AFCAT 2 2011 QUESTION PAPER

INSTRUCTIONS:

- 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) : *Read the following passage carefully and answer the questions given below it.*

Educational planning should aim at meeting the educational needs of the entire population of all age groups. While the traditional structure of education as a three layer hierarchy from the primary stage to the university represents the core, we should not overlook the periphery which is equally important. Under modern conditions, workers need to rewind, or renew their enthusiasm, or strike out in a new direction, or improve their skills as much as any university professor. The retired and aged have their needs as well. Educational planning, in other words, should take care of the needs of everyone.

Our structures of educational have been built up on the assumption that there is a terminal point of education. This basic defect has become all the more harmful today. A UNESCO report entitled 'Learning to Be' prepared by Edgar Faure and other in 1973 asserts that the education of children must prepare the future adult for various forms of self-learning. A viable education system of the future should consist of modules with different kind of functions serving a diversity of constituents. And performance, not the period of study, should be the basis for credentials. The writing is already on the wall.

In view of the fact that the significance of a commitment of lifelong learning and lifetime education is being discussed only in recent years even in educationally advanced countries, the possibility of the idea becoming an integral part of educational thinking seems to be a far cry. For, to move in that direction means so much more than some simple rearrangement of the present organisation of education. But a good beginning can be made by developing Open University programmes for older learners of different categories and introducing extension services in the conventional colleges and schools. Also, these institutions should learn to cooperate with numerous community organisations such as libraries, museums, municipal recreational programmes, health services etc.

- 1. What is the main thrust of the author?
 - (a) Traditional systems should be strengthened.
 - (b) Formal education is more important than non-formal.
 - (c) One should never cease to learn.
 - (d) It is impossible to meet the needs of everyone.
- 2. What should be the major characteristic of the future educational system?
 - (a) Different modules with same function.
 - (b) Same module for different groups.
 - (c) No modules but standard compulsory programme for all.
 - (d) None of the above

- According to the author, what measures should open university adopt to meet modern conditions?
 - (a) Develop various programmes for adult learners.
 - (b) Open more colleges in traditional lines.
 - (c) Cater to the needs of those who represent 'cone'.
- (d) Primary education should be under the control of open universities.
- 4. In the context of the passage, what is the meaning of the sentence "The writing is already on the wall"?
 - (a) Everything is uncertain now-a-days.
 - (b) Changes have already taken place.

3.

- (c) The signs of change are already visible.
- (c) You cannot change the future.

DIRECTIONS (Qs. 5 - 9) : In each of the following questions, find out which part of the sentence has an error. If there is no mistake, the answer is (d) "No error".

- 5. It was a year since (a) / I received any letter (b) / from my sister. (c) / No error. (d)
- 6. His family members may arrive (a) / any moment (b) / by car. (c) / No error. (d)
- 7. He went to office (a) / but returned back (b) / home immediately (c) / No error. (d)
- 8. The two brothers amicably divided (a) / their parent's property (b)/among them. (c) / No error. (d)
- 9. To attain a high academic standard (a) / in his college Sunil worked hard (b) / since morning till night (c) / No error.

DIRECTIONS (Qs. 10-14) : *Pick out the most effective word from the given words to fill in the blank to make the sentence meaningfully complete.*

- 10. Mohini is an independent and innovative thinker, it is best to grant her a good deal of ______ with regard to the direction of her research.
 - (a) leverage (b) interest
 - (c) assistance (d) money
- 11. The ______ of meat in your refrigerator does not necessarily indicate that you are a vegetarian.
 - (a) presence (b) absence
 - (c) amount (d) colour
- 12. Due to the rise of new media technology, many people predict newspapers will soon be
 - (a) obsolete (b) ubiquitous
 - (c) commonplace (d) widespread
- 13. Attention to detail is the ______ of a fine craftsman.
 - (a) hallmark (b) stamp
 - (c) authenticity (d) show

TIME LIMIT : 2 HOURS

14. Although the two sisters are twins, they look somewhat

(a)	alike	(b)	unique
(d)	different	(d)	related

DIRECTIONS (Qs. 15-17): In each of the following choose the word most similar in meaning to the word given in capitals.

15.	VEN	JERATE			
	(a)	Reject	(b)	Remove	
	(c)	Love	(d)	Respect	
16.	VAC	CILLATE			
	(a)	Waver	(b)	Disintegrate	
	(c)	Relegate	(d)	Salute	
17.	FEL	ICITY			
	(a)	Zeal	(b)	Excitement	
	(c)	Happiness	(d)	Expertise	

DIRECTIONS (Qs. 18-20): Pick out the word that is most nearly the opposite in meaning to the word given in capitals.

18. HYSTERIA

(a)

(c)

	(a) Disease	(b) Ceremony
	(c) Serenity	(d) Frenzy
19.	ABSTAIN	
	(a) Indulge	(b) Dismiss
	(c) Repel	(d) Acquire
20.	SEDENTARY	· · · _

- (a) inactive (b) Sluggish
- (c) moving (d) settled

Directions (Qs. 21-40) : *Choose the correct answer.*

21. The famous Grand Trunk (GT) Road from Peshawar to Kolkata was built by

(b) Ashok

- Akbar
- (c) Sher Shah Suri (d) Chandragupta
- 22. The Ashoka Pillar whose Lion Capitol (Carving) was adopted by the Government of India as National Emblem is situated at (a) Varanasi (b) Puri
 - (c) Pravag (d) Sarnath
- 23. The Preamble of the Constitution of India was prepared by
 - (a) Member of Constituent Assembly
 - (b) BR Ambedkar
 - (c) Jawaharlal Nehru
 - (d) Dr. Radhakrishna
- The two great revolutionaries who threw a bomb in 24. Legislative Assembly were
 - (a) Bhagat Singh & BK Dutt
 - (b) Bhagat Singh & Chandrashekhar Azad
 - (c) Chandrashekar Azad & Bismil
 - (d) Bhagat Singh & Ashfak Ullah Khan
- 25. 'Duckworth Lewis Rule' is used in the game of (a) Lawn Tennis (b) Cricket
 - (d) Rugby (c) Basketball
- 26. Dronacharya award is given for outstanding contribution in the field of
 - (a) Sports (b) Sarv Shiksha Abhiyan

(d) Music

- Anganwadi
- Who was the first Indian woman to climb Mount Everest? 27
 - (b) Bachendri Pal (a) Junko Tabei
 - (c) Dola Baneriee (d) Sanamacha Chanu
- The first Olympic Games were held in 1896 at 28
 - (a) Rome (b) Athens
 - (c) Paris (d) London

- 29. India tops the world in production of
 - Aluminium (a) (b) Copper
 - (c) Chromite (d) Mica
- 30. DPT vaccine does not give protection to a child from
 - (a) Tetanus
 - (b) Polio (c) Diphtheria (d) Whooping Cough
- 31. What will be the colour of a red rose when it is seen through green glass? (a) White
 - (b) Black
 - Pink (d) Brown (c)
- 32. Which one of the following is the exclusive power of the Lok Sabha?
 - To introduce Money Bill. (a)
 - To ratify declaration of Emergency. (b)
 - To impeach the President. (c)
 - (d) To pass No Confidence Motion against Council of Ministers.
- 33. Indigenously build supersonic cruise missile is known as
 - (b) Prithvi (a) Brahmos
 - Nag (d) Astra (c)
- 34. Which one of the following crops enriches nitrogen content in the soil?
 - Pea (b) Sunflower (a)
 - (c) Potato (d) Wheat
- 35. Which of the following periodical winds blowing from sea to land cause summer monsoon in India?
 - East West (b) North East (a)
 - South West (d) South East (c)
- 36. India's permanent research station 'Dakshin Gangotri" is situated in the
 - (a) Great Himalayas (b) Indian Ocean
 - Arabian Sea (d) Antarctica (c)
- 37. Which one of the following is the busiest ocean route in the world?
 - (a) Indian Ocean (b) Pacific Ocean
 - North Atlantic Ocean (d) South Atlantic Ocean
- Defence Services Staff College is located at 38.
 - Khadakvasala (b) Secunderabad
 - Dehradun (d) Wellington
- 39. The United Nations Organisations responsible to maintain international peace & security, was established on 24 October in the year
 - 1920 (b) 1945 (a)
 - (d) 1942 1939 (c)
- Who authored the book "Freedom at Midnight"? 40.
 - Salman Rushdie (a)

(c)

(a)

(c)

- Charles Dickens (b)
- (c) Mahatma Gandhi
- (d) Larry Collins and Dominique Lapierre
- 41. The number of girls in a class in five times the number of boys. Which of the following cannot be the total number of children in the class?
 - (a) 24 (b) 30
 - (d) 54 (c) 35
- Ram went to a shop to buy 50 kg of rice. He bought two 42. varieties of rice which cost him \gtrless 4.50 per kg and \gtrless 5 per kg. He spent a total of ₹ 240. What was the quantity of the cheaper rice purchased by him?
 - (a) 20 Kg (b) 25 Kg (c) 30 Kg
 - (d) None of these

rupee and ten rupee notes. The number of each type of notes are equal. What is the total number of notes he has?

- (a) 60 (b) 150
- (c) 90 (d) 120
- The average of five consecutive odd number is 61. What is 44 the difference between the highest and lowest number?
 - (a) 2 (b) 5
 - (c) 8 (d) 12
- 45. Jayesh is twice as old as Vijay and half as old as Suresh. If the sum of Vijay's age and Suresh's age is 85 years what is the age of Jayesh?
 - (a) 34 years (b) 36 years
 - (c) 68 years (d) 24 years
- A cricketer has an average of 30 runs in 14 innings. How 46. many runs should he score in his next innings to achieve an average of 32 runs?
 - (a) 65 (b) 60
 - 55 (c) (d) 50
- 47. What percentage of profit should be added in the cost price of an item so as to gain a profit of 33% after allowing 5% discount to the customer?
 - (a) 45 (b) 40
 - 52 (c) (d) 48
- 48. If the manufacturer gains 10%, the wholesale dealer gains 15% and the retailer gains 25%, find the cost of production of a table. The retail price of table is ₹ 1265
 - (a) ₹800 (b) ₹1000
 - (d) ₹1180 (c) ₹950
- 49. A loss of 19% on a shirt gets converted into a profit of 17% when the selling price is increased by ₹ 162. What is the cost price of the shirt?

(a) ₹540	(b)	₹450
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(c) ₹600	(d)	₹360
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- 50. In an examination 75% of the total students passed in English and 65% passed in Mathematics, while 15% failed in English as well as Mathematics. If a total of 495 candidates who passed in both exams. Find the total number of students who appeared in the exam.
 - (a) 850 (b) 900
 - (d) 1050 (c) 1000
- 51. When the price of a product was increased by 15%, the number of items sold was decreased by 20%. What was the net effect?
 - (a) 10% gain (b) 6% loss
 - 8% loss (d) 4% gain (c)
- 52. A mixture of 40 litres of milk and water contains 10% water. How much water should be added to this mixture so that the new mixture contains 20% water?
 - (a) 4 litres (b) 5 litres
 - (d) 7.5 litres (c) 6.5 litres
- 53. The ratio of three numbers is 3:4:5 and the sum of their squares is 1250. The sum of the three numbers is
 - (a) 30 (b) 50
 - (c) 60 (d) 90
- 54. The average age of three boys is 25 years and their ages are in the proportion 3:5:7. What is the age of the youngest boy?

(a)	15 years	(b)	18 years
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(c) 21 years (d) 13 years are 48 and the total number of feet are 140, then the number of hens are

- (a) 22 (b) 23
- (d) 26 (c) 24
- A certain sum of money becomes three times of itself in 20 56. years at simple interest. In how many years will the initial sum become double at the same rate of simple interest? (b) 10 (a) 8
 - (d) 14 12
- Ram borrows ₹ 8000 at 12% p.a. simple interest and Mohan 57. borrows ₹ 9100 at 10% p.a. simple interest. In how many years will their borrowed amounts (debt) be equal? (a) 18 (b) 20
 - (c) 22 (d) 24
- Reena took a loan of ₹ 1200 with simple interest for a certain 58. numbers of years. The number years are same as the interest rate. If she has paid $\mathbf{\overline{\xi}}$ 432 as interest at the end of the loan period, what was the rate of interest? (b) 6
 - (a) 3.6

(c)

- (c) 12 (d) None of these
- 59 A student was asked to divide a number by 3. But, instead of dividing it he multiplied it by 3 and got 29.7 as the answer. What was the correct answer had he not made the mistake?
 - (b) 9.3 (a) 3.3 (d) 9.9 (c) 9.8
- 60. Which of the following fraction is the smallest? (a) 9/13 (b) 17/26
 - (d) 33/52 (c) 28/39

DIRECTIONS (Qs. 61-80): Each question consists of two words which have a certain relationship to each other, followed by four pairs of related words. Select the pair which has the same relationship.

- 61. STORY: NOVEL (a) Sea : Ocean School: University (b) (c) Book : Dictionary (d) Poetry: Drama GRAIN: SALT 62 Shred : Wood Shard : Pottery (b) (a) (c) Blades : Grass Chips: Glass (d) 63. WAITER: TIP (a) Student : Marks (b) Worker : Bonus Employee : Wages (d) Clerk : Bribe (c) 64 PAIN: SEDATIVE (a) Comfort: Stimulant Grief: Consolation (b) Trance : Narcotic (d) Ache: Extraction (c) 65. SILENCE: NOISE Baldness : Hair (a) Quiet : Peace (b) (c) Talk : Whisper Singer : Dance (d) 66. WAN: COLOUR (a) Corpulent: Weight Insipid : Flavour (b) (c) Pallid: Complexion (d) Enigmatic: Puzzle PORK : PIG 67. (a) Rooster : Chicken Mutton : Sheep (b)Steer : Beef (d) Lobster : Crustacean (c) 68. AFTER: BEFORE (a) First : Second (b) Present : Past (c) Contemporary: Historic (d) Successor: Predecessor 69. EAST: ORIENT (b) South : Capricorn
 - (a) North : Polar (c) West : Indian
- (d) West : Occident

70.	DISTANCE : MILE						
	(a) Liquid : Litre	(b)	Bushel : Corn				
	(c) Weight : Scale	(d)	Fame : Television				
71.	TEN: DECIMAL						
	(a) Seven : Seplet	(b)	Four : Quartet				
	(c) Two: Binary	(d)	Five : Quince				
72.	MUNDANE : SPIRITUAL						
	(a) Common : Ghostly	(b)	Worldly: Unworldly				
	(c) Routine : Novel	(d)	Secular : Clerical				
73.	LAWYER : COURT	()					
	(a) Businessman : Market	(b)	Chemist : Laboratory				
	(c) Labourer · Factory	(d)	Athelete · Olympics				
74	ARMY LOGISTICS	()					
,	(a) Business · Strategy	(b)	Soldier · Students				
	(c) War · Logic	(d)	Team · individual				
75	GRAVITY · PLILI	(u)	i cum : marviadur				
15.	(a) Iron · Metal	(h)	North pole · Directions				
	(c) Magnetism · Attraction	(0)	Dust : Desert				
76	EII TED · WATED	(u)	Dust . Desert				
70.	(a) Curtail: Activity	(h)	Expunse : Book				
	(a) Edit: Toxt	(0)	Consor : Dlay				
77	(C) = Eult = Text	(u)	Cellsof . Flay				
//.	nore Aspikes		Film : Flom				
	(a) Love Elevates	(D)	Film: Flam Ealas Ondinams				
70	(c) FID: LIE	(a)	Fake: Ordinary				
/8.	SADIESI : PAIN		T 1 D 1				
	(a) Killer: Death	(b)	Teacher : Pupil				
	(c) Injury: Bandage	(d)	Alcohol : Dipsomaniac				
79.	SYMPHONY: COMPOSER		F B i .				
	(a) Leonardo : Music	(b)	Fersco : Painter				
00	(c) Colours : Pallet	(d)	Art: Appreciation				
80.	CURATOR: MUSEUM	a >					
	(a) Wit: Wisdom	(b)	Bank : Teller				
01	(c) Manager : Office	(d)	Doctor : Patient				
81.	Which word in each set of for	ur is	the odd one out?				
	(a) Look	(b)	See				
	(c) Watch	(d)	Face				
82.	This test requires you to ider	ntify	the relationship between				
	two words. Shoe is to foot as sock is to						
	(a) wind	(b)	hand				
	(c) foot	(d)	leg				
83.	Relaxed means the same as the	ne op	posite of				
	(a) calm	(b)	angry				
	(c) tense	(d)	sleep				
84.	Which number comes next in	this s	series?				
	1 4 7 10 13 16						
	(a) 17	(b)	19				
	(c) 21	(d)	None of these				
85.	Which number comes next in	this s	series?				
	01361015						
	(a) 19	(b)	21				
	(c) 26	(d)	32				
86.	Look at the series 36, 34, 30. 2	8, Ź4	, what number should				
	come next?	· , = ·	,				
	(a) 20	(b)	22				
	(c) 23	(d)	26				
87	Look at the series 22, 21, 23, 22	.24	23 what number should				
57.	come next?	, _ •, 2					
	(a) 22	(h)	24				
	(c) 25	(d)	26				
	(v) 40	(u)	20				

88. Look at the series 53, 53, 40, 40, 27, 27 what number should come next?

89. Look at the series 8, 22, 8, 28, 8 what number should come next? 9 (a) 29 (c) 90. Look at the series 31, 29, 24, 22, 17 what number should Unworldly come next? (a) 15 13 (c) Laboratory DIRECTIONS (Qs. 91 to 94): This set of questions is based upon Olympics the continuation of figures in a logical manner. There is a sequence of figures depicting a change step by step. Select one of the figure from the four choices shows as (a), (b), (c) & (d) which will continue the sequence.

27

(a) 12

(c)

91. Problem Figure



(b) 14 (d) 53

(b) 34

(d) 32

(b) 14

(d) 12



92. Problem Figure



93. Problem Figure

Answer Figure



94. Problem Figure



Answer Figure



DIRECTIONS (Q. 95) : *Which symbol in the Answer Figure completes the sequence in the problem figure:*



DIRECTIONS (Q.96) : There are certain common characteristics/ properties between the two problem figures. Select the figure from amongst the Answer Figures which shows similar characteristics/ properties as shown by the problem figures.





DIRECTIONS (Qs. 97-99): Your task here is to look at the target figure and decide which of the rotated figures below is identical to it. If you do not think any of the figures is same as the target shape then choose the answer option (d) 'none of these'.





DIRECTIONS (Q. 100) : Your task here is to look at the series of four figures and work out the rule which links them all. Choose which of the three following figures obey that rule and identify the one which does not.



AFCAT 2 2011 QUESTION PAPER

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

- 1. (c) The author highlights the importance and need of lifelong learning for everyone from different spheres of life and age groups.
- (d) The major characteristic of the future educational system includes modules with different kind of functions serving a diversity of constituents.
- 3. (a) Developing different programmes for adult learners in conjunction with cooperation from various community organisation like libraries, museums etc.
- 4. (b) the meaning of the idiom "The writing is already on the wall" is to know that something is about to happen.
- 5. (a) Here 'was a' should be replaced with 'has been'. Thus the sentence should be 'It has been a year since I received any letter from my sister.'
- 6. (a) Here 'may' should be replaced with 'can'. Thus the sentence should be 'His family members can arrive any moment by car'.
- 7. (b) Here 'back' should be removed from the sentence. Return means to go backwards to where you have left before.
- 8. (c) Among should be replaced with between. Between should be used where the relationship is distinctly one-to-one. Whereas Among should be used where the entities are considered as a group.
- 9. (c) Here 'since' should be replaced with 'from'. From is used to indicate a specified place or time as a starting point.
- 10. (a) Leverage means to use (something) to maximum advantage.
- 11. (b) Absence is the most appropriate word because a contrast is made here.
- 12. (a) Obsolete means no longer in use.
- 13. (b) Here stamp is being used as a trademark or a signature style.
- 14. (c) Although is used to show a contrast. Twins are usually considered similar looking but using although makes the sentence contrasting.
- 15. (d) Venerate means regard with great respect.
- 16. (a) Vacillate means go back and forth.
- 17. (c) Felicity means immense happiness.
- 18. (c) Hysteria means state of extreme upset. Its opposite meaning will be serenity.
- 19. (a) Abstain means to hold back from doing. Its opposite is indulging in something.
- 20. (c) Sedentary means motionless or lazy. Its opposite meaning will be moving.
- 21. (c) The Grand Trunk Road is one of Asia's oldest and longest major roads. For more than two millennia, it has linked the eastern and western regions of the Indian subcontinent, connecting South Asia with Central Asia. It runs from Chittagong, Bangladesh west to Howrah, West Bengal in India, across north India into Peshawar, up to Kabul, Afghanistan. The predecessor of the modern road was rebuilt by Sher Shah Suri, who renovated and extended the ancient Mauryan route in the 16th century.
- 22. (d) The Lion Capital of Ashoka is a sculpture of four Indian lions standing back to back, on an elaborate base that

includes other animals. A graphic representation of it was adopted as the official Emblem of India in 1950. It was originally placed atop the Ashoka pillar at the important Buddhist site of Sarnath by the Emperor Ashoka, in about 250 BCE.

- 23. (b) The preamble of the Constitution of India was prepared by B R Ambedkar.
- 24. (a) Seeking revenge for the death of Lala Lajpat Rai at the hands of the police, Bhagat Singh was involved in the murder of British police officer John Saunders. He eluded efforts by the police to capture him. Soon after, together with Batukeshwar Dutt, he undertook a successful effort to throw two bombs and leaflets inside the Central Legislative Assembly while shouting the slogan of revolution.
- 25. (b) The Duckworth-Lewis method is a mathematical formulation designed to calculate the target score for the team batting second in a limited overs cricket match interrupted by weather or other circumstances.
- 26. (a) Dronacharya Award is an award presented by the government of India for excellence in sports coaching.
- 27. (b) Bachendri Pal (born 24 May 1954) is an Indian mountaineer, who in 1984 became the first Indian woman to reach the summit of Mount Everest.
- 28. (b) The 1896 Summer Olympics, officially known as the Games of the I Olympiad, was a multi-sport event held in Athens, Greece, from 6 to 15 April 1896.
- 29. (d) The British Geological Survey reported that as of 2005, Koderma district in Jharkhand state in India had the largest deposits of mica in the world.
- 30. (b) DPT (also DTP and DTwP) refers to a class of combination vaccines against three infectious diseases in humans: diphtheria, pertussis (whooping cough), and tetanus.
- 31. (b) Black, because red and green are two primary colours which when mixed together gives black colour in terms of light and wavelength.
- 32. (a) Money Bills can be introduced only in Lok Sabha (the directly elected 'people's house' of the Indian Parliament).
- 33. (a) The BrahMos has been developed as a joint venture between the Defence Research and Development Organization (DRDO) of India and the Federal State Unitary Enterprise NPO Mashinostroyenia (NPOM) of Russia under BrahMos Aerospace. The missile is named after two rivers, the Brahmaputra and the Moskva.
- 34. (a) Many legumes (alfalfa, clover, peas, beans, lentils, soybeans, peanuts and others) contain symbiotic bacteria called Rhizobia within root nodules of their root systems. These bacteria have the special ability of fixing nitrogen from atmospheric, molecular nitrogen (N2) into ammonia (NH3).
- 35. (c) The southwestern summer monsoons occur from June through September. The moisture-laden winds from the Indian Ocean rush in to the subcontinent. These winds,

Himalayas act like a high wall, blocking the winds from passing into Central Asia, and forcing them to rise. As the clouds rise their temperature drops and precipitation occurs.

- 36. (d) Dakshin Gangotri was the first scientific base station of India situated in Antarctica, part of the Indian Antarctic Program. It is located at a distance of 2,500 kilometres from the South Pole.
- 37. (c) The North Atlantic sea route, linking the US and Canada to Europe, is very busy as well.
- 38. (d) One of the oldest military institutions in India, it was founded in 1905 as the Army Staff college in Deolali (near Bombay), relocated to its present home in Wellington Cantonment in The Nilgiris District of Tamil Nadu, India.
- 40. (d) Freedom at Midnight (1975) is a book by Larry Collins and Dominique Lapierre. It describes the events in the Indian independence movement in 1947-48, beginning with the appointment of Lord Mountbatten of Burma as the last viceroy of British India, and ending with the death and funeral of Mahatma Gandhi.
- 41. (c) Let the number of boys in class be x. Therefore the number of girls in class be 5x. Total number of children in class = x + 5x = 6x. Hence, 35 cannot be the total number of children as it's not the multiple of 6.
- 42. (a) Let one variety of rice be x kg. Another quantity = (50 - x) kg According to question $x \times 4.50 + (50 - x) = 240$ 4.5x + 250 - 5x = 240 0.5x = 10 x = 20Hence, the quantity of cheaper rice was 20 kg.
- 43. (d) Let the number of each type of notes be x. According to question $1 \times x + 5 \times x + 10 \times x = 640$ 16x=640x=40Total number of notes = 40 + 40 + 40 = 12044. (c) Let the numbers are
 - (c) Let the numbers are x, x+2, x+4, x+6 and x+8.

Average =
$$\frac{x + x + 2 + x + 4 + x + 6 + x + 8}{5}$$

$$61 \times 5 = 5x + 20$$

$$5x = 305 - 20$$

$$5x = 285$$

$$x = 57$$

First number = 57
Last number = 65
Required difference = 65 - 57 = 8
(a) Let the age of Jayesh = x yr.

Therefore age of Vijay = $\frac{x}{2}$ yr.

And, age of Suresh = 2x yr. According the question

$$\frac{x}{2} + 2x = 85$$

$$5x = 85 \times 2$$

$$x = 34 \text{ yr.}$$

45.

46. (b) New Average =
$$\frac{30 \times 14 + \text{required run}}{15}$$

 $32 \times 15 - 30 \times 14 = \text{Required run}$

Required run = 60 47. (b) Let the C.P = ₹ 100 The, S.P = ₹133 Let the marked price ₹ x Then, 95% of x = 133

48.

49.

$$x = \frac{133 \times 100}{95} = 140$$

(a) Let the cost of production of a table =
$$\mathbf{\overline{\xi}} \mathbf{x}$$
.

a b

$$x \times \frac{110}{100} \times \frac{115}{100} \times \frac{125}{100} = 1265$$
$$x = \frac{1265 \times 1000000}{110 \times 115 \times 125} = ₹800$$

(b) Let C. P. = x
Loss = 19%
then S.P. is
$$\frac{119}{100}$$
 x

If profit = 17% then S. P. =
$$\frac{83}{100}$$
 x

According to question

$$\frac{119x}{100} - 162 = \frac{83x}{100}$$

$$\therefore x = 450$$

50. (b) Let A and B represent the sets of students who passed in English and Mathematics respectively. If 15% of candidates failed in both, then 85% passed at least one of the exams. Then, the total number of students passed in one or both subjects

$$= (A \cup B) = n(A) + n(B) = n(A \cap B)$$

 $0.85 = 0.75 + 0.65 - n(A \cap B)$

$$n(A \cap B) = 1.40 - 0.85 = 0.55$$

0.55% of number of students = 495

:. Number of students
$$=\frac{495}{55} \times 100 = 900$$

51. (c) Net effect =
$$x + y + \frac{xy}{100}$$

$$=15-20+\frac{(15\times-20)}{100}=-5-3=-8$$

Negative sign indicates that there is a loss of 8%.

52. (b) Milk contains in mixture = 36 liters. Water contains in mixture = 4 liters Let 'x' be the water added to the mixture.

$$\frac{36}{4+x} = \frac{80}{20}$$

$$36 = 16 + 4x$$

$$20 = 4x$$

$$\therefore x = 5 \text{ litres}$$

53. (c) Let the numbers are 3x, 4x and 5x respectively. According to question $(3x)^2 + (4x)^2 + (5x)^2 = 1250$ $9x^2 + 16x^2 + 25x^2 = 1250$ $50x^2 = 1250$ $x^2 = 25$ x = 5Numbers are 15,20 and 25. Sum = 15 + 20 + 25 = 60Let the ages of three boys are 3x, 5x and 7x. 54. (a) Average age = $\frac{3x + 5x + 7x}{3}$ $25 \times 3 = 15x$ x = 5The age of youngest boy = 15 yr. Let hens and cows are x and y respectively 55. (d) x + y = 48....(1) 2x + 4y = 140x + 2y = 70....(2) After solving eq. (1) & (2)v = 22∴ x=26 56. (b) Let Principal = xAmount = 3xSimple interest = 2xRate = $\frac{2x \times 100}{x \times 20} = 10\%$ Now, required time = $\frac{x \times 100}{x \times 10}$ = 10 years Simple interest for Ram = $\frac{8000 \times 12 \times 1}{100} = 960$ 57. (c)Simple interest for Mohan = $\frac{9100 \times 10 \times 1}{100} = 910$ Let 'x' be the years when borrowed amount be equal. 8000 + 960 x = 9100 + 910 x50x = 9100 - 800050x = 1100x = 22 years Let Time = T years and Rate = T%58. (b) Then, $\frac{1200 \times T \times R}{100} = 432$ $T^2 = \frac{432 \times 100}{1200} = 36$ T = 659. (a) Let the number = xAccording to question 3x = 29.7x = 9.9Correct answer = $\frac{9.9}{3} = 3.3$

60. (d)
$$\frac{9}{13} = 0.692; \frac{17}{26} = 0.654$$

 $\frac{28}{39} = 0.717; \frac{33}{52} = 0.634$
Hence, $\frac{33}{52}$ is the smallest fraction.

- 61. (a) First is the shorter form of the second.
- 62. (d) First is the splitted parts of the second.
- 63. (b) Second is the additional money given for good service to first.
- 64. (b) Second is the relieve of first.
- 65. (b) As silence is opposite to noise, Similary Baldness is opposite to Hair.
- 66. (c) Pallid refers to pale complexion as wan refers to pale colour.
- 67. (b) First is a kind of meat of second.
- 68. (d) First one refers to later on stage and second one previous stage.
- 69. (d) First and second have similar meaning.
- 70. (a) First is the quantity and second is its unit.
- 71. (c) Decimal has base 10 and binary has base 2.
- 73. (b) As Lawyer practices in court similarly chemist practices in laboratory.
- 74. (a) Second is required for first to be successful.
- 75. (c) Second is the property of the first.
- 76. (d) Filter is used to remove impurities from water similarly censor removes objectionable scenes from play.
- 77. (c) Both words have nearly same meaning.
- 78. (b) Sadist is the one who enjoys giving pain to others while teacher pupil relation is the one where teacher enjoys white teaching to pupil.
- 79. (b) Fresco is prepared by painter similarly symphony is prepared by composer.
- 80. (c) First one manages the second one.

84. (b)
$$\begin{array}{c} +3 \\ 1 \\ 4 \\ 7 \\ 10 \\ 13 \\ 16 \\ 19 \end{array}$$

85. (b) $0_{+1}1_{+2}3_{+3}6_{+4}10_{+5}15_{+6}21.$

86. (b)
$$36_{-2}34_{-4}30_{-2}28_{-4}24_{-2}22$$

87. (c) $22_{-1}21_{+2}23_{-1}22_{+2}24_{-1}23_{+2}25$

88. (b)
$$5353_{-13}4040_{-13}2727_{-13}1414$$

89. (b) 8 22 8 28 8 34
$$+6$$

- 90. (a) $31_{-2}29_{-5}24_{-2}22_{-5}17_{-5}17_{-2}15$
- 93. (a) Each step, horizontal lines gets rotated and increased by 1 and vertical lines rotated as well decreased by 1.
- 95. (c) Figure is rotated by 90° every time.
- 97. (c) Figure is rotated by 180°.
- 98. (c) Figure is rotated by 90° .
- 99. (d) Figure is rotated by 90° every time.
- 100. (c) Figure is rotated by 180°.