 (c) 15 (d) 16

Q38. Find the missing term.

A2	C4	E6
G3	15	?
M5	O9	Q14

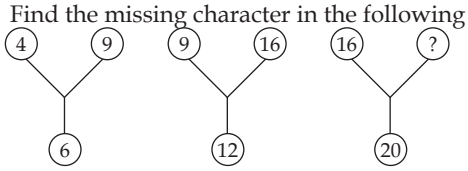
(a) J15 (b) K8 (c) K15 (d) L10

Q39. Find the missing character in the following figure.



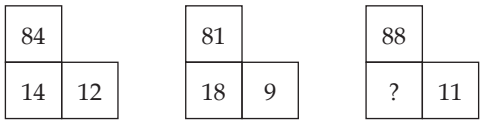
(a) 11 (b) 12 (c) 22 (d) 33

Q40. Find the missing character in the following figure.



(a) 21 (b) 25 (c) 35 (d) 45

Q41. Find the missing character in the following figure.



(a) 16 (b) 21 (c) 61 (d) 81

Direction Consider the given statements to be true and decide which of the given conclusion/assumptions can definitely be drawn from the given statement

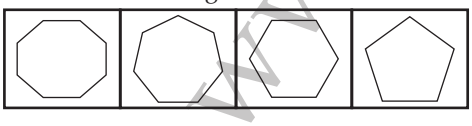
Q42. Statements: All men are dogs. All dogs are cats,
Conclusions: I. All men are cats.
II. All cats are men.
(a) if only conclusion I follows; (b) if only conclusion II follows;
(c) if neither conclusion I nor II follows; (d) if both conclusions I and II follow.

Q43. Statements All cars are cats. All fans are cats.
Conclusions : I. All cars are fans.
II. Some fans are cars.
(a) if only conclusion I follows; (b) if only conclusion II follows;
(c) if neither conclusion I nor II follows; (d) if both conclusions I and II follow.

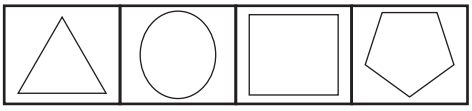
Q44. Statements: All roads are waters. Some waters are boats.
Conclusion: I. Some boats are roads.
II. All waters are boats.
(a) if only conclusion I follows; (b) if only conclusion II follows;
(c) if neither conclusion I nor II follows; (d) if both conclusions I and II follow.

Direction Each of the problems, contains four figures marked as (A), (B), (C), (D) and answer figures marked as (a), (b), (c) and (d). Select a figure from amongst the answer figures which will continue in the same series as given in the problem figure.

Q45. Find out the next figure

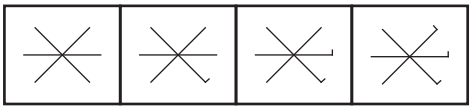


(A) (B) (C) (D)

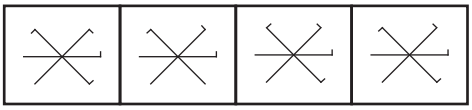


(a) (b) (c) (d)

Q46. Find out the next figure



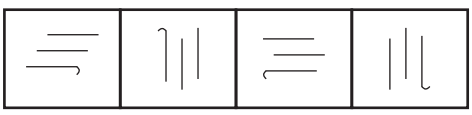
(A) (B) (C) (D)



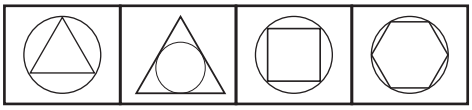
(a) (b) (c) (d)

Direction Each of the following problems, contains 4 figures marked (a), (b), (c), (d). Find the odd figure.

Q47.

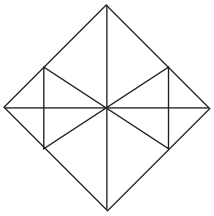


(a) (b) (c) (d)

Q48. 

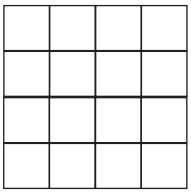
(a) (b) (c) (d)

Q49. How many triangles are there puzzles .



(a) 16 (b) 22 (c) 28 (d) 32

Q50. How many maximum squares are in the following figure?



(a) 32 (b) 30 (c) 29 (d) 28

PART–II : ELEMENTARY MATHEMATICS

Q51. Insert one rational numbers between $\frac{1}{4}$ and $\frac{3}{5}$.

(a) 1 (b) $\frac{11}{5}$ (c) $\frac{3}{2}$ (d) $\frac{4}{5}$

Q52. Fraction between $\frac{2}{5}$ and $\frac{4}{9}$.

(a) $\frac{21}{50}$ (b) $\frac{11}{2}$ (c) $\frac{1}{3}$ (d) $\frac{1}{2}$

Q53. Find the value of :–

$$\frac{0.1 \times 0.1 \times 0.1 + 0.02 \times 0.02 \times 0.02}{0.2 \times 0.2 \times 0.2 + 0.04 \times 0.04 \times 0.04}$$

(a) 0.125 (b) 0.625 (c) 0.25 (d) 0.5

Q54. The number exceeds its one fifth by 20. The number is

(a) 100 (b) 25 (c) 20 (d) 5

Q55. Sum of factors of 24

(a) 50 (b) 60 (c) 40 (d) 80

Q56. If $\sqrt[3]{\frac{x}{64}} = \frac{5}{4}$ than value of x is

(a) 125 (b) 216 (c) 4 (d) 0

Q57. Average of 7 consecutive numbers is 6.5. Average of smallest and greatest numbers is

(a) 24 (b) 23 (c) 22 (d) 13

Q58. A number is as much greater than 10 as is less than 16

(a) 13 (b) 14 (c) 15 (d) 16

Q59. The enhanced salary of a man becomes ₹ 24000 after 20% increament. His previous salary was

(a) ₹ 21000 (b) ₹ 19000 (c) ₹ 16000 (d) ₹ 20000

Q60. Find the square root of :–

$$\frac{(0.064 - 0.008)(0.16 - 0.04)}{(0.16 + 0.08 + 0.04)(0.4 + 0.2)^3}$$

(a) $\frac{2}{3}$ (b) $\frac{1}{3}$ (c) 3 (d) $\frac{3}{2}$

Q61. The duplicate ratio of $\sqrt{2} : \sqrt{3}$ is

(a) 2 : 3 (b) 4 : 9 (c) 3 : 5 (d) 16 : 25

Q62. If $x = \frac{1}{\sqrt{2}+1}$ then (x + 1) is equal to

(a) 2 (b) $\sqrt{2} - 1$ (c) $\sqrt{2}$ (d) $\sqrt{2} + 1$

Q63. If x : y = 3 : 1 then $x^3 - y^3 : x^3 + y^3$

(a) 13 : 14 (b) 14 : 13 (c) 10 : 11 (d) 11 : 10

Q64. If x = a (b – c), y = b (c – a), z = c (a – b) then the value of $\left(\frac{x}{a}\right)^3 + \left(\frac{y}{b}\right)^3 + \left(\frac{z}{c}\right)^3$

(a) $\frac{xyz}{abc}$ (b) 0 (c) $\frac{3xyz}{abc}$ (d) $\frac{2xyz}{abc}$

Q65. Three bells ring simultaneously at 11 a.m. They ring at regular intervals of 20 min. , 30 min., 40 min. respectively. The time when all the three bells ring together next is

(a) 2 p.m. (b) 1 p.m. (c) 1:15 p.m. (d) 1:30 p.m.

Q66. A father is 7 times his son's age. After 4 years the sum of their ages will be 56. Present age of son is

(a) 5 years (b) 6 years (c) 8 years (d) 9 years

Q67. Ratio of ages of Namrata and Divya is 4:3. The sum of their ages is 28. Ratio of their ages after 4 years will be

(a) 5 : 4 (b) 5 : 6 (c) 6 : 5 (d) 3 : 4

Q68. Two numbers are in the ratio of 3 : 5. If 9 be subtracted from each then they are in the ratio of 12 : 23. Find the numbers.

(a) 15, 28 (b) 36, 115 (c) 33, 55 (d) 60, 69

Q69. A man purchased two calculators for ₹ 900. If he sells first at the loss of 20% and second at the gain of 20% selling prices become same. Then cost prices of both calculators are?

(a) ₹ 450, ₹ 450 (b) ₹ 300, ₹ 600 (c) ₹ 200, ₹ 700 (d) ₹ 540, ₹ 360

Q70. The sum and product of two numbers are 11 and 18 respectively. The sum of their reciprocals is

(a) $\frac{2}{11}$ (b) $\frac{11}{2}$ (c) $\frac{18}{11}$ (d) $\frac{11}{18}$

Q71. A wire when bent in the form of a square encloses an area of 484 sq.cm. What will be the enclosed area when the same wire is bent in the form of a circle?

(a) 125 cm^2 (b) 230 cm^2 (c) 550 cm^2 (d) 616 cm^2

Q72. If the income of Ram is $12\frac{1}{2}\%$ more than that of Shyam, the income of Shyam is less than that of Ram by

(a) $11\frac{1}{9}\%$ (b) $12\frac{1}{8}\%$ (c) $9\frac{1}{11}\%$ (d) $11\frac{1}{11}\%$

Q73. In a factory the production of cycles rose to 48400 from 40000 in 2 years. The rate of growth per annum is

(a) 105% (b) 9% (c) 8% (d) 10%

Q74. A certain sum of money becomes three times of itself in 20 years at simple interest. In how many years does it become double of itself at the same rate of simple interest?

(a) 8yrs (b) 10yrs (c) 12yrs (d) 14yrs

Q75. A certain sum amounts to ₹ 5832 in 2 years at 8% per annum compound interest. The sum is:

(a) ₹ 5000 (b) ₹ 5200 (c) ₹ 5280 (d) ₹ 5400

Q76. Two numbers are respectively 20% and 50% of a third number. What percent is the first number of the second?

(a) 10% (b) 20% (c) 30% (d) 40%

Q77. The average age of a family with 5 members is 28 years. If one of members of age 20 years is excluded, the average age of the family becomes.

(a) 25 years (b) 20 years (c) 30 years (d) 24 years

Q78. Walking at $\frac{3}{4}$ of his usual speed, a man is $1\frac{1}{2}$ hours late. His usual time to cover the same distance (in hours) is

(a) $4\frac{1}{2}$ hours (b) 4 hours (c) $5\frac{1}{2}$ hours (d) 5 hours

Q79. The breadth of a rectangular hall is three fourth of its length. If the area of the floor is 768 sq. m. then the difference between the length and breadth of the hall is

(a) 8m. (b) 12m. (c) 24m. (d) 32m.

Q80. The sum of the length, breadth and depth of a cuboid is 19 cm. and its diagonal is $5\sqrt{5}$ cm. Its surface area is

(a) 125cm^2 (b) 236cm^2 (c) $95\sqrt{5}$ cm^2 (d) 361cm^2

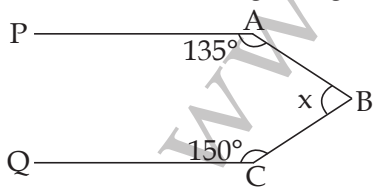
Q81. Ratio of two supplementary angles is 2 : 3. What is the difference between them?

(a) 60° (b) 90° (c) 120° (d) 36°

Q82. If a man reduces his speed to $\frac{2}{3}$ he takes 1 hour more in walking a certain distance. The time (in hours) to cover the distance with normal speed.

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

Q83. Final the value of x in the given figure where PA || QC



(a) 70° (b) 90° (c) 80° (d) 75°

Q84. The speed of boat upstream and speed of boat downstream are 6km/h. and 10km/h. what is the speed of stream and speed of boat in still water?

(a) 10km/h. and 3km/h. (b) 15km/h. and 9km/h.
(c) 8km/h. and 2km/h. (d) 9km/h. and 11km/h.

Q85. A can do a piece of work in 20 days and B can do the same work in 30 days. Find in how many days both can do the work?

(a) 16 days (b) 14 days (c) 10 days (d) 12 days

Q86. A and B together can complete a piece of work in 72 days, B and C can complete it in 120 days and A and C together in 90 days. In what time can A alone complete the work?

(a) 80 days (b) 100 days (c) 120 days (d) 150 days

Q87. A can do a piece of work in 9 days. If B is 50% more efficeient than A. Then in how many days can B do the same work?

(a) 13.5 days (b) 4.5 days (c) 6 days (d) 3 days

Q88. A steel cuboidal box measures 10 cm × 8cm × 6 cm. How much water it can hold?

(a) $480cm^3$ (b) $500cm^3$ (c) $520cm^3$ (d) $300cm^3$

Q89. If $\sec^2\theta + \tan^2\theta = 7$ then value of θ when $0°<\theta< 90°$ is

(a) 30° (b) 90° (c) 0° (d) 60°

Q90. The numerical value of $\frac{\cos^2 45°}{\sin^2 60°} + \frac{\cos^2 60°}{\sin^2 45°} - \frac{\tan^2 30°}{\cos^2 45°} - \frac{\sin^2 30°}{\cos^2 30°}$

(a) $\frac{3}{4}$ (b) $\frac{1}{4}$ (c) $\frac{1}{2}$ (d) $\frac{5}{4}$

Q91. The value of tan 10°. tan 15°. tan 75°. tan 80°

(a) 0 (b) 1 (c) –1 (d) –2

Q92. Two concentric circles are drawn with radii 12cm. and 13cm. What will be the length of any chord of the larger circle that is tangent to the smaller circle.

(a) 5cm. (b) 8cm. (c) 10cm. (d) 25cm.

Q93. If $\cos^4\theta - \sin^4\theta = \frac{2}{3}$ then the value of $1 - 2\sin^2\theta$ is

(a) $\frac{4}{3}$ (b) 0 **(c) $\frac{2}{3}$** (d) $\frac{1}{3}$

Q94. If the angle of elevation of the sum changes from 30° to 45° the length of the shadow of a pillar decreases by 20 meters. The height of the pillar is :

(a) $20(\sqrt{3} - 1)$m. (b) $20(\sqrt{3} + 1)$m. (c) $10(\sqrt{3} - 1)$m. (d) $10(\sqrt{3} + 1)$m.

Q95. The distance between two pillars of length 16m. and 9m. is x meters. If two angles of elevation of their respective top from the bottom of the other are complementary to each other, then the value of x in meters is

(a) 15 (b) 16 (c) 12 (d) 9

Q96. There are two temples, one on each bank of a river just opposite to each other. One temple is 54 m. high. From the top of this temple, the angles of depression of the top and the foot of the other temple are 30° and 60° respectively. The length of the temple is .

(a) 18m. (b) 36m. (c) $36\sqrt{3}$m. (d) $18\sqrt{3}$m.

Q97. A tap can empty a tank in one hour. A second tap can empty it in 30 minutes. If both the taps operate simultaneously how much time is needed to empty the tank?

(a) 20min. (b) 30min. (c) 40min. (d) 45min.

Q98. A cylindrical rod of radius 30 cm and length 40cm. is melted and made into spherical ball of radius 1cm. The number of spherical balls is

(a) 40000 (b) 90000 (c) 27000 (d) 36000

Q99. Three solid metalic sphere of diameter 6cm, 8cm and 10cm. are melted and recast into a new solid sphere. The diameter of the new sphere is

(a) 4cm. (b) 6cm. (c) 8cm. (d) 12cm.

Q100. The average marks of 32 boys of section A of class X is 60 where as the average of 40 boys of section B of class X is 33. The average marks of both the sections combined together is;

(a) 44 (b) 45 (c) $46\frac{1}{2}$ (d) $45\frac{1}{2}$

PART–I : REASONING

ANSWER PRACTICE TEST PAPER - 1

1. (a) $\frac{9}{32}$

Explanation:
Clearly, the numerators of the fractions in the given sequence form the series 1, 3, 5, 7, in which each term is obtained by adding 2 to the previous term. The denominators of the fractions form the series 2, 4, 8, 16, i.e., 2^1, 2^2, 2^3, 2^4. So, the numerator of the next fraction will be (7+2) i.e. 9 and the denominator will be 2^5 i.e. 32. Thus, the next term is $\frac{9}{32}$ Hence, the answer is (a).

2. (a) 14

Explanation:
The pattern is + 3, + 4, + 5, + 6,..... So, missing term = 9 + 5 = 14.

3. (b) G

Explanation:
$R \xrightarrow{+3} U \xrightarrow{+3} X \xrightarrow{+3} A \xrightarrow{+3} D \xrightarrow{+3} G$

4. (a) LUP

Explanation:

Ist Letter : $P \xrightarrow{-1} O \xrightarrow{-1} N \xrightarrow{-1} M \xrightarrow{-1} (L)$

IInd Letter : $M \xrightarrow{+2} O \xrightarrow{+2} Q \xrightarrow{+2} S \xrightarrow{+2} (U)$

IIIrd Letter : $T \xrightarrow{-1} S \xrightarrow{-1} R \xrightarrow{-1} Q \xrightarrow{-1} (P)$

5. (b) abbab

Explanation: The series is ab/ab/ab/ab/ab/ab. Thus, the pattern 'ab' is repeated.

6. (c) 47U15

Explanation:

Ist Letter : $2 \xrightarrow{+5} 7 \xrightarrow{+7} 14 \xrightarrow{+9} 23 \xrightarrow{+11} 34 \xrightarrow{+13} (47)$

IInd Letter : $Z \xrightarrow{-1} Y \xrightarrow{-1} X \xrightarrow{-1} W \xrightarrow{-1} Y \xrightarrow{-1} (U)$

IIIrd Letter : $5 \xrightarrow{+2} 7 \xrightarrow{+2} 9 \xrightarrow{+2} 11 \xrightarrow{+2} 13 \xrightarrow{+2} (15)$

7. (d) Desert

Explanation: Ship is the principal means of transport in sea. Similarly, camel is the principal means of transport in desert.

8. (c) Epidemic

Explanation: Second is a more intense form of the first.

9. (a) Experience

Explanation: Second is acquired from the first.

10. (b) Blue

Explanation: All are colours of a rainbow.

11. (b) Leaf

Explanation: All are parts of a tree.

12. (d) Tetanus

Explanation: All except Tetanus are diseases which are transmitted by insects or mosquitoes.

13. (b) Ornament

Explanation: All others are different types of ornaments.

14. (a) Sky : Cloud

Explanation: In all other pairs, the two words denote things which serve the same purpose.

15. (b) Yeast : Fungi

Explanation: In all other pairs, first is the disease caused by the second.

16. (b) NHCGGU

Explanation: The letters at the odd–numbered positions in the word are each moved two steps forward while those at the even–numbered positions are each moved three steps forward to obtain the corresponding letters of the code.

17. (c) EGZBKMRTDF

Explanation: Each letter in the word is replaced by a set of two letters– one preceding it and the other following it in the code. Thus, T is replaced by SU, R is replaced by QS and so on.

18. (c) Straw

Explanation: The furniture is made up of wood' and as given, wood' is called 'straw'. So, the furniture is made up of 'straw'.

19. (a) Light

Explanation: One drinks water' when one is thirsty. Since a 'water' is called 'light' on the other planet, so one would drink 'light' when one is thirsty there.

20. (a) Son

Explanation: Wife of Rashi's husband– Rashi; Brother of daughter– Son.So, the man on the stage is Rashi's son.

21. (d) Husband

Explanation: Only daughter of woman's father woman herself. So, the man is woman's husband.

22. (c) 2nd

Explanation: The advocate is to the right of the student, who is standing between the professor and the advocate. So, we have: Professor, Student, Advocate.

The author is to the left of business man. So, we have: Author, Business man. Since the professor and business man are at the ends, the arrangement from left to right becomes: Professor, Student, Advocate, Author,Business man. Clearly the advocate is third from left.

23. (d) D

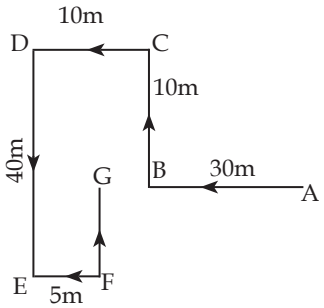
Explanation: We have: E <A< B, A <D <B. Since C is the tallest, so we have: E <A<D B<C.

Clearly, D lies in the middle.

24. (a) North

Explanation: The movements of Gopal are as shown in Fig. from A to G.

Clearly, Gopal is finally walking in the direction FG i.e., North

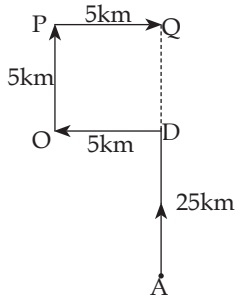


25. (a) 30 km

Explanation: QA = QD + DA

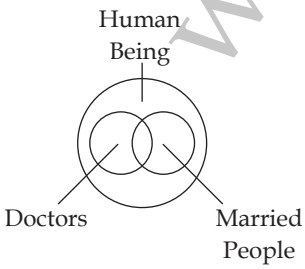
= 5km + 25km = 30km

So, option (a) is the answer.



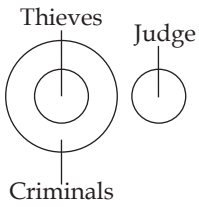
26. (d)

Explanation: Some doctors can be married. Both doctors and married people belong to the group of human beings.



27. (b)

Explanation: Thieves belong to the category of criminals. Judge is a separate entity.



28. (b) 2

Explanation: The required region is the one which is common to the rectangle, circle and square but lies outside the triangle i.e. 2.

29. (b) 7th

Explanation: Clearly, A is 13th from the left and 11th from the right end of the row.

So, number of boys in the row = (12 + 1+ 10) = 23.

Now, D is 17th from the right. Number of boys to the left of D = (23 – 17) = 6.

Hence, D is 7th from the left end of the row.

30. (b) 10

Explanation: Number of students between Kunal and Sonali = 35 – (7 + 9) = 19.

Clearly, there are 9 students between Kunal and Pulkit, as well as Pulkit and Sonali.

So, Kunal is 10th from Pulkit.

31. (b) 21st May

Explanation: According to Kailash, Deepak's birthday falls on one of the days among 21st, 22nd, 23rd, 24th, 25th, 26th and 27th May.

According to Geeta, Deepak's birthday falls on one of the days among 13th, 14th, 15th, 16th, 17th, 18th, 19th, 20th and 21st May.

The day common to both the groups is 21st May.

∴ Deepak's birthday falls on 21st May.

32. (d) 8.30

Explanation: Sumit reached the place 20 minutes before 8.50 hrs, i.e., at 8.30 hrs.

Clearly, the man who was 40 minutes late would reach the place at 9.00 hrs. So, the scheduled time of the meeting was 40 minutes before 9.00 hrs, i.e., 8.20 hrs.

33. (d) 290

Explanation: Using the correct symbols, we have: Given expression = 24 × 12 + 18 ÷ 9 = 288 + 2 = 290.

34. (b) 2

Explanation: Using the correct symbols, we have:

Given expression = (3 × 15 + 19) ÷ 8 – 6 = 64 ÷ 8 – 6 = 8 – 6 = 2.

35. (b) 28

Explanation: Using the correct symbols, we have:

Given expression = 30 ÷ 2 + 3 × 6 – 5 =15+18 – 5 = 28.

36. (a) 6

Explanation: Clearly, sum of numbers in each row is 17. So, missing number 17– (4 + 7) = 6.

37. (d) 16

Explanation: In the first column, 17 – 11 = 25 – 19.

In the second column, 12 – 6 = 34 – 28.

Let the missing number in the third column be x.

Then, x – 8 = 19 – 11 = 8 or x = 16.

38. (b) K8

Explanation: The letters in each row follow the sequence + 2.

So, the missing letter will be 2 steps ahead of I, which is K.

In each row, the sum of first two numbers is equal to the third number. So, missing number

3 + 5 = 8. Hence, the missing character is K8.

39. (c) 22

Explanation: Moving clockwise, we have: 594 ÷ 3 = 198;

198 ÷ 3= 66. So, missing number 66 ÷ 3 = 22.

40. (b) 25

Explanation: We have: $\sqrt{4} \times \sqrt{9} = 6$, $\sqrt{9} \times \sqrt{9} = 12$ *Let the missing number be x.*

Then, $\sqrt{16} \times \sqrt{x} = 20 \Rightarrow \sqrt{x} = 5 \Rightarrow x = 25$.

41. (a) 16

Explanation: We have : $\frac{12 \times 14}{2} = 84$, $\frac{9 \times 18}{2} = 81$.

Let the missing number be x.

Then, $\frac{11 \times x}{2} = 88 \Leftrightarrow x = 16$.

42. (a) if only conclusion I follows

Explanation: 1. (a): Since both the premises are universal and affirmative, the conclusion must be universal affirmative. However, conclusion II, being an A–type proposition, distributes the term 'goats'. Since the term 'goats' is distributed in II without being distributed in any of the premises, so conclusion II cannot follow. Thus, only I follows.

43. (c) if neither conclusion I nor II follows

Explanation: Since the middle term 'cats' is not distributed even once in the premises, no definite conclusion follows.

44. (c) if neither conclusion I nor II follows

Explanation: The first premise is A type and distributes the subject. So, the middle term 'waters' which forms is not The second premise is I type and does not distribute either subject or predicate. So, the middle term 'waters' forming its subject is not distributed. Since the middle term is not distributed even once in the premises, no definite conclusion follows.

45. (c)

Explanation: The number of sides of the figure reduces by one in each step.

46. (d)

Explanation: A new small line segment is added to one of the lines in the figure and this addition takes place sequentially in an ACW direction.

47. (a)

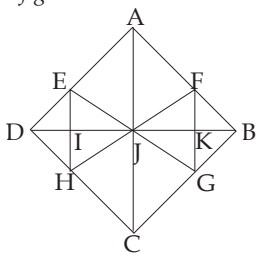
Explanation: All other figures can be rotated into each other.

48. (b)

Explanation: In each of the other figures, an element is enclosed inside a circle.

49. (c) 28

Explanation: We shall label the figure as shown.



The simplest triangles are AFJ, FJK, FKB, BKG, JRG, JGC, HJC HIJ, DIH, DEI. EIJ and AEJ i.e. 12 in number.

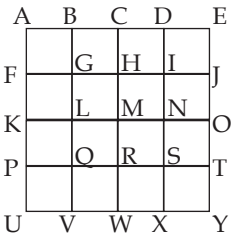
The triangles composed of two components each are JFB, FBG, BJG, JFG, DEJ, EJH, DJH and DEH i.e., 8 in number.

The triangles composed of three components each are AJB, JBC, DJC and ADJ i.e., 4 in number.

The triangles composed of six components each are DAB, ABC, BCD and ADC i.e., 4 in number. Thus, there are 12 +8+4+4= 28 triangles in the figure.

50. (b) 30

Explanation: The figure may be labelled as shown.



The simplest squares are ABGF, BCHG, CDIH, DEJI, FGLK, GHML, HINM, IJON, KLQP, LMRQ, MNSR, NOTS, PQVU, QRWV, RSXW and STYX i.e., 16 in number.

The squares composed of four components each figure. W X Y are ACMK, BDNL, CEOM, FHRP, GISQ, HJTR, KMWU, LNXV and MOYW i.e., 9 in number.

The squares composed of nine components each are ADSP, BETQ, FIXU and GJYV i.e., 4 in number. There is one square AEYU composed of sixteen components. .. There are 16 + 9 + 4 + 1 = 30 squares in the given figure.

PART–II : ELEMENTARY MATHEMATICS
ANSWER PRACTICE TEST PAPER - 1

51. (a) $\frac{1}{2}$

Explanation:

$\frac{1}{4} = 0.25 \quad \frac{3}{5} = 0.6$

$= 0.5 \qquad \frac{11}{5} = 2.2$

$\frac{3}{2} = 1.5 \quad \frac{4}{5} = 0.8$

Clearly 0.5 lies between 0.25 and 0.6

So, $\frac{1}{2}$ lies between $\frac{1}{4}$ and $\frac{3}{5}$

52. (a) $\frac{21}{50}$

Explanation:

$\frac{2}{5} = 0.4 \quad \frac{4}{9} = 0.44$

$\frac{21}{50} = 0.42 \quad \frac{1}{2} = 0.5$

$\frac{1}{3} = 0.66 \quad \frac{1}{4} = 0.25$

Clearly 0.4 lies between $\frac{2}{5}$ and $\frac{4}{9}$.

So, $\frac{21}{50}$ lies between $\frac{2}{5}$ and $\frac{4}{9}$

53. (a) 0.125

Explanation:

$$= \frac{0.1 \times 0.1 \times 0.1 + 0.02 \times 0.02 \times 0.02}{0.2 \times 0.2 \times 0.2 + 0.04 \times 0.04 \times 0.04}$$

$$= \frac{(0.1)^3 + (0.02)^3}{2^3(0.1)^3 + 2^3(0.02)^3}$$

$$= \frac{\cancel{(0.1)^3 + (0.02)^3}}{8\cancel{((0.1)^3 + (0.02)^3)}} = \frac{1}{8} = 0.125$$

54. (b) 25

Explanation: Let the number be x

$x = \frac{x}{5} + 20$

$x - \frac{x}{5} = 20$

$\frac{4x}{5} = 20$

$x = \cancel{20}^{5} \times \frac{5}{\cancel{4}_{1}} = 20$

55. (b) 60

Explanation:

$24 = 2^3 \times 3$

Sum of factors of 24

2	24
2	12
2	6
3	3
	1

$= \frac{(2^4 - 1)(3^2 - 1)}{(2 - 1)(3 - 1)}$

$= \frac{15 \times \cancel{8}^{4}}{1 \times \cancel{2}_{1}} = 60$

$n = a^p \times b^q \times c^r$

Sum of factors of $n = \frac{(a^{p+1} - 1)(b^{q+1} - 1)(c^{r+1} - 1)}{(a - 1)(b - 1)(c - 1)}$

56. (a) 125

$\sqrt[3]{\frac{x}{64}} = \frac{5}{4}$

Cubing both sides

$\frac{x}{64} = \frac{125}{64}$

$x = \frac{125}{\cancel{64}} \times \frac{\cancel{64}}{1} = 125$

57. (d) 13

Explanation:

Let 7 consecutive numbers are

x, x + 1, x + 2, x + 3, x + 4, x + 5, x + 6

ATQ

$\frac{x + x + 1 + x + 2 + x + 3 + x + 4 + x + 5 + x + 6}{7} = 6.5$

$\frac{7x + 21}{7} = 6.5$

$7x + 21 = 45.5$

$x = 45.5 - 21$

$7x = 24.5$

$x = \frac{\cancel{24.5}^{3.5}}{\cancel{7}_{1}}$

smallest number = x = 3.5

greatest number = x + 6 = 3.5 +6 = 9.5

sum of smallest and greatest number = 3.5 + 9.5

= 13

58. (a) 13

Explanation: Let the number be x

$x - 10 = 16 - x$

$x + x = 16 + 10$

$2x = 26$

$x = \frac{\cancel{26}^{13}}{\cancel{2}_{1}} = 13$

59. (d) 20000

Explanation: Let his old salary was x

ATQ:

x + 20% of x = 24000

$x + \frac{20}{100} \times x = 24000$

$\frac{120}{100} x = 24000$

$x = \frac{2000}{\cancel{24000}} \times \frac{\cancel{100}}{\cancel{120}} = 20000$

60. (b) $\frac{1}{3}$

Explanation

$$\sqrt{\frac{(0.064 - 0.008)\,(0.16 - 0.04)}{(0.16 + 0.08 + 0.04)\,(0.4 + 0.2)^3}}$$

$$= \sqrt{\frac{(0.4^3 - 0.2^3)\,(0.4^2 - 0.2^2)}{(0.4^2 + 0.2 \times 0.4 + 0.2^2)\,(0.4 + 0.2)^3}}$$

$$= \sqrt{\frac{(0.4 - 0.2)\,(0.4^2 + \cancel{0.4} \times 0.4 + 0.2^2)\,(0.4^2 - 0.2^2)}{(0.4^2 + 0.2 \times \cancel{0.4} + 0.2^2)\,(0.4 + 0.2)^3}}$$

$$= \sqrt{\frac{(0.4 - 0.2)^2\,(0.4 + 0.2)}{(0.4 + 0.2)^3}}$$

$$= \sqrt{\frac{(0.4 - 0.2)^2}{(0.4 + 0.2)^2}} = \frac{0.2}{0.6} = \frac{1}{3}$$

61. (a) 2 : 3

Explanation:

Duplicate ratio of

$\sqrt{2}$ *and* $\sqrt{3}$

$= \sqrt{2}^2 : \sqrt{3}^2$

$= 2 : 3$

62. (c) $\sqrt{2}$

Explanation:

$$x = \frac{1}{\sqrt{2} + 1}$$

$$x = \frac{1}{\sqrt{2} + 1} \times \frac{\sqrt{2} - 1}{\sqrt{2} - 1} = \frac{\sqrt{2} - 1}{\sqrt{2}^2 - 1^2}$$

$$= \frac{\sqrt{2} - 1}{2 - 1} = \sqrt{2} - 1$$

$x + 1 = \sqrt{2} \cancel{- 1 + 1}$

$= \sqrt{2}$

63. (a) $\frac{13}{14}$

Explanation: $x : y = 3 : 1$

$\frac{x}{y} = \frac{3}{1}$

$$\frac{x^3 - y^3}{x^3 + y^3} = \frac{3^3 - 1^3}{3^3 + 1^3} = \frac{27 - 1}{27 + 1}$$

$\frac{\cancel{26}^{13}}{\cancel{28}_{14}} = \frac{13}{14}$

64. (c) 0

Explanation:

$x = a\,(b - c)$ $\qquad y = b\,(c - a)$

$z = c\,(a - b)$

$\frac{x}{a} = b - c \qquad \frac{y}{b} = c - a \qquad \frac{z}{c} = a - b$

$\left(\frac{x}{a}\right)^3 + \left(\frac{y}{b}\right)^3 + \left(\frac{z}{c}\right)^3$

$= (b - c)^3 + (c - a)^3 + (a - b)^3$

$= 3(b - c)\,(c - a)\,(a - b)$

$\left[\frac{x}{a} + \frac{y}{b} + \frac{z}{c} = \cancel{b - c + c - a + a - b} = 0\right]$

$= \frac{3xyz}{abc} \qquad [X^3 + Y^3 + Z^3 = 3XYZ \text{ if } X + Y + Z = 0]$

65. (b) 1p.m.

Explanation:

2	20 – 30 – 40
2	10 – 15 – 20
2	5 – 15 – 10
3	5 – 15 – 5
5	5 – 5 – 5
	1 – 1 – 1

LCM of 20, 30 and 40 = 2×2×2×3×5×1×1×1 = 120

Bells will ring together after 120 min. (2 hours) at 1p.m.

66. (b) 6 years

Explanation:

Let age of son = x

age of father = 7x

Their ages after 4 years will be x + 4 and 7x + 4

ATQ:

$x + 4 + 7x + 4 = 56$

$8x + 8 = 56$

$8x = 56 - 8$

$8x = 48$

$x = \frac{\cancel{48}^{6}}{\cancel{8}_{1}}$

Present age of son = x = 6 years

67. (a) 5 : 4

Explanation:

Let age of Namrata and Divya are 4x and 3x

ATQ

$4x + 3x = 28$

$7x = 28$

$x = \frac{\cancel{28}^{4}}{\cancel{7}_{1}}$

Age of Namrata = 4x = 4 × 4 = 16 years

Age of Divya = 3x = 3 × 4 = 12 years

Their ages after 4 years will be

= 16 + 4, 12 + 4

= 20, 16

Ratio = $\cancel{20}^{5} : \cancel{16}^{4}$ *= 5 : 4*

68. (c) 33, 53

Explanation:

Let numbers are 3x and 5x

ATQ

$\frac{3x-9}{5x-9} = \frac{12}{23}$

$23(3x-9) = 12(5x-9)$

$69x - 207 = 60x - 108$

$9x = 99$

$x = \frac{\cancel{99}^{11}}{\cancel{9}_{1}}$

numbers are 3x and 5x = 3 × 11 and 5 × 11

= 33 and 55

69. (d) 360

Explanation:

Let CP of two calculators are x and 900 – x

Loss % on first calculate = 20%

SP of first calculate $= \frac{\cancel{80}^{4}}{\cancel{100}_{5}} \times x$

$= \frac{4}{5}x$

Gain % on second calculator = 20%

SP of second calculator $= \frac{\cancel{120}^{6}}{\cancel{100}_{5}} \times (900 - x)$

$= \frac{6}{5}(900-x)$

ATQ

$\frac{4}{5}x = \frac{6}{5}(900-x)$

$= 2x = 3(900 - x)$

$= 2x = 2700 - 3x$

$= 2x + 3x = 2700$

$= 5x = 2700$

$= x = \frac{\cancel{2700}^{540}}{\cancel{5}_{1}}$

CP of first calculate x = ₹540

CP of second calculate = 900 – x

= 900 – 540 = ₹360

70. (d) $\frac{11}{18}$

Explanation:

Let the two number be a and b

$a + b = 11$ ..... (1)

$ab = 18$ ..... (2)

Divide (1) by (2)

$\frac{a+b}{ab} = \frac{11}{18}$

$\frac{a}{ab} + \frac{b}{ab} = \frac{11}{18}$

$\frac{1}{a} + \frac{1}{b} = \frac{11}{18}$

71. (d) 616cm²

Explanation:

Area of square = 484 m²

Side² = 484

Side² = 22²

Perimeter of square = 4 × side

= 4 × 22 = 88 cm.

Circum. of circle = perimeter of square

$2\pi r = 88$

$2 \times \frac{22}{7} r = 88$

$r = \frac{\cancel{44}^{2}}{} \times \frac{1}{\cancel{2}_{1}} \times \frac{7}{\cancel{22}_{1}}$

$r = 14$

Area of circle $= \pi r^2$

$\frac{22}{\cancel{7}_{1}} \times \cancel{14}^{2} \times 14 = 616 cm^2$

72. (a) $11\frac{1}{9}\%$

Explanation:

Let Ram's income is 100

Ram's income is more that Sham's income by; $12\frac{1}{2}\%$

Sham's income is less than Ram's by

$\frac{12\frac{1}{2}}{100 + 12\frac{1}{2}} \times 100$

$\frac{\cancel{25}^{1}}{\cancel{225}_{9}} \times 100 = \frac{100}{9}\% = 11\frac{1}{9}\%$

73. (d) 10%

Explanation:

Initial production= 40000

Time = 2years

$40000\left(1 + \frac{R}{100}\right)^2 = 48400$

$\left(1 + \frac{R}{100}\right)^2 = \frac{\cancel{48400}}{\cancel{40000}}$

$\left(1 + \frac{R}{100}\right)^{\cancel{2}} = \left(\frac{22}{20}\right)^{\cancel{2}}$

$\frac{R}{100} = \frac{22}{20} - 1 = \frac{2}{20}$

$R = \frac{\cancel{2}^{1}}{\cancel{20}_{1}} \times \cancel{100} = 10\%$

74. (d) 10 years

Explanation:

Let principal = P

Amount = 3P

Time = 20 years S.P = 3P – P = 2P

$\frac{P \times R \times T}{100} = 2P$

$\frac{\cancel{P} \times R \times 20}{100} = \cancel{2P}$

$R = \frac{\cancel{100} \times \cancel{2}^{1}}{\cancel{20}_{1}} = 10\%$

Now let after t years amount becomes double

S.I. = 2P – P = P

$\frac{P \times 10 \times T}{100} = P$

$T = \frac{100}{10} = 10$ *years*

75. (a) 5000

Explanation:

Let principal be P

Time = 2 years

Rate = 8%

$P\left(1 + \frac{R}{100}\right)^t = A$

$P\left(1 + \frac{8}{100}\right)^2 = 5832$

$P\ \frac{108}{100} \times \frac{108}{100} = 5832$

$P = \frac{324}{5832} \times \frac{100}{108} \times \frac{50}{108} = 5000$

76. (d) 40%

Explanation:

Let third number be 100.

first number = 20

third number = 50

Now $= \frac{20}{50} \times \frac{2}{100} = 40\%$

77. (a) 30

Explanation:

Sum of ages of 5 members = 28 × 5 = 140

Sum of ages of 4 members = 140 – 20 = 120

Average age of 4 members $= \frac{120}{4} = 30$

78. (a) $4\frac{1}{2}$h.

Explanation:

Let d be the distance and s be the speed

ATQ

$\frac{d}{\frac{3}{4}s} - \frac{d}{s} = \frac{3}{2}$

$\frac{d}{s}\left(\frac{4}{3} - 1\right) = \frac{3}{2}$

$\frac{d}{s} \times \frac{1}{3} = \frac{3}{2}$

$\frac{d}{s} = \frac{3}{2} \times 3 = \frac{9}{2} = 4\frac{1}{2}$

79. (a) 8m.

Explanation:

Let the length be l breadth $= \frac{3}{4}l$.

Area = 768m²

$l \times b = 768m^2$

$l \times \frac{3}{4}l = 768m^2$

$\frac{3}{4}l^2 = 768m^2$

$l^2 = \frac{256}{768} \times \frac{4}{3}$

$l^2 = (16 \times 2)^2$

$l = 32$

breadth $= \frac{3}{4}l = \frac{3}{4} \times \frac{8}{32} = 24m.$

Difference between length and breadth = 32m – 24m

= 8m.

80. (b) 236cm²

Explanation:

$l + b + h = 19$ ....(1)

squaring both sides of (1)

$\sqrt{l^2 + b^2 + h^2} = (5\sqrt{5})^2$

$l^2 + b^2 + h^2 = 125$

squaring both sides

$(l + b + h)^2 = 19^2$

$= l^2 + b^2 + h^2 + 2lb + 2bh + 2lh = 361$

$= 125 + 2\ (lb + bh + lh) = 361$

$= 2(lb + bh + lh) = 361 – 125$

$= 2(lb + bh + lh) = 236$

$TSA = 136cm^2$

81. (a) 36°

Explanation:

Let the angles be 2x and 3x

$2x + 3x = 180°$

$5x = 180°$

$x = \frac{180°}{5} = 36$

angles = 2x, 3x

$= 2 \times 36°, 3 \times 36°$

$= 72°, 108°$

Difference of angles $= 108° – 72° = 36°$

82. (a) 2 hours

Explanation:

Let d be the distance and s be the speed

$\frac{d}{\frac{2}{3}s} - \frac{d}{s} = 1$

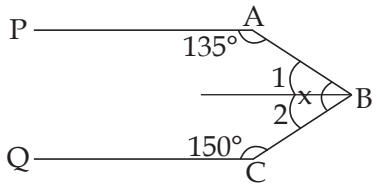
$\frac{d}{s}\left(\frac{3}{2} - 1\right) = 1$

$\frac{d}{s} \times \frac{1}{2} = 1 \qquad \frac{d}{s} = 2$

He will take 2 hours.

83. (a) 75°

Explanation:



Construction : Draw XB

parallel to PA and QC

135° + ∠1 = 180° (co. int. angles)

= 180° – 135° = 45°

150° + ∠2 = 180° (co int. angles)

∠2 = 180° – 150° = 30°

x = ∠1 + ∠2

= 45° + 30°

= 75°

84. (a) 2km/h.

Explanation:

Let speed of boat in still water = x km/h

speed of stream = y km/h.

speed of boat upstream = 6km/h.

x – y = 6 ...(1)

speed of boat downstream = 10km/h.

x + y = 10 ...(2)

adding (1) & (2)

x + y	=	*6*
x – y	=	*10*
2x	=	*16*

x = $\frac{\cancel{16}^{8}}{\cancel{2}_{1}}$ *= 8km/h.*

8 + y = 10

y = 10 – 8 = 2km/h.

85. (a) 12

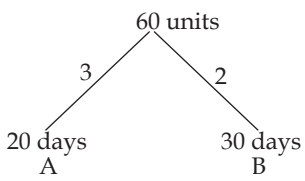
Explanation:

A takes = 20 days

B takes = 30 days

Let units of work be 60 units

(LCM of 20 and 30 is 60)



Efficiency of A = 3 units

Efficiency of B = 2 units

Units of work done in 1 days by A and B = 3 + 2 = 5 days

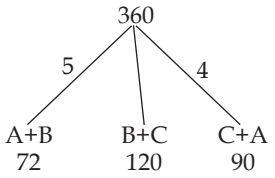
No. of days taken by A and B = $\frac{\cancel{60}^{12}}{\cancel{5}_{1}}$ *= 12 days*

86. (a) 120 days

Explanation:

Let units of work are 360 units

(LCM of 72, 120 and 90)



Units of work done by A + B = 5 ...(1)

Unit of work done by B + C = 3 ...(2)

Unit of work done by C + A = 4 ...(3)

adding (1) , (2) and (3)

2A + 2B + 2C = 5 + 3 + 4

2 (A + B + C) = 12

A + B + C = $\frac{\cancel{12}^{6}}{\cancel{2}_{1}}$ *= 6*

A + 3 = 6

A = 6 – 3 = 3

No. of days taken by A = $\frac{\cancel{360}^{120}}{\cancel{3}_{1}}$ *= 120 days.*

87. (a) 6 days

Explanation:

Efficiency of A = 100

Efficiency of B = 100 + 50 = 150

Ratio of A and B = $\cancel{100}^{2}$ *:* $\cancel{150}^{3}$ *= 2 : 3*

A takes = 9 days

Units of work = 9 × 2 = 18 units

B will take = $\frac{\cancel{18}^{6}}{\cancel{3}_{1}}$ *= 6 days*

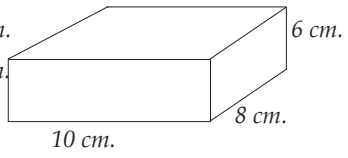
88. (a) 480cm^3

Explanation:

length of box = 10cm.

breadth of box = 8cm.

height of box = 6cm.



volume = l × b × h

= 10cm × 8cm × 6cm = 480cm^3

89. (d) 60

Explanation:

sec^{2}θ + tan^{2}θ = 7 ...(1)

sec^{2}θ – tan^{2}θ = 1 ...(2)

adding (1) & (2)

2sec^{2}θ = 8

sec^{2}θ = $\frac{\cancel{8}^{4}}{\cancel{2}_{1}}$

secθ = 2

sec θ = sec60°

θ = 60°

90. (d) $\frac{1}{2}$

Explanation:

$$\frac{\cos^2 45°}{\sin^2 60°} + \frac{\cos^2 60°}{\sin^2 45°} - \frac{\tan^2 30°}{\cot^2 45°} - \frac{\sin^2 30°}{\cos^2 30°}$$

$$= \frac{\left(\frac{1}{\sqrt{2}}\right)^2}{\left(\frac{\sqrt{3}}{2}\right)^2} + \frac{\left(\frac{1}{2}\right)^2}{\left(\frac{1}{\sqrt{2}}\right)^2} - \frac{\left(\frac{1}{\sqrt{3}}\right)^2}{\left(1\right)^2} - \frac{\left(\frac{1}{2}\right)^2}{\left(\frac{\sqrt{3}}{2}\right)^2}$$

$$= \frac{1}{2} \times \frac{4}{3} + \frac{1}{4} \times \frac{2}{1} - \frac{1}{3} \times \frac{1}{1} - \frac{1}{4} \times \frac{4}{3}$$

$$= \frac{2}{3} + \frac{1}{2} - \frac{1}{3} - \frac{1}{3}$$

$$= \frac{2}{3} + \frac{1}{2} - \frac{2}{3} = \frac{1}{2}$$

91. (b) *1*

Explanation:

$\tan 10° \tan 15° \tan 75° \tan 80°$

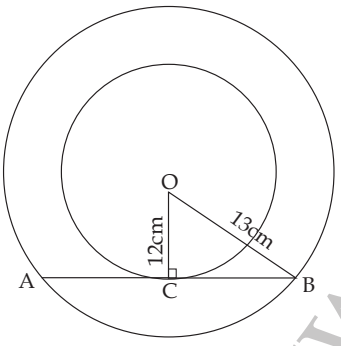
$$\tan 10° \tan 15° \times \frac{1}{\cot 75°} \times \frac{1}{\cot 80°}$$

$$\tan 10° \tan 15° \times \frac{1}{\cot (90 - 15)} \times \frac{1}{\cot (90 - 10)}$$

$$\tan 10° \tan 15° \times \frac{1}{\tan 15°} \times \frac{1}{\tan 10°} = 1$$

92. (c) *10cm*

Explanation:



Let O be the centre of concentric circles and OC and OB are radii of two circles.

Now AB is chord for bigger circle but it is tangent for for smaller circle

$SO\ OC \perp AB$

In ΔOCB

$CB^2 + OC^2 = OB^2$ *[Pythagoras Theorem]*

$CB^2 + 12^2 = 13^2$

$CB^2 + 144 = 169$

$CB^2 = 169 - 144 = 25$

$CB^2 = 25$

$CB^2 = 5^2$

$AB = 2 \times BC$

$= 2 \times 5 = 10cm$

Perpendicular from centre to the chord bisects the chord

93. (c) $\frac{2}{3}$

Explanation:

$\cos^4\theta - \sin^4\theta = \frac{2}{3}$

$(\cos^2\theta - \sin^2\theta)(\cos^2\theta + \sin^2\theta) = \frac{2}{3}$

$(\cos^2\theta - \sin^2\theta) \times 1 = \frac{2}{3}$

$(\cos^2\theta - \sin^2\theta)\ 1 = \frac{2}{3}$ $[\sin^2\theta + \cos^2\theta = 1]$

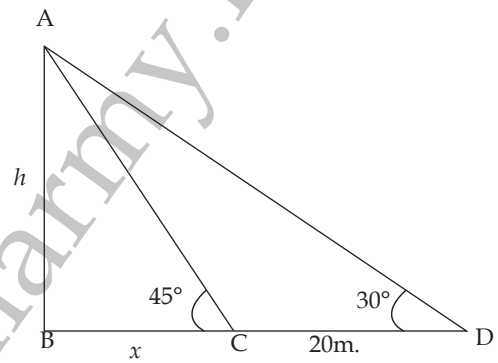
$1 - 2\sin^2\theta = \cos^2\theta + \sin^2\theta - 2\sin^2\theta$

$= \cos^2\theta - \sin^2\theta$

$= \frac{2}{3}$

94. (d) $10(\sqrt{3} + 1)$

Explanation:



Let AB = h meters be the height of pillar

In ΔABC

$\frac{AB}{BC} = \tan 45°$

$\frac{h}{x} = 1$

$h = x$

In ΔABC

$\frac{AB}{BD} = \tan 30°$

$\frac{h}{x + 20} = \frac{1}{\sqrt{3}}$ ...(1)

$h = \frac{x + 20}{\sqrt{3}}$ ...(2)

From (1) & (2) $x = \frac{x + 20}{\sqrt{3}}$

$\sqrt{3}\,x = x + 20$

$\sqrt{3}\,x - x = 20x$

$x(\sqrt{3} - 1) = 20 \Rightarrow x = \frac{20}{\sqrt{3} - 1}$

$$= \frac{20}{\sqrt{3} - 1} \times \frac{\sqrt{3} + 1}{\sqrt{3} + 1}$$

$$\frac{20(\sqrt{3} + 1)}{\sqrt{3}^2 - 1^2} = \frac{\overset{10}{\cancel{20}}(\sqrt{3} + 1)}{\cancel{2}_{1}}$$

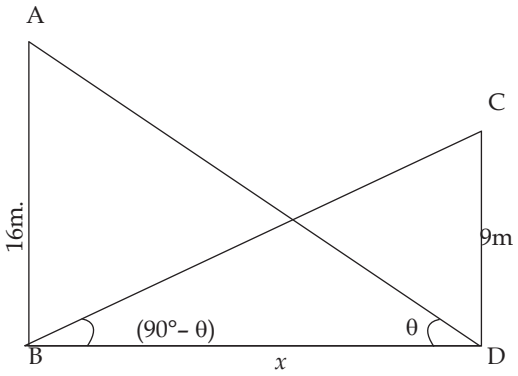
$= 10(\sqrt{3} + 1)$

$h = x$

$h = 10(\sqrt{3} + 1)$

95. (c) 12

Explanation:



Let angle of elevation at B and D are θ and 90° – θ

Let BD = x

In ΔABC $\frac{AB}{BD} = \tan\theta$

$\frac{16}{x} = \tan\theta$ ...(1)

In ΔBCD

$\frac{CD}{BD} = \tan(90° - \theta)$

$\frac{9}{x} = \cot\theta$ ....(2)

multiply (1) & (2)

$\frac{16}{x} \times \frac{9}{x} = \tan\theta \times \cot\theta$

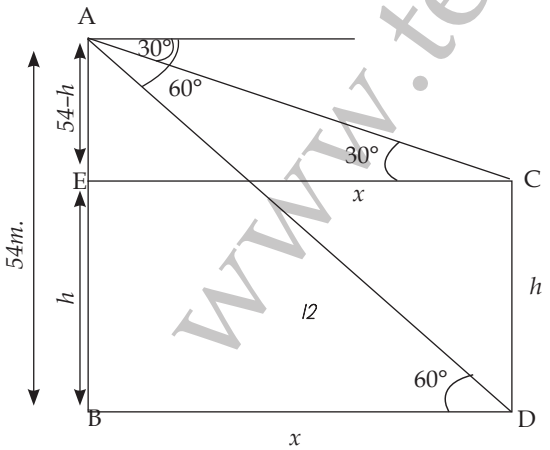
$\frac{144}{x^2} = \tan\theta \times \frac{1}{\tan\theta}$

$x^2 = 144$

$x = 12$

96. (b) 36m.

Explanation:



Let BD = x be the distance between two temples and height of CD = h meters

In ΔABC

$\frac{AB}{BD} = \tan 60$

$\frac{54}{x} = \sqrt{3}$

$\sqrt{3}\,x = 54$

$x = \frac{54}{\sqrt{3}} = \frac{54}{\sqrt{3}} \times \frac{\sqrt{3}}{\sqrt{3}}$

$\frac{54\sqrt{3}}{3} = 18\sqrt{3}$

In ΔAEC

$\frac{AE}{EC} = \tan 30°$

$\frac{54-h}{x} = \frac{1}{\sqrt{3}}$

$\sqrt{3}(54 - h) = x$

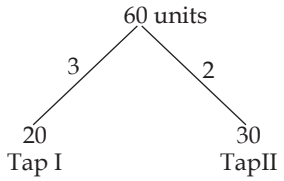
$\sqrt{3}(54 - h) = 18\sqrt{3}$

$54 - 18 = h$

$h = 36m.$

97. (a) 20min.

Explanation:



Tap I takes = 1h = 60min.

Tap II takes = 30min.

Let units of work = 60

(LCM of 30 and 60)

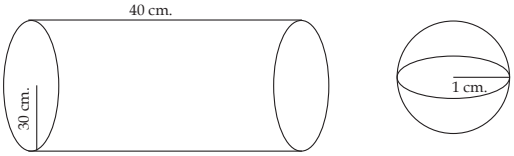
work done by tap I in 1 hour = 1

work done by tap II in 1 hour = 2

Time taken by two taps to finish the tank $= \frac{60}{1+2}$

$= \frac{60}{3} = 20$ *min.*

98. (c) 27000



Explanation:

length of cylindrical rod = 40cm.

radius = 30cm.

volume $= \pi r^2 h$

$= \pi \times 30 \times 30 \times 40$

volume of 1 spherical ball $= \frac{4}{3}\pi r^3 = \frac{4}{3}\pi(1)^3 = \frac{4}{3}\pi$

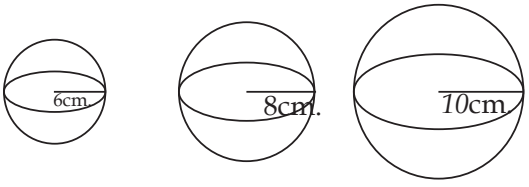
No. of spherical balls $= \frac{\text{volume of rod}}{\text{volume of 1 spherical ball}}$

$= \frac{\pi \times 30 \times 30 \times 40}{\frac{4}{3}\pi}$

$= \cancel{\pi} \times 30 \times 30 \times \cancel{40}^{10} \times \frac{3}{\cancel{4}\cancel{\pi}_{1}} = 27000$

99. (d) 12cm

Explanation:



Let radius of new sphere = rcm.

ATC

$\frac{4}{3}\pi r^3 = \frac{4}{3}\pi(6)^3 + \frac{4}{3}\pi(8)^3 + \frac{4}{3}\pi(10)^3$

$\frac{4}{3}\pi r^3 = \frac{4}{3}\pi(6^3 + 8^3 + 10^3)$

$r^3 = 216 + 512 + 1000$

$r^3 = 1728$

$r^3 = 12^3$

$r = 12cm.$

100. (b) 45

Explanation:

Total students = 32 + 40 = 72

Sum of marks of section A students = 32 × 60 = 1920

Sum of marks of section B students= 40 × 33 = 1320

Sum of marks of all students of class X = 1920 + 1320
= 3240

$\text{Average} = \frac{\text{sum of marks}}{\text{No. of students}}$

$= \frac{3240}{72} = 45$

PRELIMINARY INTERVIEW BOARD

TERRITORIAL ARMY COMMISSION : PRACTICE TEST PAPER - 1

PAPER–1: GENERAL KNOWLEDGE & ENGLISH

A1

Max Time : 2 Hours **(Please Read The Instructions Carefully)** **Max Marks : 100**

Roll No……..

INSTRUCTIONS

1. Paper 2 has two parts: Part I & Part II
   (a) Part I : General Knowledge (50 marks)
   (b) Part II: English (50 marks)
2. Each section carries 50 objectives type of questions.
3. There will be four possible answers to every question. Candidates are required to fill correct answer in the OMR sheet with Black ball pen only.
4. For each correct answer, 1 mark will be granted and 0.5 mark will be deducted for every wrong answer.
5. If a candidate gives more than one answer, it will be treated as a wrong answer and 0.5 mark will be deducted. There will be no penalty for questions left unanswered.
6. Candidates should not mark in the question paper. They can use blank pages provided in the question paper for rough work.
7. To be eligible to qualify, a candidate must obtain minimum 40% marks each in Section I & II separately and a minimum of 50% aggregate in total.

PART–1 : GENERAL KNOWLEDGE

Q1. When the Sun is near the horizon during the morning or evening, it appears reddish. The phenomenon that is responsible for this observation is
(a) reflection of light (b) refraction of light (c) dispersion of light (d) scattering of light

Q2. Why is argon gas used along with tungsten wire in an electric bulb?
(a) To increase the life of the bulb (b) To reduce the consumption of electricity
(c) To make the emitted light colored (d) To reduce the cost of the bulb

Q3. Silver articles become black after some time when exposed to air because
(a) silver gets oxidized to silver oxide
(b) silver reacts with moist carbon dioxide in the air to form silver carbonate
(c) silver reacts with sulphur in the air to form a coating of silver sulphide
(d) silver reacts with nitrogen oxides in the air to form silver nitrate

Q4. The optical phenomenon that is primarily responsible for the observation of rainbow on a rainy day is
(a) diffraction (b) interference (c) dispersion (d) reflection

Q5. Bright light is found to emit from photographer's flashgun. This brightness is due to the presence of which one of the following noble gases?
(a) Argon (b) Xenon (c) Neon (d) Helium

Q6. An emulsion consists of
(a) one liquid and one solid (b) one liquid and one gas (c) two liquids (d) two solids

Q7. The chemical properties of an element depend upon
(a) the number of isotopes of the element
(b) the mass number of the element
(c) the total number of neutrons in the element
(d) the number of electrons in the outermost shell of the element

Q8. What is the maximum number of states of matter?
(a) Three (b) Five (c) Four (d) Variable

Q9. Which one of the following is the first enzyme to mix with food in the digestive tract?
(a) Trypsin (b) Cellulose (c) Pepsin (d) Amylase

Q10. Which of the following classes of animals has/have three chambered heart?
(a) Pisces and Amphibia (b) Amphibia and Reptilia (c) Reptilia only (d) Amphibia only

Q11. Lysosome is formed from which of the following cell organelles?
(a) Nucleus (b) Endoplasmic reticulum (c) Golgi bodies (d) Ribosomes

Q12. In which one of the following types of connective tissues in animals does fat get stored?
(a) Adipocyte (b) Chondrocyte (c) Osteocyte (d) Reticulocyte

Q13. Which Buddhist text contains an account of the Mauryan Emperor Ashoka?
(a) Vinaya Pitaka (b) Sutta Pitaka (c) Abhidhamma Pitaka (d) Mahavamsa

Q14. Patanjali was
(a) a philosopher of the 'Yogachara' school
(b) the author of a book on Ayurveda
(c) a philosopher of the ' Madhyamika' school
(d) the author of a commentary on Panini's San grammar

Q15. After the death of Shivaji, there was a fight for succession between
(a) Shambhaji and the widow of Shivaji
(b) Shambhaji and Bajirao
(c) Rajaram and Shambhaji
(d) None of them

Q16. The ruins of the Vijayanagara at Hampi were brought to light in 1800 by
(a) Colonel Colin Mackenzie (b) Sir John Shore (c) Andrew Fraser (d) John Marshall

Q17. The Ghadar party, formed in the USA, was determined to start a revolt in India. Which among the following provinces did the party choose to begin its armed revolt?
(a) Punjab (b) Bengal (c) United Provinces (d) Bihar

Q18. The social ideals of Mahatma Gandhi were first put forth in
(a) Hind Swaraj
(b) An Authobiography-The Story of My Experiments with Truth
(c) History of the Satyagraha in South Africa
(d) The Bhagavad Geeta According to Gandhi

Q19. The only inscribed stone portrait of Emperor Ashoka has been found at
(a) Sanchi (b) Amaravati (c) Kanaganahalli (d) Ajanta

Q20. What do you mean by 'Demographic Dividend'?
(a) A rise in the rate of economic growth due to a higher share of working age people in a population
(b)A rise in the rate of literacy due to development of educational institutions in different parts of the country
(c) A rise in the standard of living of the people due to the growth of alternative livelihood practices
(d) A rise in the gross employment ratio of country due to government policies

Q21. Most ozone gas (about 90%) is located in the atmospheric layer of
(a) ionosphere (b) troposphere (c) stratosphere (d) mesosphere

Q22. Which one of the following tribal groups found in the 'Blue Mountains'?
(a) Lambadas (b) Gonds (c) Jarawas (d) Todas

Q23. Pir Panjal Range in the Himalayas is a part of:
(a) Shiwalik (b) Trans Himalaya (c) Central Himalaya (d) Lesser Himalaya

Q24. The 'eye' of the cyclone has
(a) abnormally high temperature and lowest pressure
(b) abnormally low temperature and pressure
(c) clear sky and lowest temperature
(d) dense cloud cover and low pressure

Q25. A nautical mile is equal to
(a) 5060 feet (b) 5280 feet (c) 6060 feet (d) 6080 feet

Q26. Horse latitudes lie within the atmospheric pressure belts of
(a)Polar high (b) Equatorial low (c) Sub-tropical high (d) Sub-polar low

Q27. According to the Election Commission of India, in order to be recognized as a 'National Party', a political party must be treated as a recognized political party in how many States?
(a) At least two States (b) At least three States (c) At least four States (d) At least five States

Q28. The National Commission for Women was
(a) an amendment in the Constitution of India
(b) a decision of the Union Cabinet
(c) an Act passed by the Parliament
(d) an order of the President of India

Q29. A writ issued to secure the release of a person detained illegally is found to be
(a) Mandamus (b) Habeas corpus (c) Certiorari (d) Prohibition

Q30. A Money Bill passed by the Lok Sabha can be held up by the Rajya Sabha for how many weeks?
(a) Two (b) Three (c) Four (d) Five

Q31. The Fundamental Rights guaranteed in the Constitution India can be suspended only by
(a) a proclamation of National Emergency
(b) an Act passed by the Parliament
(c) an amendment to the Constitution of India
(d) the judicial decisions of the Supreme Court

Q32. Which one of the following Schedules of the Constitution of India has fixed the number of Members of the Rajya Sabha to be elected from each State?
(a) Fifth Schedule (b) Third Schedule (c) Sixth Schedule (d) Fourth Schedule

Q33. Which one of the following constitutional authorities inquires and decides in case of doubts and disputes arising out of election of the President and Vice President of India"
(a) The Supreme Court of India (b) The Election Commission of India
(c) The Parliamentary Committee (d) The High Court of Delhi

Q34. Devaluation of currency will be more beneficial if prices of
(a) domestic goods remain constant (b) exports become cheaper to importers
(c) imports remain constant (d) exports rise proportionately

Q35. Which of the following with regard to the term 'bank run' is correct?
(a) The net balance of money a bank has in its chest at the end of the day's business
(b) The ratio of bank's total deposits and total liabilities
(c) A panic situation when the deposit holders start withdrawing cash from the banks
(d) The period in which a bank creates highest credit in the market

Q36. The headquarters of 'Economic and Social Commission for Asia and the Pacific' is located at
(a) Singapore (b) Manila (c) Bangkok (d) Hong Kong

Q37. The College of Military Engineering affiliated to Jawaharlal Nehru University is situated at
(a) New Delhi (b) Dehradun (c) Nainital (d) Pune

Q38. Which one of the following is the motto of NCC?
(a) Unity and Discipline (b) Unity and Integrity (c) unity and command (d) unity and service

Q39. 'Prahaar' is
(a) a battle tank (b) a surface-to-surface missile
(c) an aircraft carrier (d) a submarine

Q40. Triples' is a new format of
(a) Boxing (b) Judo (c) Chess (d) Badminton

Q41. Which country is to play host to the Asian Football Confederation (AFC) Women's Asian Cup 2022?
(a) UK (b) India (c) Sri Lanka (d) Bangladesh

Q42. Where are the headquarters of International Paralympic Committee?
(a) Germany (b) Bulgaria (c) Spain (d) England

Q43. Which country is to play host to the Asian Football Confederation (AFC) Women's Asian Cup 2022?
(a) UK (b) India (c) Sri Lanka (d) Bangladesh

Q44. The 'Panchsheel Agreement' for peaceful coexistence was signed between
(a) India and Bhutan (b) India and Nepal (c) India and China (d) India and Pakistan

Q45. Rand/ZAR' is the currency of '
(a) Burundi (b) Libya (c) Sudan (d) South Africa

Q46. Who has been appointed as the Chief Election Commissioner in April 2021?
(a) Sushil Chandra (b) Prasanna Chandra (c) Ajay Kumar Bhalla (d) Injeti Srinivas

Q47. In which state is the India's largest floating solar power plant is proposed to be set up?
(a) Maharashtra (b) Madhya Pradesh (c) Telangana (d) Tamil Nadu

Q48. Vaishali S Hiwase, has been appointed as the first woman officer of which Central Armed Police Force?
(a) BRO (b) ITBP (c) CAPF (d) CRPF

Q49. Which institution has proposed that India should provide additional incentives on purchase of EVs, in addition to that provided FAME-II?
(a) Niti Aayog (b) GST Council
(c) Finance Commission (d) Society of Automobile Manufacturers

Q50. Which Indian IT major has recently obtained Google Cloud Partner status?
(a) HCL (b) Wipro (c) Infosys (d) TCS

PART–II : ENGLISH

Analyze the content of the passage and then answer the questions that follow passage.

What needs to be set right is our approach to work. It is a common sight in our country of employees reporting for duty on time and at the same time doing little work. If an assessment is made of time they spent in gossiping, drinking tea, eating "pan" and smoking cigarettes, it will be shocking to know that the time devoted to actual work is negligible. The problem is the standard which the leadership in administration sets for the staff. Forgot the ministers because they mix politics and administration. What do top bureaucrats do? What do the below down officials do? The administration set up remains week mainly because the employees do not have the right example to follow and they are more concerned about being in the good books of the bosses than doing work.

Q51. The employees in our country
(a) are quite punctual but not duty conscious
(b) are not punctual, but somehow manage to complete their work
(c) are somewhat lazy but good natured
(d) are not very highly qualified

Q52. According to the writer, the administration in India
(a) is by and large effective
(b) is very strict and firm
(c) is affected by red tape
(d) is more or less ineffective

Q53. The word 'assessment' means
(a) enquiry (b) report (c) evaluation (d) summary

Q54. The leadership in administration
(a) sets a fine example to the employees
(b) is of a reasonably high standard
(c) is composed of idealists
(d) is of a very poor standard

Q55. The central idea of passage could be best expressed by the following
(a) The employee outlook towards work is justified
(b) The employee must change their outlook towards work
(c) The employees would never change their work culture
(d) The employer-employee relationship is far from healthy

Choose the word which best expresses nearly the same meaning of the given word.

Q56. APPREHEND
(a) Catch (b) Explain (c) Instant (d) Instance

Q57. BENEVOLENCE
(a) Kind (b) Malaise (c) Kindness (d) Start

Q58. METEORIC
(a) Dramatic (b) High (c) Remedial (d) Intrepid

Q59. MITIGATE
(a) Heighten (b) Relieve (c) Misuse (d) Pacify

Q60. ONEROUS
(a) Amorous (b) Effortless (c) Arduous (d) Inflicting

In each of the following question, out of the given words, one word is mis-spelt. Find the mis-spelt word.

Q61. (a) Submitted (b) Admitted (c) Comitted (d) Omitted

Q62. (a) Brillient (b) Brillient (c) Salient (d) Radiant

Q63. (a) Recuperate (b) Regulate (c) Reinstate (d) Seperate

Choose the word which best expresses the opposite meaning of the word.

Q64. FERVENT
(a) Keen (b) Apathetic (c) Vehement (d) Broad

Q65. GUILELESS
(a) Wily (b) Trusting (c) Tricky (d) Sure

Q66. ENDOW
(a) Revoke (b) Provoke (c) Invoke (d) Stoke

Q67. REFULGENT
(a) Lustrous (b) Lusty (c) Dull (d) Bright

Q68. INCISIVE
(a) Dull (b) Keen (c) Sharp (d) Interesting

Fill up the blanks with the most appropriate word from the option given below.

Q69. A five-year-old boy was_____ from his school on Monday last by his servant for a ransom of Rs 8, 000.
(a) driven (b) arrested (c) escorted (d) kidnapped

Q70. He has already made up his mind on this issue. Now it is_____ to argue with him.
(a) sympathetic (b) vague (c) futile (d) contradictory

Q71. Her uncle died in a car accident. He was quite rich. She suddenly _____ all her uncle's money.
(a) succeeded (b) caught (c) gave (d) inherited

Q72. I am fully _____ the problems facing the industry.
(a) alive with (b) alive to (c) alive for (d) alive on

Q73. His most striking _____ is the enthusiasm which he brings to everything he does.
(a) factor (b) attitude (c) characteristic (d) character

In each of the following sentences find out which part of the sentence has an error.

Q74. In a democratic society every (a)/ voter has a (b)/ responsibility to cast their vote (c)/ in the election process. (d)/ No error (e)/

Q75. If the employees would have (a)/ succeeded in their attempt (b)/ they would have (c)/ achieved a good target. (d)/ No error (e)/

Q76. The question is (a)/ so complicated that (b)/ it could not be solved (c)/ immediately. (d)/ No error (e)/

Q77. Unless he does not discipline (a)/ himself and tries hard (b)/ he will not learn (c)/ anything.(d)/ No error (e)/

Q78. Despite of having (a)/ an exceptionally bright career record (b)/ she could not get (c)/ whatever she deserved. (d)/ No error (e)/

Choose the best expression amongst multiple choices for a given idiom/proverb.

Q79. Ram is very calculative and always has an axe to grind.
(a) has no result (b) works for both sides
(c) has a private agenda (d) fails to arouse interest

Q80. The police looked all over for him but drew a blank.
(a) did not find him (b) put him in prison (c) arrested him (d) took him to court

Q81. On the issue of marriage, Sarita put her foot down.
(a) stood up (b) was firm (c) got down (d) walked fast

Q82. His investments helped him make a killing in the stock market.
(a) lose money quickly (b) plan a murder quickly
(c) murder someone quickly (d) make money quickly

In each of the following question out of the four alternatives, choose the one which can be substitute for the given word/ sentence.

Q83. Extreme old age when a man behaves like a fool
(a) Imbecility (b) Senility (c) Dotage (d) Superannuation

Q84. That which cannot be corrected
(a) Unintelligible (b) Indelible (c) Illegible (d) Incorrigible

Q85. The study of ancient societies
(a) Anthropology (b) Archaeology (c) History (d) Ethnology

In these questions, the first and last sentences of the passage are numbered 1 and 6. The rest of passage is split into four parts and named P, Q, R and S. These four parts are not given in their proper order. Read the sentence and find out which of the four combinations is correct.

Q86. S1: A force of exists between everybody in the universe.
P : Normally it is very small but when the one of the bodies is a planet, like earth, the force is considerable.
Q : It has been investigated by many scientists including Galileo and Newton.
R : Everything on or near the surface of the earth is attracted by the mass of earth.
S : This gravitational force depends on the mass of the bodies involved.
S6: The greater the mass, the greater is the earth's force of attraction on it. We can call this force of attraction gravity.
The Proper sequence should be:
(a) PRQS (b) PRSQ (c) QSRP (d) QSPR

Q87. S1: Calcutta unlike other cities kepts its trams. P : As a result there horrendous congestion. Q : It was going to be the first in South Asia. R : They run down the centre of the road. S : To ease in the city decided to build an underground railway line. S6: The foundation stone was laid in 1972. The Proper sequence should be:
(a) PRSQ (b) PSQR (c) SQRP (d) RPSQ

Q88. S1: For some time in his youth Abraham Lincoln was manager for a shop.
P : Then a chance Customer would come.
Q : Young Lincoln way of keeping shop was entirely unlike anyone else's.
R : Lincoln would jump up and attend to his needs and then revert to his reading.
S : He used to lie full length on the counter of the shop eagerly reading a book.
S6: Never before had Lincoln had so much time for reading as had then.
The Proper sequence should be:
(a) SRQP (b) QSPR (c) SQRP (d) QPSR

Q89. S1: All the land was covered by the ocean.
P : The leading god fought the monster, killed it and chopped its body in to two halves.
Q : A terrible monster prevented the gods from separating the land from the water.
R : The god made the sky out of the upper part of the body and ornamented it with stars.
S : The god created the earth from the lower part, grew plants on it and populated it with animals.
S6: The god moulded the first people out of clay according to his own image and mind.
The Proper sequence should be:
(a) PQRS (b) PQSR (c) QPSR (d) QPRS

For Underlined part of the sentence chooses part of the sentence from given choices, to correct or improve it.

Q90. John *had told* me that he hasn't done it yet.
(a) told (b) tells (c) was telling (d) No improvement

Q91. If he *had* time he will call you.
(a) would have (b) would have had (c) has (d) No improvement

Q92. Will you *lend me few rupees* in this hour of need?
(a) lend me any rupees (b) borrow me a few rupees (c) lend me a few rupees (d) No improvement

Q93. During his long discourse, he did not *touch* that point.
(a) touch upon (b) touch on (c) touch of (d) No improvement

Q94. He found a *wooden broken chair* in the room.
(a) wooden and broken chair (b) broken wooden chair
(d) broken and wooden chair (d) No improvement

In each or the following questions, a sentence has been given in Active (or Passive) voice. Out of the four alternatives suggested, select the one which best express the same sentence in Passive (or Active) voice.

Q95. Women like men to flatter them.
(a) Men are liked by women to flatter them. (b) Women like to be flattered by men.
(c) Women like that men should flatter them. (d) Women are liked to be flattered by men.

Q96. It is your duty to make tea at eleven O'clock.
(a) You are asked to make tea at eleven O' clock (b) Your are required to make tea at eleven O clock.
(c) You are supposed to make tea at eleven O' clock. (d) Tea is to be made by you at eleven O' clock.

Q97. Look at the poll results. do they inspire hope ?
(a) Let the poll results be looked. is hope inspired by them ?
(b) Let the poll results be looked at. has hope been inspired by them ?
(c) let the poll results be looked at. is hope being inspired by them ?
(d) Let the poll results be looked at. is hope inspired by them ?

Rearrange the following part of the sentence in form of a meaningful sentence.

Q98. All religions are to advance the cause of peace (P)/ in a holy partnership (Q)/ justice and freedom (R)/ bound together (S)
(a) P R Q S (b) P Q R S (c) S Q P R (d) S P Q R

Q99. Seventy-two people reports PTI (P)/ were affected by food poisoning (Q)/ including several women and children (R)/ of the central part of the city (S)/
(a) S P Q R (b) P Q R S (c) R S P Q (d) R S Q P

Q100. The Prime Minister declared that those states (P)/ will get all help and aid (Q)/ where family planning (R)/ is effected very efficiently (S)/
(a) P R S Q (b) P Q R S (c) R S P Q (d) Q P S R

PART–I : GENERAL KNOWLEDGE
ANSWER PRACTICE TEST PAPER - 1

1. (d) scattering of light
2. (a) To increase the life of the bulb
3. (c) silver reacts with sulphur in the air to form a coating of silver sulphide
4. (c) dispersion
5. (b) Xenon
6. (c) two liquids
7. (d) the number of electrons in the outermost shell of the element
8. (c) Four
9. (d) Amylase
10. (b) Amphibia and Reptilia
11. (c) Golgi bodies
12. (a) Adipocyte
13. (d) Mahavamsa
14. (d) the author of a commentary on Panini's San grammar
15. (c) Rajaram and Shambhaji
16. (a) Colonel Colin Mackenzie
17. (a) Punjab
18. (a) Hind Swaraj
19. (c) Kanaganahalli
20. (a) A rise in the rate of economic growth due to a higher share of working age people in a population
21. (c) stratosphere
22. (d) Todas
23. (d) Lesser Himalaya
24. (a) abnormally high temperature and lowest pressure
25. (d) 6080 feet
26. (c) Sub-tropical high
27. (c) At least four States
28. (c) an Act passed by the Parliament
29. (b) Habeas corpus
30. (a) Two
31. (a) a proclamation of National Emergency
32. (d) Fourth Schedule
33. (a) The Supreme Court of India
34. (a) domestic goods remain constant
35. (c) A panic situation when the deposit holders start withdrawing cash from the banks
36. (c) Bangkok
37. (d) Pune
38. (a) Unity and Discipline
39. (b) a surface-to-surface missile
40. (d) Badminton
41. (b) India
42. (a) Germany
43. (b) India
44. (c) India and China
45. (d) South Africa
46. (a) Sushil Chandra
47. (c) Telangana
48. (a) BRO
49. (a) Niti Aayog
50. (c) Infosys

PART–II : ENGLISH
ANSWER PRACTICE TEST PAPER - 1

51. (a) are quite punctual but not duty conscious
52. (d) is more or less ineffective
53. (c) evaluation
54. (d) is of a very poor standard
55. (b) The employee must change their outlook towards work
56. (a) Catch
57. (a) Kind
58. (a) Dramatic
59. (b) Relieve
60. (c) Arduous
61. (c) Comitted
62. (a) Brillient
63. (d) Seperate
64. (b) Apathetic
65. (a) Wily
66. (a) Revoke
67. (c) Dull
68. (a) Dull
69. (d) kidnapped
70. (c) futile
71. (d) inherited
72. (b) alive to
73. (c) characteristic
74. (c) responsibility to cast their vote
    In a democratic society every voter has a responsibility to cast his vote in the election process.
    Explanation: Singular pronoun every requires a singular referrent his or her

75. (a) If the employees would have
If the employees had succeeded in their attempt they would have achieved a good target.
Explanation: Conditional perfect (would have) is not used for something that did not happen in the past. Instead past perfect (had) is used.

76. (c) it could not be solved
The question is so complicated that it cannot be solved immediately.
Explanation: The tense of the first part (is - present tense) does not match the second part (could not - past tense). The sentence "The question was so complicated that it could not be solved immediately" is also correct.

77. (d) anything
Unless he does not disciplines himself and tries hard he will not learn.
Explanation: Use of negative with unless is incorrect.

78. (e) No error
Despite of having an exceptionally bright career record she could not get whatever she deserved.
Explanation: Use of of with despite is incorrect.

79. (c) has a private agenda

80. (a) did not find him

81. (b) was firm

82. (d) make money quickly

83. (c) Dotage

84. (d) Incorrigible

85. (b) Archaeology

86. (d) QSPR

87. (d) RPSQ

88. (b) QSPR

89. (d) QPRS

90. (b) tells

91. (c) has

92. (c) lend me a few rupees

93. (b) touch on

94. (b) broken wooden chair

95. (b) Women like to be flattered by men.

96. (c) You are supposed to make tea at eleven O′ clock.

97. (d) Let the poll results be looked at. is hope inspired by them ?

98. (c) S Q P R

99. (d) R S Q P

100. (a) P R S Q