

AFCAT-I



Air Force Common Admission Test

Solved Paper 2016

Directions (Q. Nos. 1-3) You have two brief passages with five questions following each passage. Read the passages carefully and choose the best answer to each question out of the four alternatives.

In May 1966, the World Health Organisation was authorised to initiate a global campaign to eradicate small-pox. The goal was to eradicate the disease in one decade. Because similar projects for malaria and yellow fever had failed, few believed that small-pox could actually be eradicated, but eleven years after the initial organisation of the campaign, no cases were reported in the field. The strategy was not only to provide mass vaccinations, but also to isolate patients with active small-pox in order to contain the spread of the disease and to break the chain of human transmission. Rewards for reporting small-pox assisted in motivating the public to aid health workers. One by one, each small-pox victim was sought out, removed from contact with others and treated. At the same time, the entire village where the victim had lived was vaccinated. Today small-pox is no longer a threat to humanity. Routine vaccinations have been stopped worldwide.

- Which of the following is the best title for the passage?
 - The World Health Organisation
 - The Eradication of Small-pox
 - Small-pox Vaccinations
 - Infectious Diseases
- What was the goal of the campaign against small-pox?
 - To decrease the spread of small-pox worldwide
 - To eliminate small-pox worldwide in ten years
 - To provide mass vaccinations against small-pox world wide
 - To initiate worldwide projects for small-pox, malaria and yellow fever at the same time
- According to the paragraph what was the strategy used to eliminate the spread of small-pox?
 - Vaccination of the entire village
 - Treatment of individual victims
 - Isolation of victims and mass vaccinations
 - Extensive reporting of outbreaks

Directions (Q. Nos. 4-9) In the following passage some of the words have been left out. First read the passage over and try to understand what it is about. Then, fill in the blanks with the help of the alternatives given.

Science means knowledge, but not all knowledge is science. I know from my own eyesight that our dog Chippy likes papaya; I know from a book that Akbar was the (4) of Babar and died in 1605; and I know (5) the radio that India did not do well in the latest Test matches. We can call these (6) of knowledge facts but they are not science. Science (7) with facts, but not with facts which have (8) to do with each other, like the facts about our dog, cricket and the Moghul ruler, those facts are not related (9) and so have nothing to do with science. Science starts with observation.

- grandson
 - grandfather
 - grand nephew
 - son
- on
 - in
 - since
 - from
- pieces
 - peace
 - whole
 - block
- starts
 - stops
 - passes
 - drives
- no
 - neither
 - nor
 - nothing
- by that way
 - in any way
 - from the side
 - in addition to

Directions (Q. Nos. 10-13) Out of the four alternatives, choose the one which expresses the meaning of the given words.

- Luxuriant**
 - Luxury-loving
 - Lovely
 - Rich
 - Abundant
- Onus**
 - Sadness
 - Happiness
 - Responsibility
 - Criticism
- Cantankerous**
 - Cancerous
 - Ferocious
 - Quarrelsome
 - Fissiparous
- Derision**
 - Humiliation
 - Embarrassment
 - Ridicule
 - Condemnation

Directions (Q. Nos. 14-17) Choose the word opposite in meaning to the given words.

- Advanced**
 - Progressed
 - Outpaced
 - Receded
 - Retarded
- Devious**
 - Straight
 - Obvious
 - Simple
 - Superficial
- Enlighten**
 - Slander
 - Bemoan
 - Darken
 - Befog
- Evanescent**
 - Imminent
 - Permanent
 - Pervasive
 - Immanent

Directions (Q. Nos. 18-21) *Out of the four alternatives, choose the one which can be substituted for the given words/sentence.*

18. One who hides away on a ship to obtain a free passage
(a) Composer (b) Stoker (c) Stowaway (d) Shipwright
19. Clues available at a scene
(a) Circumstantial (b) Derivative
(c) Inferential (d) Suggestive
20. An unexpected piece of good fortune
(a) Windfall (b) Philanthropy
(c) Benevolence (d) Turnstile
21. Detaining and confining someone
(a) Interruption (b) Interrogation
(c) Interment (d) Internment

Directions (Q. Nos. 22-26) *Group of four words are given below. In each group, one word is correctly spelt. Find the correctly spelt word.*

22. (a) Collaborate (b) Comemorate
(c) Colate (d) Choclate
23. (a) Circuiteous (b) Clairvoyant (c) Chivelry (d) Cavelcade
24. (a) Severety (b) Sovereignity
(c) Superiority (d) Serenity
25. (a) Parapharnelia (b) Parsimonious
(c) Peccadilo (d) Peadiatrics
26. (a) Measureable (b) Manageable
(c) Marriagable (d) Manoevrable

Directions (Q. Nos. 27-30) *Four alternatives are given for the underlined or given idiom/phrase. Choose the alternative which best expresses the meaning of the underlined or given idiom/phrase.*

27. I joined college late and found it difficult to catch up with other students.
(a) to compete with (b) to come to their level
(c) to overtake them (d) to hold them and stop
28. They have made many changes in the policy, but how many of these changes are going to affect the man in the street?
(a) the homeless man
(b) the ordinary man
(c) the man who works on the street
(d) the man who repairs roads
29. The students wanted a holiday, but the Principal put his foot down and said, 'No'.
(a) asserted his authority (b) kicked them
(c) stepped out (d) came downstairs
30. Why should you read between the lines whenever I say this to you?
(a) read the lines with great speed
(b) interpret the lines wrongly
(c) find more meaning than the words appear to express
(d) read a text line-by-line slowly
31. AADHAAR is a unique identification number, which the Unique Identification Authority of India (UIDAI) will issue for all residents in India. How many digits does this number consists of?
(a) 10 (b) 8 (c) 14 (d) 12

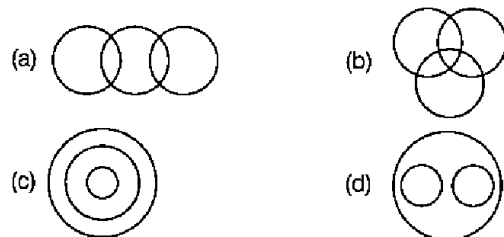
32. Kalinga Award is given for
(a) Art (b) Science (c) Literature (d) Sports
33. Which State government has announced to set-up bio-ethanol refinery in the State to tackle the menace of wheat and paddy straw burning?
(a) Haryana (b) Punjab (c) Uttar Pradesh (d) Bihar
34. National Tribal Crafts Mela 'Aadishilp' which provide tribal artisans an important platform to showcase their talents through their products to urban India is observed in November, 2015 at which place?
(a) Tripura (b) Silchar (c) Agartala (d) New Delhi
35. Indigenous Terra Madre (ITM), a conclave centered on the philosophy of Slow Food, Agro biodiversity, Food Sovereignty, Agro-ecology, amongst others, was held at which place?
(a) Shillong (b) Kohima (c) Dispur (d) Tripura
36. A Bench headed by NGT Chairperson Justice Swatanter Kumar directed the Delhi government and the which northern States to stop the age-old practice of straw burning recently?
(a) Punjab (b) Haryana (c) Rajasthan (d) All of these
37. Union government issued a notification regarding the long-pending One Rank-One Pension scheme for which category people?
(a) Physically handicapped (b) Ex-servicemen
(c) Socially backward (d) None of these
38. Chief Minister and JD (U) leader Nitish Kumar won the Bihar Assembly Election 2015 and sworn-in as the CM of Bihar. How many times he placed in this position including this time?
(a) 3 (b) 4 (c) 5 (d) 6
39. Tata Sons Chairman Emeritus Ratan Tata inaugurated the T-Hub as the new face of India at which place?
(a) Andhra Pradesh (b) Telangana
(c) Karnataka (d) Tamil Nadu
40. The Annual Hundred Drums Wangala Festival observed on November 12, 2015. It is a cultural fervour where ten Wangala Dance Troupes from various parts of which hills?
(a) Garo hills (b) Khasi hills (c) Mizo hills (d) Jaintia hills
41. Which country has rescinded its law in November, 2015 banning many families from having more than one child?
(a) Indonesia (b) Bangladesh (c) India (d) China
42. India has signed two MoUs i.e., co-operation in new and renewable energy and renewal of the cultural exchange programme 2015-18 with which country?
(a) Indonesia (b) France
(c) The UK (d) None of these
43. Maldivian Parliament Majlis impeached whom in an extraordinary sitting where 61 Parliamentarians out of the 85 present voted in favour of the motion?
(a) Adeb Ghafoor (b) Mohd Jameel
(c) Adeb Jameel (d) Mohd Ghafoor
44. Which country declared a State of emergency for a period of 30 days?
(a) Mauritius (b) Maldives
(c) New Zealand (d) West Indies

45. Which country has been declared Ebola-free by the World Health Organisation (WHO) recently?
 (a) Liberia (b) Sierra Leone
 (c) Guinea (d) (a) and (b)
46. India and UK announced deals worth £ 9 billion in the area of
 (a) Defence (b) Cyber security
 (c) Railway (d) All of these
47. The G-20 Leaders' Summit, hosted in Antalya on November 15, 2015. Alongwith G-20 members which other countries are present there?
 (a) Azerbaijan (b) Spain (c) Malaysia (d) All of these
48. India and China decided to deepen bilateral defence ties and maintain peace and tranquillity at which area?
 (a) Ladakh (b) Leh
 (c) LoC (d) None of these
49. Former RBI Deputy Governor Subir Gokarn was appointed in
 (a) IMF (b) World Bank
 (c) UNSC (d) None of these
50. Which motor company become the first manufacturer to test drive its driverless vehicle on November 15, 2015?
 (a) Mercedes (b) Ferrari (c) Tata (d) Ford
51. Union government has been approved Atal Mission for Rejuvenation and Urban Transformation (AMRUT) Action Plans for 81 cities in which State(s)?
 (a) Tamil Nadu (b) Madhya Pradesh
 (c) Jharkhand (d) All of these
52. The students in three classes are in each class in the ratio 2 : 3 : 5. If 40 students are increased in each class the ratio change to 4 : 5 : 7. Originally the total number of student was
 (a) 100 (b) 180 (c) 200 (d) 400
53. The ratio of incomes of two persons is 5 : 3 and that of their expenditure is 9 : 5. The income of each person if they save ₹ 1300 and ₹ 900 respectively, is
 (a) ₹ 4000, ₹ 2400 (b) ₹ 3000, ₹ 1800
 (c) ₹ 5000, ₹ 3000 (d) ₹ 4500, ₹ 2700
54. How much quantity of water must be added to 48 mL of alcohol to make a solution that contain 25% alcohol?
 (a) 48 mL (b) 64 mL (c) 144 mL (d) 192 mL
55. Dilip, Ram and Amar started a shop by investing ₹ 2700, ₹ 8100 and ₹ 7200 respectively. At the end of 1 yr, the profit was distributed. If Ram's share was ₹ 3600, their total profit was
 (a) ₹ 10800 (b) ₹ 11600
 (c) ₹ 8000 (d) None of these
56. Find the largest number which when subtracted from 10000, the remainder is divisible by 32, 36, 48 and 50.
 (a) 8272 (b) 7408 (c) 9136 (d) 8674
57. A shopkeeper offers his customers 10% discount and still makes a profit of 26%. What is the actual cost to him of an article marked ₹ 280?
 (a) ₹ 175 (b) ₹ 200 (c) ₹ 225 (d) ₹ 215
58. A 150 m long train crosses a mile-stone in 15 s and a train of same length coming from opposite direction in 12 s. The speed of other train is
 (a) 36 km/h (b) 54 km/h (c) 50 km/h (d) 45 km/h

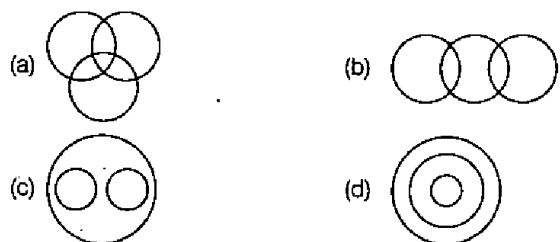
59. A tree increases annually by $\frac{1}{8}$ th of its height. By how much will it increase after $2\frac{1}{2}$ yr if it stands today 8 m high?
 (a) 10.75 m (b) 15.60 m (c) 11.85 m (d) 12.25 m
60. The difference between 63% of a number and 45% of the same number is 342. What is 78% of that number?
 (a) 1342 (b) 1482 (c) 1558 (d) 1670
61. What would be the compound interest obtained on an amount of ₹4000 at the rate of 5% per annum after 3 yr?
 (a) ₹ 612 (b) ₹ 578 (c) ₹ 525.5 (d) ₹ 630.5
62. What is the least number to be added to 7700 to make it a perfect square?
 (a) 131 (b) 121
 (c) 77 (d) None of these
63. The average age of a man and his son is 40 yr. The ratio of their ages is 7 : 3, respectively. What is the man's age?
 (a) 70 yr (b) 63 yr
 (c) 56 yr (d) 49 yr
64. A canteen requires 28 dozen bananas for a week. How many dozen bananas will it require for 47 days?
 (a) 2256 (b) 322
 (c) 196 (d) None of these
65. A and B can do a piece of work in 72 days, B and C in 120 days and A and C in 90 days. In what time can A alone do it?
 (a) 90 days (b) 120 days
 (c) 150 days (d) 180 days

Directions (Q. Nos. 66-70) Each of these questions given below contains three elements. These elements may or may not have some inter-linkage. Each group of elements may fit into one of these diagrams at (a), (b), (c) and (d). You have to indicate the group of elements which correctly fits the diagrams.

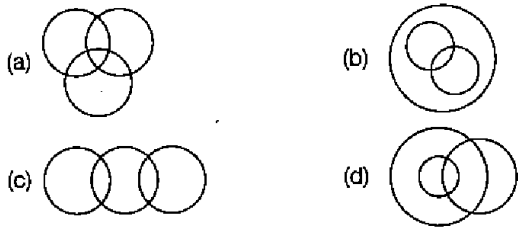
66. Which of the following diagram indicates the best relation between Teacher, Poet and Graduate?



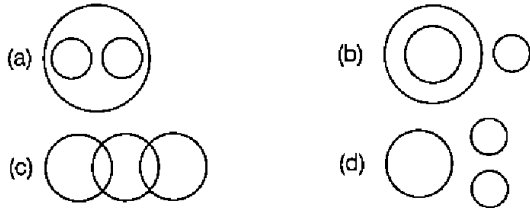
67. Which of the following diagram indicates the best relation between Teachers, Men and Authors?



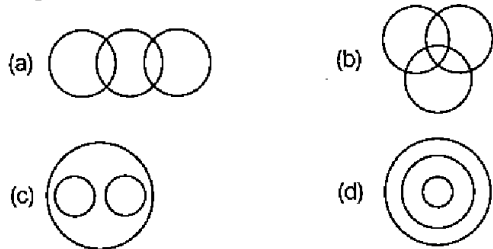
68. Which of the following diagram indicates the best relation between Tennis fan, Cricket players and Students?



69. Which of the following diagram indicates the best relation between Rose, Flower and Lotus?



70. Which of the following diagram indicates the best relation Tiger, Four-footed and Elephant?



Directions (Q. Nos. 71-75) In each of the following questions, there is a certain relationship between two given words on one side of (::) and one word is given on another side of (::) while another word is to be selected from the given alternatives, having the same relationship with this word as the words of the given pair bear. Choose the correct alternative.

71. Melt : Liquid :: Freeze : ?
 (a) Ice (b) Condense (c) Solid (d) Crystal
72. Forecast : Future :: Regret : ?
 (a) Present (b) Atone (c) Past (d) Sins
73. Fear : Threat :: Anger : ?
 (a) Compulsion (b) Panic
 (c) Provocation (d) Force
74. Clock : Time :: Thermometer : ?
 (a) Heat (b) Radiation
 (c) Energy (d) Temperature
75. Paw : Cat :: Hoof : ?
 (a) Horse (b) Lion (c) Lamb (d) Elephant

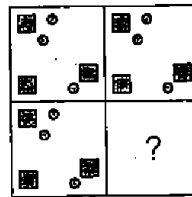
Directions (Q. Nos. 76-80) In each of the following questions, four words have been given out of which three are alike in same manner, while the fourth one is different. Choose the word which is different from the rest.

76. (a) Room (b) Chamber
 (c) Veranda (d) Cabin

77. (a) Mouth Organ (b) Electric Guitar
 (c) Keyboard (d) Sonata
78. (a) Heat (b) Light (c) Bulb (d) Electricity
79. (a) Paper (b) Pencil (c) Pen (d) Stationary
80. (a) Inch (b) Metre (c) Yard (d) Quart

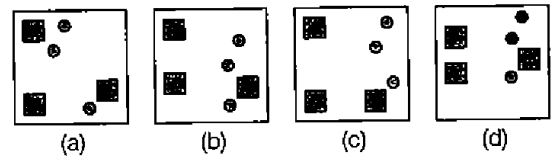
Directions (Q. Nos. 81-85) In each of the following questions, select a figure from amongst the four alternatives, which when placed in the blank space of figure (X) would complete the pattern.

81. Question Figure

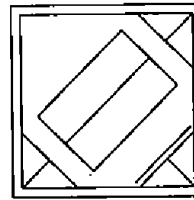


(X)

Answer Figures

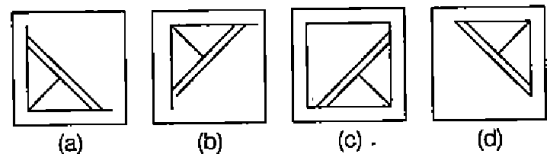


82. Question Figure

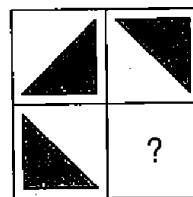


(X)

Answer Figures

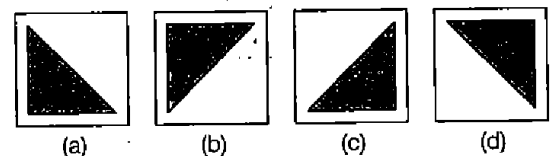


83. Question Figure

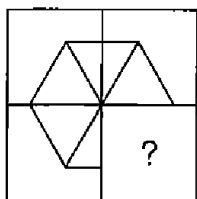


(X)

Answer Figures

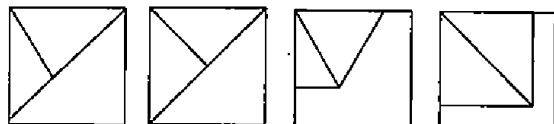


84. Question Figure



(X)

Answer Figures



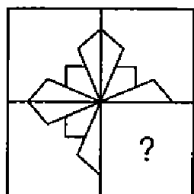
(a)

(b)

(c)

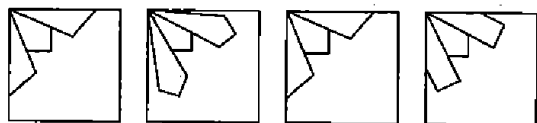
(d)

85. Question Figure



(X)

Answer Figures



(a)

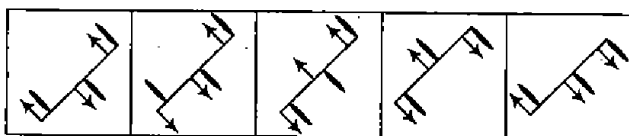
(b)

(c)

(d)

Directions (Q. Nos. 86-90) Each of the following questions, consists of five figures marked (1), (2), (3), (4) and (5) called the question followed by four other figures marked (a), (b), (c) and (d) called answer figures. Select a figure from amongst the answer figures which will continue the same series as established by the five question figures.

86. Question Figures



(1)

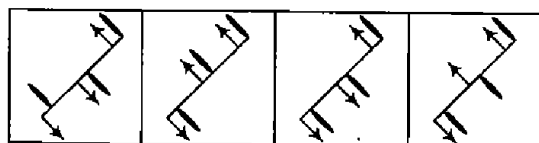
(2)

(3)

(4)

(5)

Answer Figures



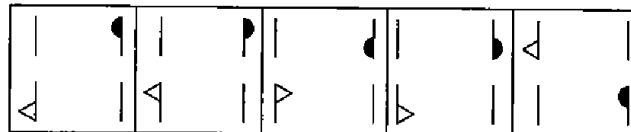
(a)

(b)

(c)

(d)

87. Question Figures



(1)

(2)

(3)

(4)

(5)

Answer Figures



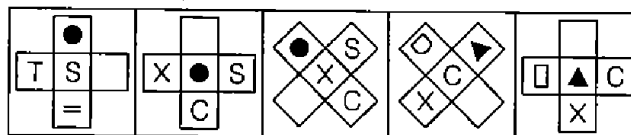
(a)

(b)

(c)

(d)

88. Question Figures



(1)

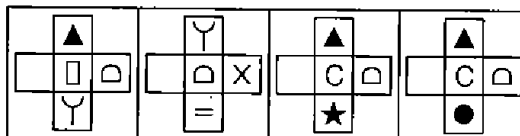
(2)

(3)

(4)

(5)

Answer Figures



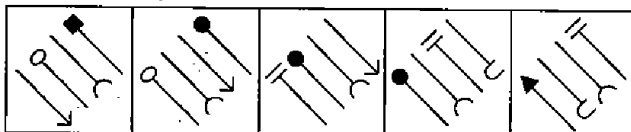
(a)

(b)

(c)

(d)

89. Question Figures



(1)

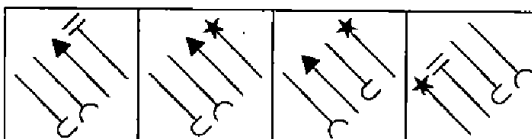
(2)

(3)

(4)

(5)

Answer Figures



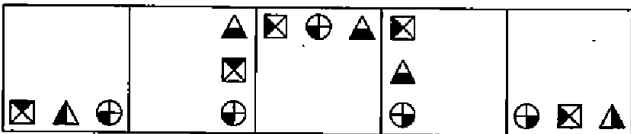
(a)

(b)

(c)

(d)

90. Question Figures



(1)

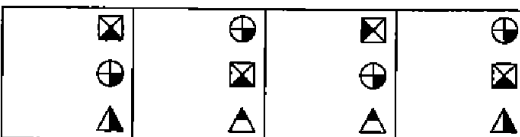
(2)

(3)

(4)

(5)

Answer Figures



(a)

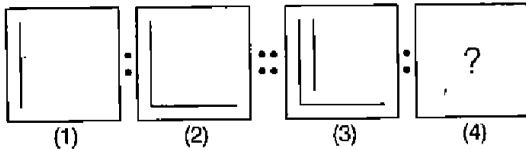
(b)

(c)

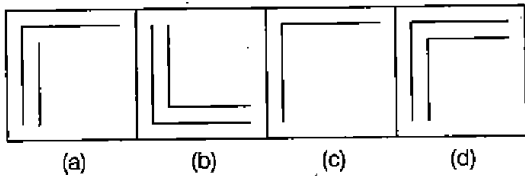
(d)

Directions (Q. Nos. 91-95) Each of the following questions, consist of two sets of figures. Figures (1), (2), (3) and (4) constitute the problem set while figures (a), (b), (c) and (d) constitute the answer set. There is a definite relationship between figures (1) and (2) establish a similar relationship between figures (3) and (4) by selecting a suitable figure from the answer set that would replace the question mark (?) is figure (4).

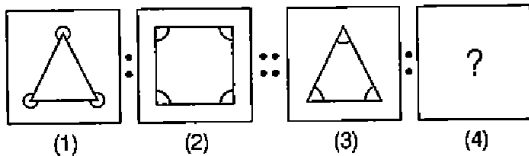
91. Question Figures



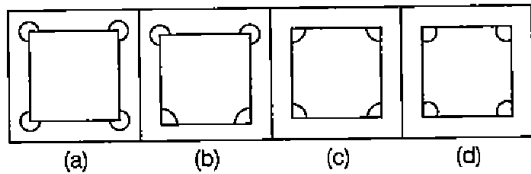
Answer Figures



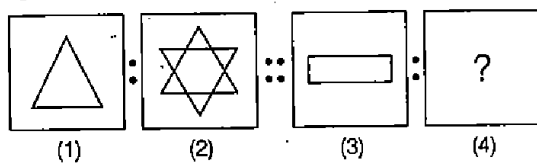
92. Question Figures



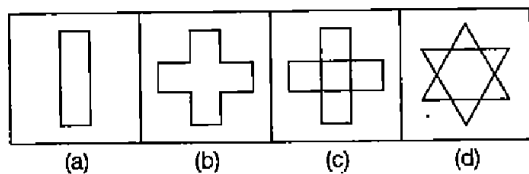
Answer Figures



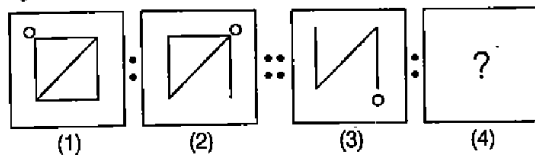
93. Question Figures



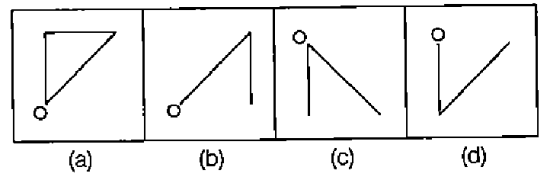
Answer Figures



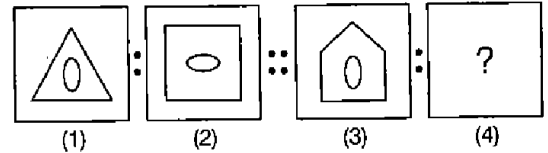
94. Question Figures



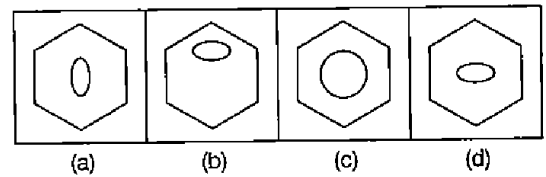
Answer Figures



95. Question Figures

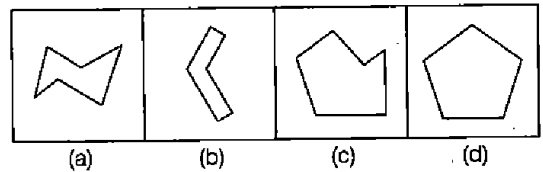


Answer Figures

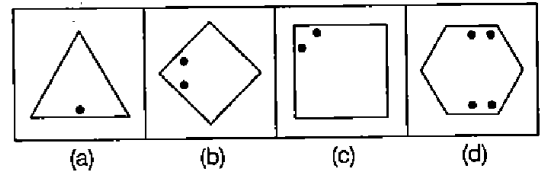


Directions (Q. Nos. 96-100) In each problem, out of the four figures marked (a), (b), (c) and (d), there are similar in a certain manner. However, our figure is not like the other three. Choose the figure which is different from the rest.

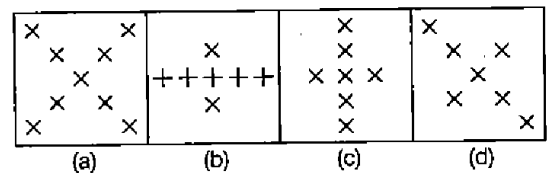
96.



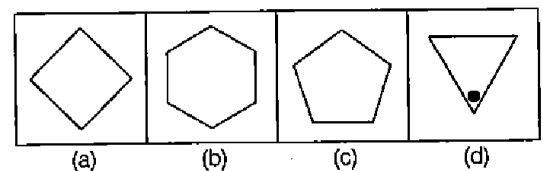
97.



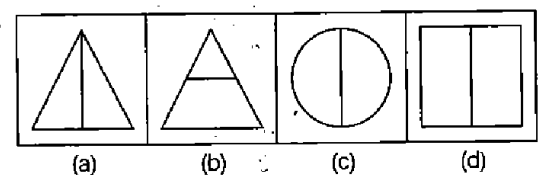
98.



99.



100.



Answers

1. (b)	2. (b)	3. (c)	4. (a)	5. (d)	6. (a)	7. (a)	8. (d)	9. (b)	10. (d)
11. (c)	12. (c)	13. (c)	14. (d)	15. (c)	16. (a)	17. (b)	18. (a)	19. (a)	20. (a)
21. (d)	22. (a)	23. (b)	24. (d)	25. (b)	26. (b)	27. (a)	28. (c)	29. (d)	30. (d)
31. (d)	32. (b)	33. (b)	34. (d)	35. (a)	36. (d)	37. (b)	38. (c)	39. (b)	40. (a)
41. (d)	42. (a)	43. (a)	44. (b)	45. (d)	46. (d)	47. (d)	48. (c)	49. (a)	50. (d)
51. (d)	52. (c)	53. (a)	54. (c)	55. (c)	56. (c)	57. (b)	58. (b)	59. (a)	60. (b)
61. (d)	62. (d)	63. (c)	64. (d)	65. (b)	66. (b)	67. (a)	68. (a)	69. (a)	70. (c)
71. (c)	72. (c)	73. (c)	74. (d)	75. (a)	76. (c)	77. (c)	78. (a)	79. (d)	80. (d)
81. (a)	82. (b)	83. (b)	84. (c)	85. (c)	86. (d)	87. (a)	88. (a)	89. (b)	90. (a)
91. (b)	92. (a)	93. (c)	94. (b)	95. (d)	96. (d)	97. (d)	98. (b)	99. (d)	100. (b)

Hints and Solutions

- 52.** Let the number of student in three classes be $2x$, $3x$ and $5x$ respectively. Due to increase of 40 students in each class, we have $\frac{2x+40}{3x+40} = \frac{4}{5} \Rightarrow 10x + 200 = 12x + 160$
 $\Rightarrow 2x = 40 \Rightarrow x = 20$
 \therefore Total number of students initially = $2x + 3x + 5x = 10x = 200$
- 53.** Let the income of two persons are ₹ $5x$ and ₹ $3x$ and the expenditure of two persons are ₹ $9y$ and ₹ $5y$ respectively.
 $\therefore 5x - 9y = 1300$... (i)
 and $3x - 5y = 900$... (ii)
 On solving Eqs. (i) and (ii), we get $x = 800$, $y = 300$
 Income of first person = $5 \times 800 = ₹ 4000$
 and income of second person = $3 \times 800 = ₹ 2400$
- 54.** Let x mL must be added. $\frac{48}{x+48} = \frac{25}{100} \Rightarrow \frac{48}{x+48} = \frac{1}{4}$
 $\Rightarrow x + 48 = 192$, $x = 192 - 48 = 144$ mL
- 55.** Ratio of their investment = $2700 : 8100 : 7200 = 3 : 9 : 8$
 Let the total profit = ₹ x
 Then, $3600 = \frac{9}{20} \times x \therefore x = \frac{3600 \times 20}{9} = ₹ 8000$
- 56.** LCM of 32, 36, 48, 54 = 864
 \therefore Required number = $10000 - 864 = 9136$
- 57.** Cost price = ₹ x and marked price = ₹ 280
 $SP = 90\%$ of ₹ 280 = $\frac{90}{100} \times 280 = ₹ 252$
 Given, 126% of $x = 252 \therefore x = \frac{252 \times 100}{126} = ₹ 200$
- 58.** Speed of first train = $\frac{150}{15} = 10$ m/s, Second case, $\frac{150 + 150}{x + 10} = 12$
 Where, $x =$ speed of other train
 $\Rightarrow 300 = 12x + 120 \Rightarrow x = \frac{180}{12} = 15$ m/s
 \therefore Required speed = $15 \times \frac{18}{5} = 54$ km/h
- 59.** Height of tree after 1 yr = $8 + 8 \times \frac{1}{8} = 9$ m
 Height of tree after 2 yr = $9 + 9 \times \frac{1}{8} = \frac{72 + 9}{8} = \frac{81}{8}$ m
 Height of tree after $2\frac{1}{2}$ yr
 $= \frac{81}{8} + \frac{81}{8} \times \frac{1}{16} = \frac{81}{8} \left(1 + \frac{1}{16}\right) = \frac{81}{8} \times \frac{17}{16} = \frac{1377}{128} = 10.75$ m
- 60.** Let the number is x . According to the question,
 63% of $x - 45\%$ of $x = 342$
 $\Rightarrow x \times \frac{63}{100} - x \times \frac{45}{100} = 342 \Rightarrow \frac{63x}{100} - \frac{45x}{100} = 342$
 $\Rightarrow \frac{63x - 45x}{100} = 342 \Rightarrow \frac{18x}{100} = 342$
 $\Rightarrow 18x = 342 \times 100 \Rightarrow x = \frac{342 \times 100}{18} = 1900$
 78% of $1900 = 1900 \times \frac{78}{100} = 19 \times 78 = 1482$
- 61.** Correct spacing
 $= P \left[\left(1 + \frac{r}{100}\right)^t - 1 \right] = 4000 \left[\left(1 + \frac{5}{100}\right)^3 - 1 \right]$
 $= 4000 \left[\left(\frac{105}{100}\right)^3 - 1 \right] = 4000 \left[\left(\frac{21}{20} \times \frac{21}{20} \times \frac{21}{20}\right) - 1 \right]$
 $= 4000 \left[\frac{9261}{8000} - 1 \right] = 4000 \left[\frac{9261 - 8000}{8000} \right] = 4000 \times \frac{1261}{8000}$
 $= ₹ 630.50$
- 62.** $7700 + 221 = \sqrt{7921} = 49$
- 63.** The total age of man and his son = $40 \times 2 = 80$ yr
 Total ratio = $7 + 3 = 10$ Man's age = $\frac{80}{10} \times 7 = 56$ yr
- 64.** \therefore In 7 days, a canteen requires = 28×12 bananas
 \therefore In 1 day, a canteen requires = $\frac{28 \times 12}{7}$ bananas
 \therefore In 47 days, a canteen requires $\frac{28 \times 12}{7} \times 47 = 2256$ bananas
 $= 188$ dozen
- 65.** Let A, B and C can do a piece of work in x , y and z days respectively.
 $\therefore 2 \left(\frac{1}{x} + \frac{1}{y} + \frac{1}{z} \right) = \frac{1}{72} + \frac{1}{120} + \frac{1}{90}$
 $\Rightarrow \frac{1}{x} + \frac{1}{y} + \frac{1}{z} = \frac{1}{2} \left[\frac{5+3+4}{360} \right] = \frac{1}{x} + \frac{1}{y} + \frac{1}{z} = \frac{12}{2 \times 360}$
 $\therefore \frac{1}{x} + \frac{1}{y} + \frac{1}{z} = \frac{1}{60} \therefore \frac{1}{y} + \frac{1}{z} = \frac{1}{120}$
 $\therefore \frac{1}{x} = \frac{1}{60} - \frac{1}{120} = \frac{1}{120}$
 Hence, A alone will complete the work in 120 days.