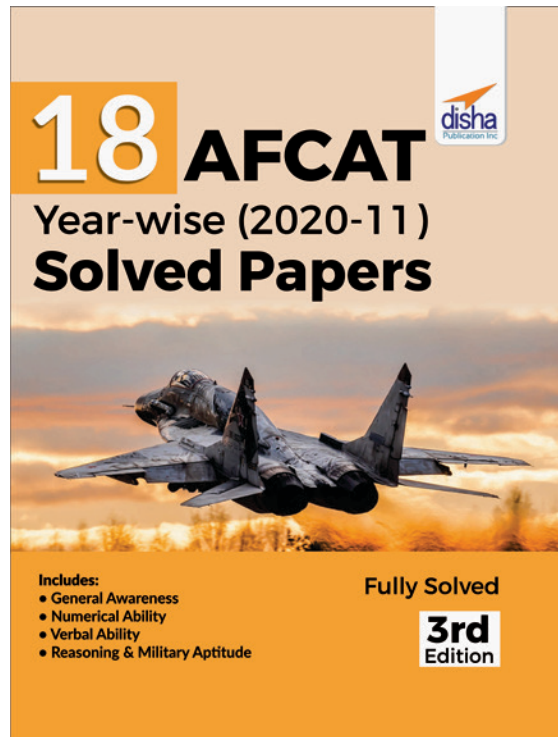




Air Force Common Admission Test (AFCAT) I/2020

This Section is taken from the Book:



ISBN : 9789389986549

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AIR FORCE COMMON ADMISSION TEST (AFCAT) I/2020

Instructions for candidates

TIME ALLOTTED – 2 HRS.

- Total No. of Questions—100. Each Question is of three marks.
- One mark will be deducted for every wrong answer.

NUMERICAL ABILITY

- The cost price of 20 articles is the same as the selling price of x articles. If the profit is 25%, then the value of x is?
 - 15
 - 16
 - 18
 - 25
- In a certain store, the profit is 320% of the cost. If the cost increases by 25% but the selling price remains constant, approximately what percentage of the selling price is the profit?
 - 30%
 - 70%
 - 100%
 - 250%
- If $A = x\%$ of y and $B = y\%$ of x , then which of the following is true?
 - A is smaller than B.
 - A is greater than B
 - None of these
 - If x is smaller than y , then A is greater than B.
- If 20% of $a = b$, then $b\%$ of 20 is the same as:
 - 4% of a
 - 5% of a
 - 20% of a
 - None of these
- Seats for Mathematics, Physics and Biology in a school are in the ratio 5 : 7 : 8. There is a proposal to increase these seats by 40%, 50% and 75% respectively. What will be the ratio of increased seats?
 - 2 : 3 : 4
 - 6 : 7 : 8
 - 6 : 8 : 9
 - None of these
- Salaries of Ravi and Sumit are in the ratio 2 : 3. If the salary of each is increased by Rs. 4000, the new ratio becomes 40 : 57. What is Sumit's salary?
 - Rs. 17,000
 - Rs. 20,000
 - Rs. 25,500
 - Rs. 38,000
- In a mixture 60 litres, the ratio of milk and water 2 : 1. If this ratio is to be 1 : 2, then the quantity of water to be further added is:
 - 20 litres
 - 30 litres
 - 40 litres
 - 60 litres
- There is 60% increase in an amount in 6 years at simple interest. What will be the compound interest of Rs. 12,000 after 3 years at the same rate?
 - 2160
 - 3120
 - 3972
 - 6240
- The sum of ages of 5 children born at the intervals of 3 years each is 50 years. What is the age of the youngest child?
 - 4 years
 - 5 years
 - 8 years
 - 10 years
- An accurate clock shows 8 o'clock in the morning. Through how many degrees will the hour hand rotate when the clock shows 2 o'clock in the afternoon?
 - 144°
 - 150°
 - 168°
 - 180°
- The average weight of 8 person's increases by 2.5 kg when a new person comes in place of one of them weighing 65 kg. What might be the weight of the new person?
 - 76kg
 - 76.5kg
 - 85kg
 - Data inadequate
- Present ages of Sameer and Anand are in the ratio of 5 : 4 respectively. Three years hence, the ratio of their ages will become 11 : 9 respectively. What is Anand's present age in years?
 - 24 years
 - 27 years
 - 40 years
 - Cannot be determined
- If $a - b = 3$ and $a^2 + b^2 = 29$, find the value of ab .
 - 10
 - 12
 - 15
 - 18
- What should come in place of both x in the equation $\frac{x}{\sqrt{128}} = \frac{\sqrt{162}}{x}$?
 - 12
 - 14
 - 144
 - 196
- A alone can do a piece of work in 6 days and B alone in 8 days. A and B undertook to do it for Rs. 3200. With the help of C, they completed the work in 3 days. How much is to be paid to C?
 - 375 rs.
 - 400 rs.
 - 600 rs.
 - 750 rs.
- A man complete a journey in 10 hours. He travels first half of the journey at the rate of 21 km/hr and second half at the rate of 24 km/hr. Find the total journey in km.
 - 220km
 - 224km
 - 245km
 - 278km

17. Two trains running in opposite directions cross a man standing on the platform in 27 seconds and 17 seconds respectively and they cross each other in 23 seconds. The ratio of their speeds is?

- (a) 1:3 (b) 3:2
(c) 2:3 (d) None of these

18. The value of $\frac{0.1 \times 0.1 \times 0.1 + 0.02 \times 0.02 \times 0.02}{0.2 \times 0.2 \times 0.2 + 0.04 \times 0.04 \times 0.04}$ is?

- (a) 0.0125 (b) 25
(c) 0.25 (d) 0.125

19. The ratio between the perimeter and the breadth of a rectangle is 5 : 1. If the area of the rectangle is 216 sq. cm, what is the length of the rectangle?

- (a) 24 (b) 18
(c) 16 (d) None of these

20. If $\frac{5x}{2x^2 + 5x + 1} = \frac{1}{3}$, then the value of $\left(x + \frac{1}{2x}\right)$ is

- (a) 15 (b) 10
(c) 20 (d) 5

REASONING AND MILITARY APTITUDE TEST

DIRECTION (Qs. 21-25): Three of the words will be in the same classification, the remaining one will not be. Your answer will be the one word that does NOT belong in the same classification as the others.

21. (a) Parsley (b) Basil
(c) Dill (d) mayonnaise
22. (a) Tulip (b) Rose
(c) Bud (d) Daisy
23. (a) Rye (b) Sourdough
(c) Pumpernickel (d) Loaf
24. (a) Scythe (b) Knife
(c) Pliers (d) Saw
25. (a) Biology (b) Chemistry
(c) Theology (d) Zoology

DIRECTION (Qs. 26-29): In each of the following questions, select the related word/letter/figure from the given alternatives.

26. Cup is to coffee as bowl is to

- (a) Dish (b) Soup
(c) Spoon (d) Food

27. Play is to actor as concert is to

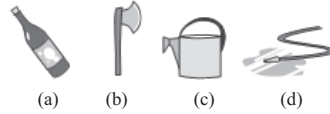
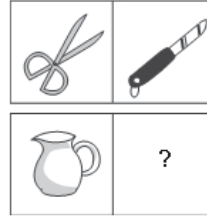
- (a) Symphony (b) Musician
(c) Piano (d) Percussion

28. Palette Easel Brush

Textbook Lessonplan ?

- (a) Artist (b) Teacher
(c) Report Card (d) Paint

29.



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

30. Select the related word pair from the given alternatives.

EXPLORE : DISCOVER

- (a) Read: Skim
(b) Research: Learn
(c) Write: print
(d) Think: Relate

31. Pointing to a photograph, a man said, "I have no brother or sister but that man's father is my father's son." Whose photograph was it ?

- (a) His own (b) His son
(c) His father (d) His grandfather

32. A group of 1200 persons consisting of captains and soldiers is travelling in a train. For every 15 soldiers there is one captain. The number of captains in the group is ?

- (a) 70 (b) 75
(c) 80 (d) 85

33. I. Mara runs faster than Gail.

II. Lily runs faster than Mara.

III. Gail runs faster than Lily

If the two statements are true, the third statement is

- (a) True (b) False
(c) Uncertain (d) None of these

34. If Arun's birthday is on May 25 which is Monday and his sister's birthday is on July 13. Which day of the week is his sister's birthday?

- (a) Monday (b) Wednesday
(c) Thursday (d) Friday

35. Fill the blank in the middle of the series or end of the series.

DEF, DEF₂, DE₂F₂, _____, D₂E₂F₃

- (a) DEF₃ (b) D₃EF₃
(c) D₂E₃F (d) D₂E₂F₂

36. Read all the conclusions and then decide which of the given conclusions logically follows from the given statements disregarding commonly known facts.

- (a) If only conclusion I follows.
- (b) If only conclusion II follows.
- (c) If either conclusion I or II follows.
- (d) If both conclusions I and II follow.

Statements:

Some Noise are steel

No steel is Blood

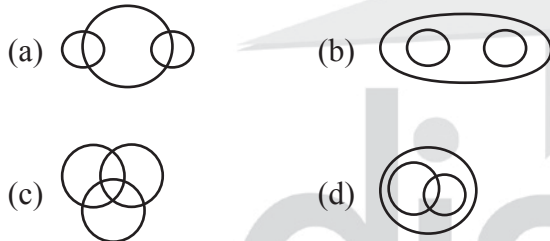
Some steel is Free

Conclusion:

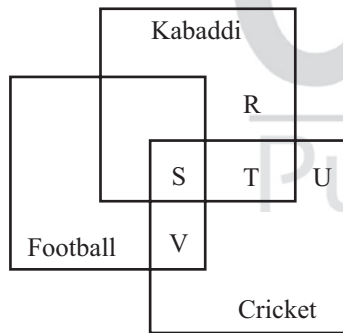
I: Some noise are not Blood

II: All Blood is noise

37. Which of the following diagrams indicates the best relation between Profit, Dividend and Bonus ?



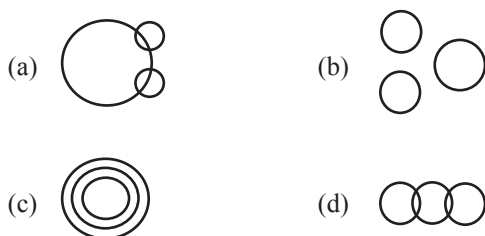
38. The diagram given below represents those students who play Cricket, Football and Kabaddi.



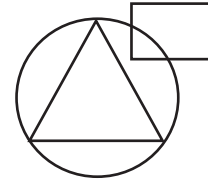
Study the diagram and identify the students who play all the three games.

- (a) P+Q+R
- (b) V+T
- (c) S+T+V
- (d) S

39. Which of the following diagrams indicates the best relation between Hockey, Football and Cricket ?

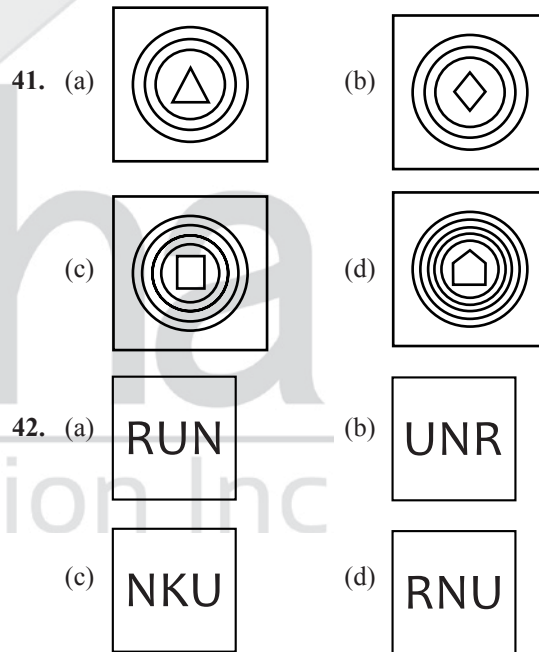


40. In an organization of pollution control board, engineers are represented by a circle, legal experts by a square and environmentalist by a triangle. Who is most represented in the board as shown in the following figure ?



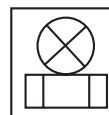
- (a) Environmentalists
- (b) Legal Experts
- (c) Engineers with legal background
- (d) Environmentalists with Engineering background

DIRECTIONS (Qs. 41-42): In the following four figures (a), (b), (c) and (d) have been given in each question. Of these four figures, three figures are similar in some way and one figure is different. Select the figure which is different.

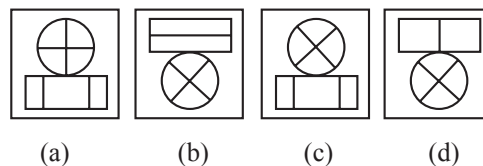


DIRECTIONS (Qs. 43): Question figure is followed by four alternatives (a), (b), (c) and (d). Select the figure from Answer figure which is exactly similar to Question figure.

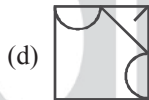
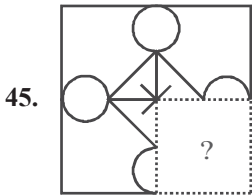
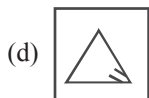
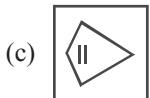
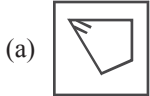
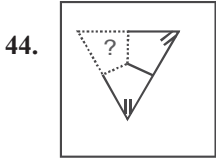
43. Question Figure



Answer Figures

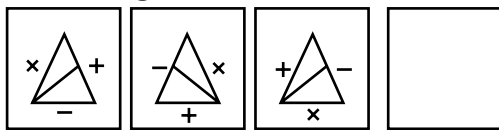


DIRECTIONS (Qs. 44-45): In the following questions there is a problem figure, a part of which is missing. Observe the answer figures (a), (b), (c), (d) and find out the answer figure which without changing the direction, fits in the missing part of the problem figure in order to complete the pattern in the problem figure.

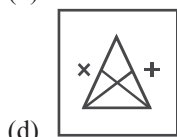
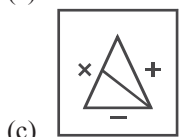


DIRECTIONS (Qs. 46): There are three question figure and the space for the fourth figure is left blank. The question figures are in a series. Find out one figure from among the answer figures given which occupies the blank space for the fourth figure and completes the series.

46. Question Figures

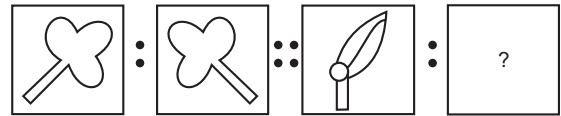


Answer Figures

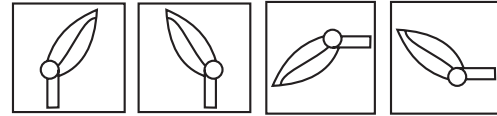


DIRECTIONS (Qs. 47): There are two sets of figure given. There is a definite relationship between first two. Establish a similar relationship between third and fourth by selecting a suitable figure from answer that would replace the question mark.

47. Question Figure



Answer Figures



(a)

(b)

(c)

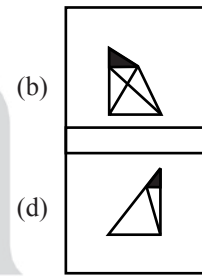
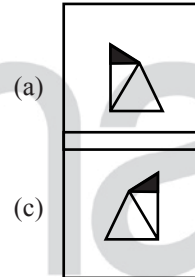
(d)

DIRECTIONS (Q. 48): In Question, one part of a geometrical figure (Triangle, Square, Circle) is as question figure and the other one is among the four answer figures (a), (b), (c) and (d). Find the figure on the right side that completes the geometrical figure.

48. Question Figure

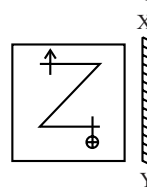


Answer Figures

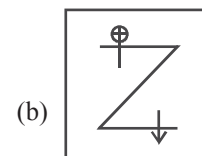
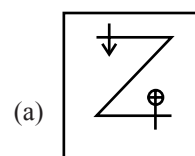


DIRECTIONS (Qs. 49): There is a question figure and four answer figures marked (a), (b), (c) and (d) are given. Select the answer figure which is exactly the mirror image of the question figure when the mirror is held at XY.

49. Question Figure



Answer Figures



DIRECTIONS (Qs. 50): Question figure is followed by four answer figures namely (a), (b), (c) and (d). Find out the correct answer figure from the given alternatives in which Question figure is hidden.

50. Question Figure



Answer Figures



(a)



(b)



(c)



(d)

ENGLISH LANGUAGE

DIRECTIONS (51-56): in the following questions, choose the correct synonym/antonym.

- 51.** What is the antonym of naive?
 (a) Unsophisticated (b) artless
 (c) experienced (d) inexperienced
- 52.** What is the Antonym of Cajole?
 (a) Persuade (b) wheedle
 (c) coax (d) bully
- 53.** What is the Synonym of Parochial?
 (a) conventional (b) Broad minded
 (c) cosmopolitan (d) liberal
- 54.** What is the Antonym of Sporadic?
 (a) Uneven (b) spasmodic
 (c) frequent (d) intermittent
- 55.** Antonyms of intrinsic?
 (a) Innate (b) natural
 (c) acquired (d) built in
- 56.** What is the synonym of Inquisitive?
 (a) Curious (b) intrigued
 (c) agog (d) all of these

DIRECTIONS (Qs. 57-60): Directions: In each of the question part, find out which part has an error. If there is no mistake, the answer is 'No error'.

- 57.** (a) The poor (b) is oppressed
 (c) All around the world (d) No error.
- 58.** (a) Mohan and me are (b) going to learn
 (c) many tricks (d) No error
- 59.** (a) We shan't (b) invite them.
 (c) won't we? (d) No error
- 60.** (a) the USA is aiming at
 (b) double its bilateral trade

- (c) with India by 2015
 (d) no error

DIRECTION (Qs. 61-64): In the following questions, the sentence given with blank to be filled in with an appropriate word. Select the correct alternative out of the four and indicate it by selecting the appropriate option.

- 61.** A leaderless police force..... the path of least resistance since there was no one in authority to spur it to action.
 (a) Take (b) Took
 (c) Tread (d) Negotiate
- 62.** this has provided a ray of hope and there is no dearth of data as far as cervical cancer and prevention are.....
 (a) Concerned (b) Forgotten
 (c) Discernible (d) Detectable
- 63.** the program has a DNA based HPV test and offered it for free to these women.
 (a) Relate (b) Deploying
 (c) Deployed (d) Refrain
- 64.** There were four instances when Delhi Police gave short shrift to the laws of the land and, indeed, to the very Constitution they are to uphold.
 (a) Swear (b) Sworn
 (c) Sword (d) Firm

DIRECTIONS (Qs. 65-67): In these questions, in the following passage some of the words have been left out. Read the passage carefully and choose the correct out of four alternatives.

For the rule of law to be well65..... and enforced, we need to start at the very beginning -- mobilising our local communities. A strong, mobilised, civil society is a necessary condition to hold the State to account. It is not about one seemingly revolutionary protest, even if the well-meaning antagonists of the CAA66..... believe so. When violence and lawlessness spill over into the streets and begin to constrain our work-a-day lives, as it has across India; when the police are routinely challenged by those on the wrong side of the67.....; when the police force is overworked and overwhelmed by political subterfuge, our society will be on the brink. As a society, we are currently engaged in a negative-sum game. The rule of law cannot, unlike riots, be engineered. It can only be practiced if we understand that liberty has to be balanced with equality; and pluralism entails a measure of negative liberty.

- 65.** (a) Establish (b) Establishing
 (c) Established (d) None of these
- 66.** (a) genuine (b) genuinely
 (c) wrong (d) right
- 67.** (a) face (b) Law
 (c) Police (d) None of these

DIRECTIONS (Qs. 68-70): *in the following questions four alternatives are given for idioms/phrases. Choose the one that best expresses the meaning of the given idiom/phrase.*

68. What is the meaning of Idiom – ‘Get into hot water’?
 (a) To swim in the deep water
 (b) To think over difficult problem
 (c) To get into difficult situation
 (d) To discuss a burning topic
69. What is the meaning of Idiom---‘rain cats and dogs’?
 (a) Rain heavily (b) To fight in rain
 (c) Cats and dogs fight (d) Rain water wastage
70. What is the meaning of Idiom---‘at daggers drawn’?
 (a) To throw daggers (b) To be bitterly hostile
 (c) To be confused (d) To think deeply

DIRECTIONS (Qs. 71-75): *A passage is given with questions following it. Read the passage carefully and choose the best answer to each question out of the four alternatives.*

My brother, David, was always close to our grandmother. Both of them shared a love of Mother Nature and of food that they had grown themselves. Whenever his schedule permitted, he would drop in for a short visit and a cup of coffee. One day, when he found no one home, he left a chunk of dirt on her porch. This started what was later to be known as his “calling card”. Grandmother would come home occasionally and instantly know that Dave had been by when she spotted the chunk of dirt on her porch. Although Grandmother had a poor upbringing in Italy, she managed to do well in the United States. She was always healthy and independent and enjoyed a fulfilling life. Recently she had a stroke and died. Everyone was saddened by her death. David was disconsolate. His life-long friend was now gone.

71. Which of the following is the synonym of the word ‘upbringing’?
 (a) Devastated (b) Hilarious
 (c) raising (d) surrounding
72. The adjective form of the word ‘saddened’ is--
 (a) sadly (b) sad
 (c) suddenly (d) sudden
73. What was condition of grandmother earlier?
 (a) rich in Italy but poor in the United States
 (b) in the United States but is now in Italy
 (c) poor earlier but became rich later on
 (d) rich earlier but now poor
74. Grandmother enjoyed a _____ life.
 (a) healthy but sickly (b) good and healthy
 (c) rich but sickly (d) poor and healthy

75. Grandmother’s death made everyone
 (a) sad including David
 (b) disconsolate excluding David
 (c) happy and disconsolate
 (d) sad excluding David

GENERAL AWARENESS

76. Who among the following writer of the Mother India Book?
 (a) Hans Aanrud (b) Katherine Mayo
 (c) Rachel Aaron (d) Ben Aaronovitch
77. Mallet term is related to which sports?
 (a) Cricket (b) Tennis
 (c) Hockey (d) POLO
78. Who among the following first person to take hat-trick in a WorldCup?
 (a) Chetan Sharma (b) Hardik Pandya
 (c) Md. Shami (d) Jasprit Bumrah
79. Capital of Barbados?
 (a) Andorra la Vella (b) Manama
 (c) Bridge town (d) Nassau
80. How many number of bodies in UNO?
 (a) Two (b) Four
 (c) Six (d) Seven
81. Article 343 is related to which?
 (a) Official languages (b) Election Commission
 (c) National Emergency (d) Supreme Court
82. Who among the following introduced preamble in constituent Assembly?
 (a) Dr. B R Ambedkar
 (b) Dr. Rajendra Prasad
 (c) Sardar Ballabh Bhai Patel
 (d) Jawahar Lal Nehru
83. Irani Cup is related to which of the game ?
 (a) Badminton (b) Football
 (c) Hockey (d) Cricket
84. Tropic of Cancer does not pass through which country?
 (a) Iran (b) India
 (c) Algeria (d) Egypt
85. Metallic coin first used in India in?
 (a) Bihar and eastern U.P. (b) Southern India
 (c) Western India (d) Central India
86. Cryolite is mainly found in which country ?
 (a) Canada (b) Iceland
 (c) Green land (d) Norway

87. Hargobind Khurana won the model prize in?
(a) Dermatology (b) Physiology
(c) Nephrology (d) Oology
88. Prime meridian is also known as?
(a) Arctic Meridian (b) Latin Meridian
(c) Greenwich Meridian (d) Antarctic Meridian
89. Retreating monsoon occurs during which month?
(a) November (b) September
(c) October (d) December
90. Dr. M.S. Subbulakshmi related with?
(a) Hindustani Music (b) Dhrupad
(c) Kathak (d) Carnatic Classical Music
91. Which case Ram Prasad Bismil related?
(a) Alipore conspiracy (b) Kakori conspiracy
(c) Kanpur conspiracy (d) Meerut conspiracy
92. Akbar Buland Darwaza victory over?
(a) Gujarat (b) Asirgarh fort
(c) Panipat Battle (d) Chittorgarh fort
93. What is the capital of Ghana?
(a) Tirana (b) Tbilisi
(c) Accra (d) Addis Ababa
94. Which of the following Mountain passes are not in India?
(a) Rohtang Pass (b) Khyber Pass
(c) Baralachala Pass (d) Lipulekh Pass
95. Who wrote the book Gone with the Wind?
(a) Anand Neelakantan (b) Gita Sahgal
(c) Douglas Noel Adams (d) Margaret Mitchell
96. Nautical Mile is unit of?
(a) Mass (b) Work
(c) Length (d) Energy
97. Dravidian Art associated with?
(a) Sangam period (b) Mughal Period
(c) Gupta Period (d) Maurya Period
98. Where is Unido Headquarters?
(a) New York (b) Brussels
(c) Vienna (d) Rome
99. How many players are there in kabaddi?
(a) Six (b) Eleven
(c) Five (d) Seven
100. Which rivers flow into the Arabian Sea?
(a) Ganga (b) Narmada
(c) Tapi (d) Both b & c

ANSWERS & SOLUTIONS

1. (b) Let C.P. of each article be Rs. 1
 C.P. of x articles = Rs. x .
 S.P. of x articles = Rs. 20.
 Profit = Rs. $(20 - x)$.

$$\left(\frac{20-x}{x} \times 100 = 25\right)$$

$$\Rightarrow 2000 - 100x = 25x$$

$$125x = 2000$$

$$\Rightarrow x = 16$$
2. (b) Let C.P. = Rs. 100. Then, Profit = Rs. 320, S.P. = Rs. 420.
 New C.P. = 125% of Rs. 100 = Rs. 125
 New S.P. = Rs. 420.
 Profit = Rs. $(420 - 125) =$ Rs. 295.
 \therefore Required percentage $\left(\frac{295}{420} \times 100\right)\% = \frac{1475}{21}\% = 70\%$
3. (c) $x\%$ of $y = \left(\frac{x}{100} \times y\right) = \left(\frac{y}{100} \times x\right) = y\%$ of x
 $\therefore A = B$.
4. (a) 20% of $a = b \Rightarrow \frac{20}{100}a = b$.
 $\therefore b\%$ of $20 = \left(\frac{b}{100} \times 20\right) = \left(\frac{20}{100}a \times \frac{1}{100} \times 20\right) = \frac{4}{100}a$
5. (a) Originally, let the number of seats for Mathematics, Physics and Biology be $5x$, $7x$ and $8x$ respectively.
 Number of increased seats are (140% of $5x$), (150% of $7x$) and (175% of $8x$).

$$\Rightarrow \left(\frac{140}{100} \times 5x\right), \left(\frac{150}{100} \times 7x\right) \text{ and } \left(\frac{175}{100} \times 8x\right)$$

$$\Rightarrow 7x, \frac{21x}{2} \text{ and } 14$$

 \therefore The required ratio = $7x : \frac{21x}{2} : 14x$

$$\Rightarrow 2 : 3 : 4$$
6. (d) Let the original salaries of Ravi and Sumit be Rs. $2x$ and Rs. $3x$ respectively.
 Then, $\frac{2x+4000}{3x+4000} = \frac{40}{57}$

$$\Rightarrow 57(2x+4000) = 40(3x+4000)$$

$$\Rightarrow 6x = 68,000$$

$$\Rightarrow 3x = 34,000$$

 Sumit's present salary = $(3x + 4000) =$ Rs. $(34000 + 4000) =$ Rs. 38,000.
7. (d) Quantity of milk = $\left(60 \times \frac{2}{3}\right)$ litres = 40 litre.
 Quantity of water in it = $(60 - 40)$ litres = 20 litres.
 New ratio = 1 : 2
 Let quantity of water to be added further be x litres.
 Then, milk : water = $\left(\frac{40}{20+x}\right)$
 Now, $\left(\frac{40}{20+x}\right) = \frac{1}{2}$

$$\Rightarrow 20 + x = 80$$

$$\Rightarrow x = 60$$

 \therefore Quantity of water to be added = 60 litres.
8. (c) Let $P = ₹ 100$. Then, S.I = 60 and $T = 6$ years.
 $\therefore R = \left(\frac{100 \times 60}{100 \times 6}\right) = 10\%$ p.a.
 Now, $P =$ Rs. 12000, $T = 3$ years & $R = 10\%$ p.a.
 \therefore C.I = Rs. $\left[12000 \times \left\{\left(1 + \frac{10}{100}\right)^3 - 1\right\}\right]$

$$= \text{Rs. } \left(12000 \times \frac{331}{100}\right) = 3972$$
9. (a) Let the ages of children be x , $(x + 3)$, $(x + 6)$, $(x + 9)$ and $(x + 12)$ years.
 Then, $x + (x + 3) + (x + 6) + (x + 9) + (x + 12) = 50$

$$\Rightarrow 5x = 20$$

$$\Rightarrow x = 4$$

 \therefore Age of the youngest child = $x = 4$ years.
10. (a) Angle traced by the hour hand in 6 hours

$$= \left(\frac{360}{12} \times 6\right)^\circ = 180^\circ$$
11. (c) Total weight increased = (8×2.5) kg = 20 kg.
 Weight of new person = $(65 + 20)$ kg = 85 kg.
12. (a) Let the present ages of Sameer and Anand be $5x$ years and $4x$ years respectively.
 Then, $\frac{5x+3}{4x+3} = \frac{11}{9}$

$$\Rightarrow 9(5x + 3) = 11(4x + 3)$$

$$\Rightarrow 45x + 27 = 44x + 33$$

$$\Rightarrow 45x - 44x = 33 - 27$$

$$\Rightarrow x = 6.$$

\therefore Anand's present age = $4x = 24$ years.

13. (a) $2ab = (a^2 + b^2) - (a - b)^2$

$$= 29 - 9 = 20$$

$$\Rightarrow ab = 10.$$

14. (a) Let $\frac{x}{\sqrt{128}} = \frac{\sqrt{162}}{x}$

$$\text{Then } x^2 = \sqrt{128 \times 162}$$

$$= \sqrt{64 \times 2 \times 18 \times 9}$$

$$= \sqrt{8^2 \times 6^2 \times 3^2}$$

$$= 8 \times 6 \times 3$$

$$= 144$$

$$\therefore x = \sqrt{144} = 12.$$

15. (b) C's 1 day's work = $\frac{1}{3} - \left(\frac{1}{6} + \frac{1}{8}\right) = \frac{1}{3} - \frac{7}{24} = \frac{1}{24}$

$$\text{A's wages : B's wages : C's wages} = \frac{1}{6} : \frac{1}{8} : \frac{1}{24}$$

$$= 4 : 3 : 1.$$

$$\therefore \text{C's share (for 3 days)} = ₹ \left(3 \times \frac{1}{24} \times 3200\right) = ₹400$$

16. (b) $\frac{(1/2)x}{21} + \frac{(1/2)x}{24} = 10$

$$\Rightarrow \frac{x}{21} + \frac{x}{24} = 20$$

$$\Rightarrow 15x = 168 \times 20$$

$$\Rightarrow x = \left(\frac{168 \times 20}{15}\right) = 224 \text{ km.}$$

17. (b) Let the speeds of the two trains be x m/sec and y m/sec respectively.

Then, length of the first train = $27x$ metres, and length of the second train = $17y$ metres.

$$\therefore \frac{27x + 17y}{x + y} = 23$$

$$\Rightarrow 27x + 17y = 23x + 23y$$

$$\Rightarrow 4x = 6y$$

$$\Rightarrow \frac{x}{y} = \frac{3}{2}$$

18. (d) Given expression = $\frac{(0.1)^3 + (0.02)^3}{2^3[(0.1)^3 + (0.02)^3]} = \frac{1}{8} = 0.125$

19. (b) $\frac{2(l+b)}{b} = \frac{5}{1}$

$$2l + 2b = 5b$$

$$\Rightarrow 3b = 2l$$

$$b = \frac{2}{3}l$$

Then, Area = 216 cm^2

$$\Rightarrow l \times b = 216$$

$$\Rightarrow l \times \frac{2}{3}l = 216$$

$$l^2 = 324$$

$$\Rightarrow l = 18 \text{ cm.}$$

20. (d) $\frac{5x}{2x^2 + 5x + 1} = \frac{1}{3}$

Dividing numerator & denominator by $2x$

$$= \frac{\frac{5}{2}}{x + \frac{1}{2} + \frac{1}{2x}} = \frac{1}{3}$$

$$= \frac{\frac{2}{2}}{x + \frac{1}{2x} + \frac{5}{2}} = \frac{1}{3}$$

$$\Rightarrow \left(x + \frac{1}{2x}\right) + \frac{5}{2} = \frac{15}{2}$$

$$\Rightarrow \left(x + \frac{1}{2x}\right) + \frac{15}{2} = \frac{5}{2}$$

$$\Rightarrow \left(x + \frac{1}{2x}\right) = 5$$

21. (d) Parsley, basil, and dill are types of herbs. Mayonnaise is not an herb.

22. (c) Tulip, rose, and daisy are all types of flowers. A bud is not.

23. (a) Loaf, sourdough, and pumpernickel are types of bread. A rye is not a bread type.

Loaf - Bread that is shaped and baked in one piece and usually sliced before being eaten.

Pumpernickel - Dark, dense German bread made from coarsely ground whole-grain rye.

Sourdough - Leaven for making bread, consisting of fermenting dough, typically that left over from a previous batch.

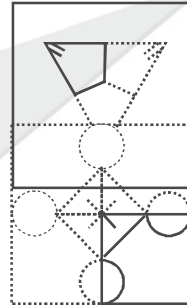
Rye - A wheat like cereal plant that tolerates poor soils and low temperatures.

24. (c) The scythe, knife, and saw are all cutting tools. Pliers are tools, but they are not used for cutting.
25. (c) Biology, chemistry, and zoology are all branches of science. Theology is the study of religion.
26. (b) Coffee goes into a cup and soup goes into a bowl. Choices a and c are incorrect because they are other utensils. The answer is not choice d because the word food is too general.
27. (b) An actor performs in a play. A musician performs at a concert. Choices a, c, and d are incorrect because none is people who perform.
28. (c) The objects above the line are all things used by an artist. The objects below the line are all things used by a teacher.
29. (c) Scissors is to knife as pitcher is to watering can. This relationship is about function. The scissors and knife are both used for cutting. The pitcher and watering can are both used for watering.
30. (b) One explores to discover; one researches to learn.
31. (b) Since the person who is telling has no brother or sister, so his father son is he himself. So the man in the photograph is his son.
32. (b) Generally we may commit mistake of dividing $1200/15$. But out of 16 persons there is one captain. so, it will be $1200/16 = 75$
33. (b) We know from the first two statements that Lily runs fastest. Therefore, the third statement must be false.
34. (a) Reference day : May 25th Monday Days from May 25th to July 13 = $6 + 30 + 13 = 49$ No of odd days : $49/7 = 0$
35. (d) In this series, the letters remain the same: DEF.
The subscript numbers follow this series:
111, 112, 122, 222, 223, 233, 333, ...
36. (a) only conclusion I follows.



37. (b) Bonus and Dividend are different from each other. But both these are parts of profit.
38. (d) S indicates those students who play all three games.

39. (b) All these three games are different from each other.
40. (d) Environmentalists with Engineering background is most represented in the board.
41. (b) Number of circles is equal to the number of sides in the geometric figure enclosed by the circle. In option (b) a quadrilateral have four sides, so four circles should be there but it is only three circles.
42. (c) Letter 'R', 'N' and 'U' are present in option (a), (b) and (d). But in option (c) letter N, K and U are present.
43. (c)



44. (a)
45. (b)
46. (c)
47. (b) The second figure of first pair is the mirror image of first figure.
48. (a)
49. (c) Mirror imge of question figure is given in option (c)
50. (c)
51. (c) The antonym of naive is experienced. Other options are nearly same in meaning.



52. (d) Bully
Other options are nearly same in meaning.
53. (a) The word 'conventional' means having a limited or narrow outlook or scope.
Other words are nearly opposite in meaning.
54. (c) Frequent
Other options are nearly similar in meaning to the word 'sporadic'.
55. (c) Acquired
Other words are nearly similar in meaning to the given word.
56. (d)
57. (b) the word 'poor' is a plural here, hence the helping verb should be in plural (are) form.
58. (a) the word 'me' is an objective case it should be replaced with nominative case 'I'.

59. (c) the options (a) and (b) are sentences and the option (c) is question tag which is not correct. The correct question tag is 'shall we?' Hence, the option (c) is the correct answer.
60. (b) The word 'double' should be replaced with 'doubling'
61. (b) The word 'took' is correct usage contextually.
62. (a) the word 'concerned' is right in forming passive.
63. (c) 'deployed' is the right after the word 'has'.
64. (b) the word 'sworn' the past participle form of 'swear' is the correct usage contextually.
65. (c) the word 'established' is the correct word usage.
66. (b) the word 'genuinely' is an adverb. Hence, it is the right word to be used before the verb 'believe'.
67. (b) law
68. (c) to get into difficult situation
69. (a) to rain heavily
70. (b) to be bitterly hostile
71. (c) raising
72. (b) sad
73. (c) 74. (b) 75. (a)
76. (b) The book 'Mother India' authored by Katherine Mayo published in 1927 became a sensation in the Western world.
77. (d) Terms used in Polo : Chukker ; Bunder ; Mallet.
78. (a) India's paceman, Chetan Sharma, will forever have the honour of taking the first-ever Cricket World Cup hat-trick.
79. (c) Capital of Barbados is Bridge town, Currency: Barbadian dollar. Barbados is an island country in the Lesser Antilles of the West Indies.
80. (c) The United Nations System consists of the United Nations, and the six principal organs of the United Nations: the General Assembly, Security Council, Economic and Social Council (ECOSOC), Trusteeship Council, International Court of Justice (ICJ), and the UN Secretariat.
81. (a) Article 343 is related to official languages, this article is enshrined in Part 17 of the Constitution of India.
82. (a) The Assembly adopted the Preamble as presented by chairman of the Drafting Committee Dr. B R Ambedkar . The Constituent Assembly debated the Preamble on 17th October 1949. The debates around the Preamble revolved around the name of India and inclusion of 'God' and 'Gandhi'.
83. (d) Trophy of Cricket: Deodhar Trophy, Irani Trophy, G. D. Birla Trophy, C. K. Naydu Trophy etc.
84. (a) Starting at the prime meridian and heading eastward, the Tropic of Cancer passes through 16 countries: Algeria, Niger, Libya, Egypt, Saudi Arabia, United Arab Emirates, Oman, India, Bangladesh, Myanmar, China, Taiwan, Mexico, Bahamas, Mauritania and Mali.
85. (a) The first metallic coin used in India was in
86. (c) Cryolite (Na_3AlF_6 , sodium hexafluoroaluminate) is an uncommon mineral identified with the once-large deposit at Ivittuut on the west coast of Greenland, depleted by 1987.
87. (b) Har Gobind Khorana was an Indian-American biochemist. While on the faculty of the University of Wisconsin–Madison, he shared the 1968 Nobel Prize for Physiology or Medicine with Marshall W. Nirenberg and Robert W. Holley for research that showed.
88. (c) Prime meridian is also known as Greenwich meridian, imaginary line used to indicate 0° longitude that passes through Greenwich, a borough of London, and terminates at the North and South poles. An international conference held in Washington, D.C., in 1884 designated "the meridian passing through the centre of the transit instrument at the Observatory of Greenwich as the initial meridian for longitude."
89. (c) The highest frequency of the cyclones is in the month of October and the first half of November.
- During the months of October-November, the south-west monsoon winds become weaker and start to retreat from the skies of North India. This phase of the monsoon is known as the retreating monsoon.
90. (d) Dr M S Subbulakshmi was a legendary Carnatic vocalist. She was born on 16 September 1916 to veena player Shanmukavadiver Ammal and stage performer Subramania Iyer.
91. (b) Ram Prasad Bismil, Ashfaqulla Khan and Roshan Singh were hanged to death for their involvement in Kakori conspiracy (1925). The Kakori Conspiracy (or Kakori train robbery or Kakori Case) was a

train robbery that took place between Kakori and, near Lucknow, on 9 August 1925 during the Indian Independence Movement against the British Indian Government.

92. (a) Buland Darwaza or the “Door of victory”, was built in 1601 A.D. by Mughal emperor Akbar to commemorate his victory over Gujarat. It is the main entrance to the Jama Masjid at Fatehpur Sikri.
93. (c) The capital of Ghana is Accra , Currency: Ghanaian cedi. Ghana ,officially the Republic of Ghana, is a country located along the Gulf of Guinea and Atlantic Ocean, in the subregion of West Africa.
94. (b) The Khyber Pass is a mountain pass in the northwest of Pakistan, on the border with Afghanistan. It connects the town of Landi Kotal to the Valley of Peshawar at Jamrud by traversing part of the Spin Ghar mountains.
95. (d) Margaret Mitchell was an American novelist. After a broken ankle immobilized her in 1926, Mitchell started writing a novel that would become *Gone With the Wind*. Published in 1936, *Gone With the Wind* made Mitchell an instant celebrity and earned her the Pulitzer Prize.
96. (c) A nautical mile is a unit of length used in both air and marine navigation, and for the definition of territorial waters.
97. (a) Dravidian architecture or the South Indian temple style is an architectural idiom in Hindu temple architecture that emerged in the southern part of the Indian subcontinent during the Sangam period.
98. (c) The United Nations Industrial Development Organization (UNIDO), is a specialized agency in the United Nations system, headquartered in Vienna, Austria.
99. (d) Kabaddi is a game of 2 teams of 7 players each, where one team becomes the raiders and the other team anti raiders.
100. (d) Narmada rises from Amarkantak Plateau near Anuppur district. It forms the traditional boundary between North India and South India and draining through the Gulf of Khambhat into the Arabian Sea.
- The Tapti River (or Tapi) is a river in central India between the Godavari and Narmada rivers. It is draining through the Gulf of Khambhat into the Arabian Sea.
 - Ganga is a trans-boundary river of Asia which flows through India and Bangladesh. The 2,525 km river rises in the western Himalayas in the Indian state of Uttarakhand, and flows south and east through the Gangetic Plain of India and Bangladesh, eventually emptying into the Bay of Bengal.