

# AFCAT 1 2016 QUESTION PAPER

## INSTRUCTIONS:

TIME LIMIT : 2 HOURS

1. Total No. of Questions—100. Each Question is of three marks.
2. One mark will be deducted for every wrong answer.
3. Do not write or mark on the Question Paper.
4. Question Paper to be returned before leaving the Exam Hall.

**DIRECTIONS (Qs. 1-4) :** Choose the word/words that best defines the given phrases :

1. Beats me  
(a) To hit someone (b) To quarrel with a person  
(c) To not understand (d) To be silent
2. Cloak and dagger  
(a) To fight to a finish  
(b) To get into unexpected trouble  
(c) To end the hostility  
(d) Like a spy
3. To be at the end of one's tether  
(a) To feel offended  
(b) To draw moral attention  
(c) To have no resources left  
(d) To think deeply
4. I Don't Buy it  
(a) To refuse to purchase something  
(b) To give up  
(c) To decline an offer  
(d) To not be convinced

**DIRECTIONS (Qs. 5-10) :** Select the most appropriate word from the options against each number:

Life is an (5) series of challenges and opportunities to be seized. You have to plan for exercising the right career choices and (6) the right opportunities. Planned (7) rather than a hasty decision is (8) as far as your career is concerned. You need to (9) what occupational groups, (10) and type of organizations are suitable for you.

5. (a) enticing (b) exciting  
(c) enchanting (d) enhancing
6. (a) catching (b) offsetting  
(c) grabbing (d) conceiving
7. (a) delay (b) hindrance  
(c) application (d) execution
8. (a) desirable (b) deciphered  
(c) inevitable (d) acceptable
9. (a) check (b) classify  
(c) divide (d) analyse
10. (a) specifications (b) limitations  
(c) qualifications (d) identification

**DIRECTIONS (Qs. 11-14):** Choose the correct spelt word:

11. (a) Omminous (b) Omineous  
(c) Ominous (d) Omenous

12. (a) Hindrance (b) Hinderance  
(c) Hindrence (d) Hinderence
13. (a) Perjery (b) Perjury  
(c) Purjury (d) Perjary
14. (a) Reminiscene (b) Reminiscence  
(c) Reminincence (d) Remeniscence

**DIRECTIONS (Qs. 15-17) :** Read the following passage carefully and answer the questions given below it

Recently, a newspaper article mourned the total disappearance of the common house sparrow.

This was a comment on the city's perceptible move towards edging out the flora and fauna of the city. In the rapid urbanization, multi-storied apartments grew and large scale felling of trees became necessary. Last week, however, seven pairs of these sparrows were spotted in a suburb. Possibly the greenery of this place has created a new habitat for these birds which like their proximity to human beings, and have made a comeback. A systematic development of trees and shrubs all over the city could woo the absentee house sparrow to our midst.

15. In the passage the term "urbanisation" has been used to refer to  
(a) the destruction of the greenery in the city  
(b) construction of concrete structures on a large scale  
(c) a change over from the rural life to the city life  
(d) the movement of people from villages to cities
16. The phrase "absentee house sparrow" refers to  
(a) the sparrow that makes infrequent visits  
(b) the sparrow that has forgotten its habitat  
(c) the sparrow that has gone away from the urban areas  
(d) the sparrow that has become extinct
17. According to the passage, the birds have made a comeback to the suburb because they  
(a) have been hunted down by the village people  
(b) Love to be amidst human beings  
(c) get food only where human beings live  
(d) they have been deliberately brought back by biologists

**DIRECTIONS (Qs. 18-21):** Choose the word which is nearest in meaning to the given word:-

18. Abdicate  
(a) Join (b) Search  
(c) Advance (d) Renounce

19. Acrimony  
 (a) Spleen (b) Courtesy  
 (c) Oriented (d) Scarce
20. Embellish  
 (a) Employ (b) Arrange  
 (c) Decorate (d) Design
21. Damp Squib  
 (a) Insignificant happening  
 (b) An old technique  
 (c) Unsuccessful attempt  
 (d) Short, shrill cry

**DIRECTIONS (Qs. 22-25) :** Choose the word which is nearly opposite in meaning to the given word:-

22. Sporadic  
 (a) Rare (b) Frequent  
 (c) Sharp (d) Coordinated
23. Exonerate  
 (a) Reject (b) Contract  
 (c) Accuse (d) Admit
24. Exodus  
 (a) Home-coming (b) Influx  
 (c) Restoration (d) Return
25. Relinquish  
 (a) Cede (b) Abdicate  
 (c) Deny (d) Possess

**DIRECTIONS (Qs. 26-30) :** Choose the word explains the meaning of the following idioms:

26. All and Sundry  
 (a) Everybody without distinction  
 (b) only rich person  
 (c) together  
 (d) selected people
27. To play second fiddle  
 (a) To be happy, cheerful and healthy  
 (b) To be in a subordinate position to someone  
 (c) To do back seat driving  
 (d) To reduce importance of one's senior
28. A wolf in sheep's clothing  
 (a) A hypocrite  
 (b) A wolf in woolen clothes  
 (c) A coward  
 (d) A proud man
29. A blue stocking  
 (a) Stocking which is blue in colour  
 (b) A clean cheat  
 (c) An unreliable person  
 (d) a woman having literary tastes and learning
30. Yeoman's service  
 (a) lip-service  
 (b) to serve like a slave  
 (c) to play god father  
 (d) efficient or useful help

**DIRECTIONS (Qs. 31-50) :** Choose the most appropriate answer:

31. The book, 'A China Passage' was written by  
 (a) MJ Akbar (b) Jagmohan  
 (c) Anees Jung (d) John Kenneth Galbraith

32. Global 500 awards are given for outstanding achievement in which of the following fields?  
 (a) Population Control  
 (b) Elimination of illiteracy  
 (c) Campaigning against AIDS  
 (d) Protection of environment
33. Pulitzer Prize is awarded for the outstanding work in the field of  
 (a) Science and Technology  
 (b) Environmental Studies  
 (c) Literature and Journalism  
 (d) International Understanding
34. The national emblem, viz four lions standing back to back is an adaptation from which of the following:-  
 (a) Sarnath lions (b) Gir lions  
 (c) Khajurao (d) Ajanta caves
35. Which of the following books is written by Arnold Toynbee?  
 (a) Mankind and Mother Earth  
 (b) Tom Sawyer  
 (c) The Future of Freedom  
 (d) The Moon's Last Sigh
36. Which one of the following is the petroleum wax?  
 (a) Paraffin wax (b) Jonoba wax  
 (c) Carnauba wax (d) Bees wax
37. Who among the following is not a recipient of the 'Bharatiya Jnanpith' Award?  
 (a) Ashapurna Devi (b) MF Hussain  
 (c) Raghupati Sahay (d) VK Gokak
38. Which city will host the 2022 Commonwealth Games?  
 (a) Gold Coast, Australia  
 (b) Durban, South Africa  
 (c) Lusaka, Zambia  
 (d) Nairobi, Kenya
39. Who was the person behind conversion of East India Company from a trading company into a regional power?  
 (a) Lord Warren Hastings  
 (b) Lord Clive  
 (c) Lord Dalhousie  
 (d) Lord Wellesley
40. Which of the following Asian countries celebrates its Independence Day on 4<sup>th</sup> February?  
 (a) Sri Lanka (b) Bahrain  
 (c) Cambodia (d) Bangladesh
41. Natural radioactivity was discovered by  
 (a) Marie Curie (b) Earnest Rutherford  
 (c) Henry Becquerel (d) Enrico Fermi
42. The present chairman of ISRO is  
 (a) MYS Prasad (b) Shailesh Nayak  
 (c) AS Kiran Kumar (d) K Radhakrishnan
43. Who was the Viceroy when the Simon Commission visited India?  
 (a) Lord Chelmsford  
 (b) Lord Reading  
 (c) Lord Irwin  
 (d) Lord Wellington

44. Mahatma Gandhi left South Africa to return to India in  
(a) 1911 (b) 1915  
(c) 1917 (d) 1919
45. The Battle of Plassey was fought in  
(a) 1757 (b) 1782  
(c) 1748 (d) 1764
46. Mangalyan, Mars Orbiter Mission (MOM) was launched in  
(a) Jan 2013 (b) Oct 2012  
(c) Oct 2013 (d) Nov 2013
47. 'Ruhr of India' known for its rich coal deposits is in the State of  
(a) Uttar Pradesh (b) Jharkhand  
(c) West Bengal (d) Bihar
48. The Indian space programme began in  
(a) 1961 (b) 1962  
(c) 1965 (d) 1969
49. 'Bachpan Bachao Andolan (BBA), an organisation to protect the rights of children was founded by  
(a) Amir Khan (b) Kailash Satyarthi  
(c) Om Prakash Gurjar (d) Santa Sinha
50. The language of discourses of Gautama Buddha was  
(a) Bhojpuri (b) Magadhi  
(c) Pali (d) Sanskrit
51. Anmol sold two items for ₹ 1000 each. On one, he gained 10% and on other, he lost 10%. How much did he gain or lose in the whole transaction?  
(a) profit, 0.95% (b) loss, 1%  
(c) profit, 10% (d) loss, 10%
52. The price of an item is decreased by 25%. What percent increase must be done in new price to get the original price?  
(a)  $33\frac{1}{3}\%$  (b)  $43\frac{3}{4}\%$   
(c)  $55\frac{2}{3}\%$  (d)  $65\frac{1}{4}\%$
53. A's salary is 50% more than B's. How much percent is B's salary less than A's?  
(a)  $63\frac{1}{4}\%$  (b)  $43\frac{1}{4}\%$   
(c)  $53\frac{1}{3}\%$  (d)  $33\frac{1}{3}\%$
54. In Arun's opinion, his weight is greater than 65 kg but less than 72 kg. His brother does not agree with Arun and he thinks that Arun's weight is greater than 60 kg but less than 70 kg. His mother's view is that his weight cannot be greater than 68 kg. If all are correct in their estimation, what is the average of different probable weights of Arun?  
(a) 67 kg (b) 68 kg  
(c) 69 kg (d) data inadequate
55. A train 150 m long is running with a speed of 68 km/h. In what time will it pass a man who is running at 8 km/h in the same direction in which the train is going?  
(a) 8 sec (b) 8.5 sec  
(c) 9 sec (d) 9.5 sec
56. A and B can do a piece of work in 30 days, while B and C can do the same work in 24 days and C and A in 20 days. They all work together for 10 days when B and C leave. How many days more will A take to finish the work?  
(a) 18 days (b) 24 days  
(c) 30 days (d) 36 days
57. A sum was invested for 3 years at simple interest at a certain rate. Had it been invested at 4% higher rate of interest, it would have fetched ₹600 more. The sum is  
(a) ₹4000 (b) ₹4950  
(c) ₹5000 (d) ₹5150
58. The difference between simple and compound interests compounded annually on a certain sum of money for 2 years at 4% per annum is ₹1. The sum (in ₹) is:  
(a) 625 (b) 630  
(c) 640 (d) 650
59. A man rows to a place 48 km distant and come back in 14 hours. He finds that he can row 4 km with the stream in the same time as 3 km against the stream. The rate of the stream is:  
(a) 1 km/hr (b) 1.5 km/hr  
(c) 2 km/hr (d) 2.5 km/hr
60. If the incomes of Ram & Shyam are in the ratio of 3:4 and their expenditures in the ratio of 4:5, find the ratio of their savings, given that Shyam saves a third of his income.  
(a) 10:15 (b) 13:20  
(c) 15:20 (d) 13:15
61. A does  $\frac{1}{2}$  as much work as B and C does  $\frac{1}{2}$  as much work as A and B together. If C alone can finish the work in 40 days, then together all will finish the work in  
(a) 30 days (b)  $13\frac{1}{3}$  days  
(c) 15 days (d) 20 days
62. A container contains 40 litres of milk. From this container 4 litres of milk was taken out and replaced by water. This process was repeated further two times. How much milk is now contained by the container?  
(a) 26.34 litres (b) 27.36 litres  
(c) 28 litres (d) 29.16 litres
63. A boat travels upstream from B to A and downstream from A to B in 3 hours. If the speed of the boat in still water is 9 km/h and the speed of the current is 3 km/h, the distance between A and B is  
(a) 9 km (b) 10 km  
(c) 11 km (d) 12 km
64. A sum of money lent out at simple interest amounts to ₹ 720 after 2 years and to ₹ 1020 after a further period of 5 years. The sum is  
(a) ₹ 500 (b) ₹ 600  
(c) ₹ 700 (d) ₹ 750
65. Present age of X and Y are in the ratio 7:5 respectively. Four years hence, the ratio of their ages will become 11:9 respectively. What is the present age of Y?  
(a) 1 year (b) 7 year  
(c) 5 year (d) None of these

**DIRECTIONS (Qs. 66-70):** In each of the following questions find out the alternative which will replace the question mark.

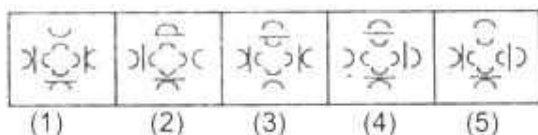
66. Cerebrum : Brain :: ? : ?  
 (a) Aorta : Hand (b) Ligament : Blood  
 (c) Ventricle : Heart (d) Country : Universe
67. Wife : Marriage :: ? : ?  
 (a) Bank : Money  
 (b) Nationality : Citizenship  
 (c) Service : Qualification  
 (d) Attendance : Register
68. Sadist : Injury :: ? : ?  
 (a) Opportunist : Generosity  
 (b) Priest : Church  
 (c) Dentist : Teeth  
 (d) Thief : Robbery
69. Lecherous : Carnal :: ? : ?  
 (a) Virile : Feeble (b) Diatribe : Abuse  
 (c) Impede : Begin (d) Sunder : Link
70. Ignominy : Disloyalty :: ? : ?  
 (a) Death : Victory  
 (b) Martyr : Man  
 (c) Fame : Heroism  
 (d) Destruction : Victory

**DIRECTIONS (Qs. 71-75):** In each of the following questions, four words have been given out of which three are alike in some manner, while the fourth one is different. Choose the word which is different from the rest.

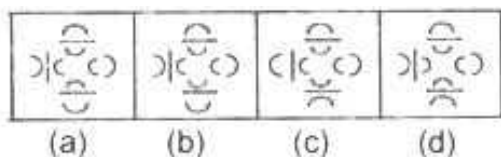
71. (a) Moth (b) Bee  
 (c) Lizard (d) Aphid
72. (a) Tomato (b) Gourd  
 (c) Brinjal (d) Potato
73. (a) Gold (b) Silver  
 (c) Bronze (d) Iron
74. (a) Mendicant (b) Ascetic  
 (c) Pious (d) Hermit
75. (a) Bardoli (b) Bhadravati  
 (c) Porbandar (d) Champaran

**DIRECTIONS (Qs. 76-80):** Each of the following questions consists of five figures marked 1, 2, 3, 4 and 5 called the Problem Figures followed by four other figures marked a, b, c and d called the Answer Figures. Select a figure from amongst the Answer Figures which will continue the same series as established by the five Problem Figures.

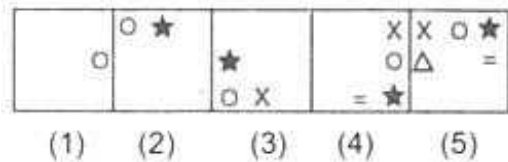
76. Problem Figures:



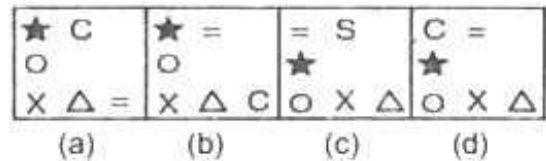
Answer Figures:



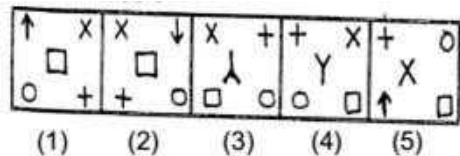
77. Problem Figures:



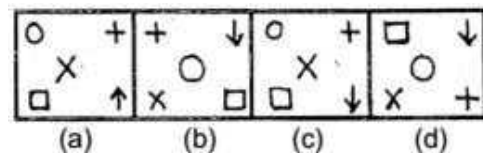
Answer Figures:



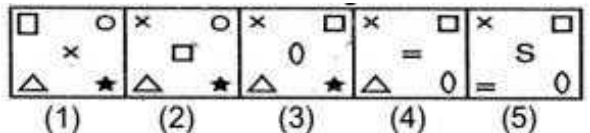
78. Problem Figures:



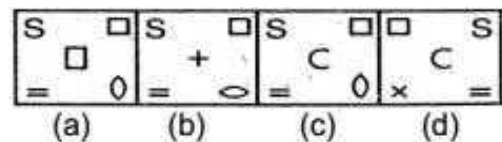
Answer Figures:



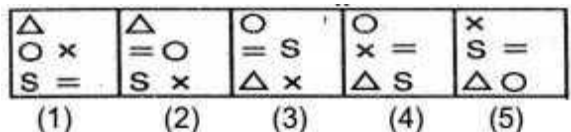
79. Problem Figures:



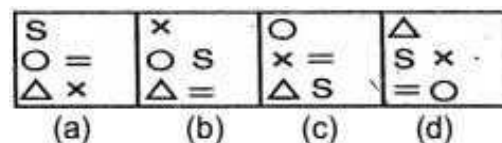
Answer Figures:



80. Problem Figures:



Answer Figures:

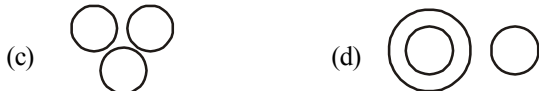


**DIRECTIONS (Qs. 81-85):** Each of these questions given below contains three elements. These elements may or may not have some inter-linkage. Each group of elements may fit into one of these diagrams at (a), (b), (c) or (d). You have to indicate the group of elements which correctly fits into the diagrams.

81. Which of the following diagrams indicates the best relation between Biology, Zoology and Physics?



82. Which of the following diagrams indicates the best relation between Stamp, Pen and Chalk?



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



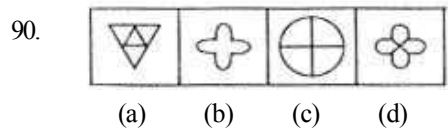
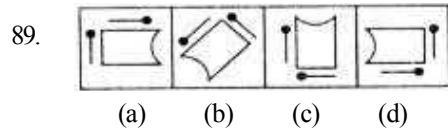
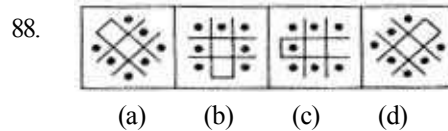
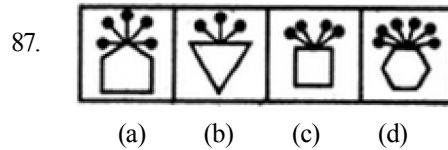
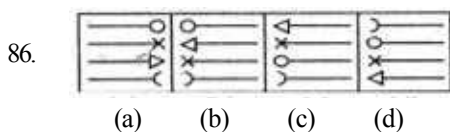
84. Which of the following diagrams indicates the best relation between Factory, Product and Machinery?



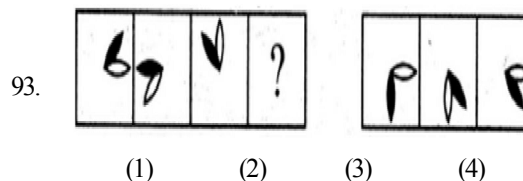
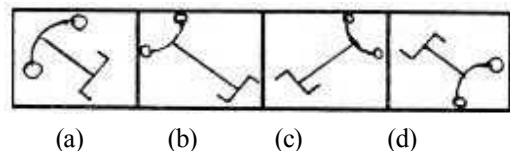
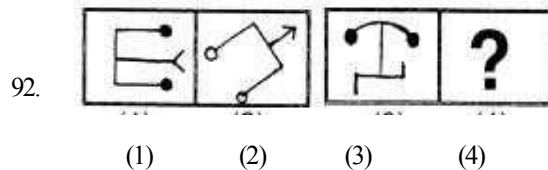
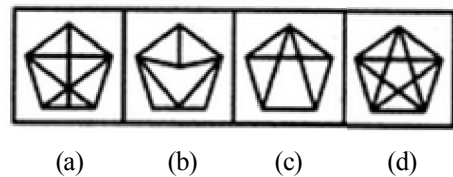
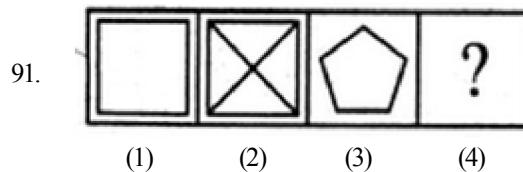
85. Which of the following diagrams indicates the best relation between Singers, Athletes and Girls?

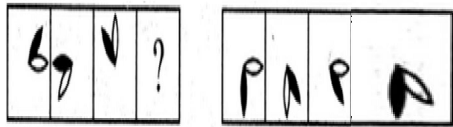


**DIRECTIONS (Qs. 86-90):** In each problem, out of the four figures marked (a), (b) (c) and (d) three are similar in a certain manner. However, one figure is not like the other three. Choose the figure which is different from the rest.



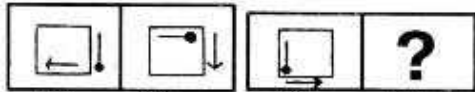
**DIRECTIONS (Qs. 91-95):** Each of the following questions consists of two sets of figures. Figures 1, 2, 3 and 4 constitute the Problem Set while figures a, b, c and d constitute the Answer Set. There is a definite relationship between figures (1) and (2). Establish a similar relationship between figures (3) and (4) by selecting a suitable figure from the Answer set that would replace the question mark (?) in figures.



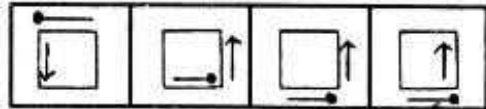


(a) (b) (c) (d)

94.

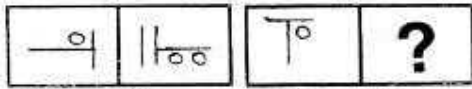


(1) (2) (3) (4)

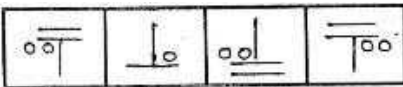


(a) (b) (c) (d)

95.



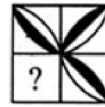
(1) (2) (3) (4)



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

**DIRECTIONS (Qs. 96-100):** 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.

96.



(X)



(a)



(b)

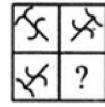


(c)



(d)

97.



(X)



(a)



(b)



(c)



(d)

98.



(X)



(a)



(b)

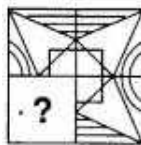


(c)



(d)

99.



(X)



(a)



(b)

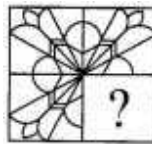


(c)



(d)

100.



(X)



(a)



(b)



(c)



(d)



# AFCAT I 2016 QUESTION PAPER

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

1. (c) Beats me: To not know; to not understand. Ex: "It beats me how they finished before us."
2. (d) Like a spy - Involving secrecy and plotting. Ex: Why all these cloak-and-dagger (= secretive) meetings? We should discuss the issues openly.
3. (d) To be so tired, worried, or annoyed by something that you feel unable to deal with it any more  
Ex: After a day's hard work in the office, she was at the end of her tether.
4. (d) To not be convinced or disagree. Ex: I just don't buy the idea that you can swim that far.
5. (b) Exciting means creating or arousing excitement. Ex: After coming back from Switzerland, she gave an exciting account of her trip.
6. (c) Grab means get hold of or seize quickly and easily. Ex: She grabbed the opportunity that came her way.
7. (d) Execution means the act of performing; of doing something successfully; Ex: He executed the plan successfully.
8. (a) Desirable means worth having, seeking or achieving; Ex: a desirable job.
9. (a) Check means be careful or certain to do something; make certain of something; Ex: Check the door if it is closed.
10. (c) Qualifications
11. (c) Ominous means giving the worrying impression that something bad is going to happen; threateningly inauspicious.
12. (a) Hindrance means something that interferes with (or delays) action or progress.
13. (b) Perjury means criminal offence of making false statements under oath.
14. (b) Reminiscence means the act or process of recollecting past experiences or events.
15. (b) Urbanization refers to construction of concrete structures on a large scale.
16. (c) Absentee house sparrow here refers to the sparrow that has gone away from the urban areas.
17. (b) According to the passage, the birds have made a comeback to the suburb because they love to be amidst human beings.
18. (d) Abdicate means to give up or renounce from one's position.
19. (a) Acrimony means bitterness or ill feeling; spleen means bad temper.
20. (c) Embellish means make more attractive by adding ornament, colour, etc.
21. (a) Damp squib means an event which people think will be exciting but which is disappointing when it happens.
22. (b) Sporadic means recurring in scattered and irregular or unpredictable instances while its opposite is frequent.
23. (c) Exonerate means pronounce not guilty of criminal charges, its opposite is accuse.
24. (b) Exodus means mass departure; its opposite is influx
25. (d) Relinquish means to give up; its opposite is possess.
26. (a) All and Sundry means everybody without discrimination.
27. (b) To play second fiddle means to have a subordinate role to someone or something.
28. (a) A wolf in sheep's clothing denotes a person or thing that appears friendly or harmless but is really hostile.
29. (d) A blue stocking denotes an intellectual or literary woman.
30. (d) Yeoman's service means efficient or useful help in need.
31. (d) The book "A China Passage" was written by John Kenneth Galbraith in which he wrote about his visit to China between September 4th to September 23rd 1972.
32. (d) Global 500 awards are the awards given by Global 500 Environment Forum for outstanding performance in the environment protection.
33. (c) The Pulitzer Prize is an award for achievements in newspaper and online journalism, literature, and musical composition in the United States.
34. (a) The National emblem, viz four lions standing back to back is an adaptation from Sarnath Lion Capital of Ashoka on 26th January 1950.

35. (a) The famous book Mankind and Mother Earth is written by prominent world historian Arnold Joseph Toynbee which summarizes his Magnum Opus earlier in his career with an afterword cautioning against Nuclear Proliferation.
36. (a) Paraffin wax is obtained from petroleum by dewaxing light lubricating oil stocks. It is used in candles, wax paper, polishes, cosmetics, and electrical insulators. It assists in extracting perfumes from flowers, forms a base for medical ointments, and supplies a waterproof coating for wood. In wood and paper matches, it helps to ignite the matchstick by supplying an easily vaporized hydrocarbon fuel.
37. (b) MF Hussain did not get Bharatiya Jnanpith award.
38. (b) Durban, South Africa will be the host of 2022 commonwealth game.
39. (b) Lord Clive converted the East India Company into regional power after winning the battle of Plassey.
40. (a) Sri Lanka celebrates its independence day on 4th February.
41. (a) Natural Radio activity was discovered by Henry Becquerel in 1895.
42. (c) The present chairman of ISRO is Alur Seelin Kiran Kumar.
43. (c) The Simon commission was established under the guidance of the then vice president Lord Irwin by the council of India.
44. (c) Mahatma Gandhi returned to India from South Africa permanently in 1917.
45. (a) The Battle of Plassey, 23 June 1757, was a decisive British East India Company victory over the Nawab of Bengal and his French allies, establishing Company rule in South Asia which expanded over much of the Indies for the next 190 years. The battle took place at Palashi, Bengal, on the river banks of the Bhagirathi River, about 150 km north of Calcutta, near Murshidabad, then capital of undivided Bengal. The belligerents were Siraj-ud-daulah, the last independent Nawab of Bengal, and the British East India Company.
46. (d) Mangalayan. Mars Orbit Mission was launched on 5 November 2013 by the Indian Space Research Organisation (ISRO).
47. (b) Ruhr of India is known for its rich coal deposits in Jharkhand.
48. (b) Indian Space programmes began in 1962.
49. (b) Bachpan Bachao Andolan was founded by Kailash Satyarthi to protect the right of children
50. (c)
51. (b)  $\text{Net loss}\% = \frac{(10)^2}{100} = \frac{100}{100} = 1$
52. (a) Since price of an item is decreased by  $\frac{1}{4}$  times. So it must be increased by  $\frac{1}{3}$  times to get the original price.  
 $\frac{1}{3} = 33\frac{1}{3}\%$
53. (d) A' salary is  $\frac{1}{2}$  times more than B's salary. So B' salary would be  $\frac{1}{1+2}$  times, less than A.  
 i.e.,  $\frac{1}{3} = 33\frac{1}{3}\%$
54. (a) Let Arun's weight by X kg.  
 According to Arun,  $65 < X < 72$   
 According to Arun's brother,  $60 < X < 70$ .  
 According to Arun's mother,  $X \leq 68$   
 The values satisfying all the above conditions are 66, 67 and 68.  
 $\therefore \text{Required average} = \left( \frac{66+67+68}{3} \right) = \left( \frac{201}{3} \right) = 67 \text{ kg.}$
55. (c) Net relative speed =  $(68 - 8) \text{ km/h}$   
 $= 60 \text{ km/h}$   
 $= 60 \times \frac{5}{18} \text{ m/s}$   
 $= \frac{50}{3} \text{ m/s}$   
 $\text{Time} = \frac{150}{\frac{50}{3}} = 9 \text{ sec.}$
56. (a)  $2(A + B + C)$ 's 1 day's work  
 $= \left( \frac{1}{30} + \frac{1}{24} + \frac{1}{20} \right) = \frac{15}{120} = \frac{1}{8}$   
 Therefore,  $(A + B + C)$ 's 1 day's work =  $\frac{1}{2 \times 8} = \frac{1}{16}$   
 Work done by A, B, C in 10 days =  $\frac{10}{16} = \frac{5}{8}$   
 Remaining work =  $\left( 1 - \frac{5}{8} \right) = \frac{3}{8}$   
 A's 1 day's work =  $\left( \frac{1}{16} - \frac{1}{24} \right) = \frac{1}{48}$   
 Now,  $\frac{1}{48}$  work is done by A in 1 day.  
 So,  $\frac{3}{8}$  work will be done by A in  $\left( 48 \times \frac{3}{8} \right) = 18 \text{ days.}$
57. (c) for 3 years  $\Rightarrow ₹600$  more  
 for 1 years  $\Rightarrow ₹200$  more  
 Now 4% of principal = 200  
 $\text{Principal} = \frac{200 \times 100}{4}$   
 Principal = ₹5000



58. (a) Let the sum be Rs. x. Then,

$$C.I. = \left[ x \left( 1 + \frac{4}{100} \right)^2 - x \right] = \left( \frac{676}{625} x - x \right) = \frac{51}{625} x$$

$$S.I. = \left( \frac{x \times 4 \times 2}{100} \right) = \frac{2x}{25}$$

$$\therefore \frac{51x}{625} - \frac{2x}{25} = 1$$

$$\Rightarrow x = 625$$

59. (a) Suppose he move 4 km downstream in x hours. Then,

$$\text{Speed downstream} = \left( \frac{4}{x} \right) \text{ km/hr.}$$

$$\text{Speed upstream} = \left( \frac{3}{x} \right) \text{ km/hr.}$$

$$\therefore \frac{48}{(4/x)} + \frac{48}{(3/x)} = 14 \text{ or } x = \frac{1}{2}$$

So, Speed downstream = 8 km/hr, Speed upstream = 6 km/hr.

$$\text{Rate of the stream} = \frac{1}{2}(8 - 6) \text{ km/hr} = 1 \text{ km/hr.}$$

60. (b)
- |       | Income | Expenditure |
|-------|--------|-------------|
| Ram   | 3x     | 4y          |
| Shyam | 4x     | 5y          |

$\therefore$  Shyam's saving =  $\frac{1}{3}$  of his income

$$4x - 5y = \frac{1}{3} \times 4x$$

$$4x - \frac{4}{3}x = 5y$$

$$\frac{8}{3}x = 5y$$

$$x = \frac{15}{8}y \quad \dots(i)$$

$$\text{Now, } \frac{\text{Ram's Savings}}{\text{Shyam's Savings}} = \frac{3x - 4y}{4x - 5y}$$

$$= \frac{3 \times \frac{15}{8}y - 4y}{4 \times \frac{15}{8}y - 5y} = \frac{13}{20}$$

Hence ratio of their savings = 13 : 20.

61. (b) C alone can finish the work in 40 days

$\therefore$  C does  $\frac{1}{2}$  as much as A and B together

So, A and B can finish the work in 20 days.

So, together they will finish in

$$\frac{40 \times 20}{40 + 20} = \frac{40}{3} \text{ days}$$

$$= 13\frac{1}{3} \text{ days}$$

62. (d) Amount of milk after 3 operations

$$= \left[ 40 \left( 1 - \frac{4}{40} \right)^3 \right] \text{ litres}$$

$$= \left( 40 \times \frac{9}{10} \times \frac{9}{10} \times \frac{9}{10} \right) = 29.16 \text{ litres}$$

63. (d) Let the distance = d

Speed of upstream = 9 - 3 = 6 km/h

Speed of down stream = 9 + 3 = 12 km/h

$$\text{Now, } \frac{d}{6} + \frac{d}{12} = 3$$

$$\frac{3d}{12} = 3$$

$$d = 12 \text{ km}$$

Hence distance = 12 km

64. (b) Principal + S.I for 2 years = ₹720 ... (1)

Principal + S.I for 7 years = ₹1020 ... (2)

Clearly S.I for 5 years = 1020 - 720 = ₹300

$$\text{Now S.I for 2 years} = 300 \times \frac{2}{5} = ₹120$$

from (1)

$$\text{Principal} = 720 - 120 = ₹600$$

65. (c) Let present age of X and Y are 7x and 5x respectively

$$\text{Now, } \frac{7x + 4}{5x + 4} = \frac{11}{9}$$

$$63x + 36 = 55x + 44$$

$$8x = 8$$

$$x = 1$$

So, present age of y = 5 × 1 = 5 year.

66. (c) First is the part of second.

67. (c) Second is necessary to acquired the first.

68. (d) First indulges in the second.

69. (b) Second is the synonym of first.

70. (c) First is the result of second.

71. (c) All except lizard are insects, while lizard is a reptile.

72. (d) Potato is the only vegetable in the group which grows underground.

73. (c) Bronze - All others are metals.

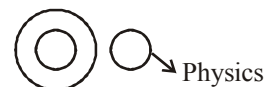
74. (c) Pious - All others are synonyms.

75. (b) All except Badravati are places related to Gandhi ji.

81. (b) Zoology is a branch of Biology

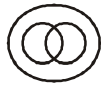
So Outer circle representing Biology and Inner circle representing Zoology.

Now, Biology and Physics are different branch of science.



Above diagram indicates the best relation b/w Biology, Zoology and Physics.

82. (c) All are three different ways to write something.
83. (d) Doctors can be married people and both Doctors and married people belong to Human Beings.



84. (d) Product and Machinery are different from each other but both are found in Factory.
85. (c) Some girls may be athletes and vice versa similarly some girls may be singers and vice versa. Some athletes may be singers and vice versa.
86. (a) All except in option (a) are in the same direction.
87. (a) The pins, equal in number to the number of sides in the main figure are attached to the midpoint of a side of the main figure in case of figures (2), (3), (4) and (5). In fig. (1), these pins are attached to a vertex of the main figure.

89. (d) Clearly every figure except (d) has pointed arrow in the direction of curve.

Ex. (a) arrow in the direction of curve.

91. (d) All the diagonals of the figure have been drawn. View answer workspace report discuss in forum.
92. (d) Diagram shifted  $45^\circ$  anti-clock wise and every thing got reversed.

Ex. and  $\Rightarrow$

93. (d) The black leaf rotates  $135^\circ$  ACW and the white leaf rotates  $135^\circ$  CW.
94. (d) Arrow of first figure goes to position of pointed arrow while the pointed arrow moves to the position of arrow with  $180^\circ$  change in angle.
95. (c) Figure got reversed with one more line-segment adding in figure (2) and one-circle changes into two circle.