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NMAT

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HELD ON DECEMBER 11, 2005 (FULL QUES PAPER WITH ANSWER KEYS)

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ENGLISH ABILITY

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**Passage I**

I suppose the vitality of a group, an individual or a society is measured by the extent to which it possesses courage and above all, creative imagination. If that imagination is lacking our growth becomes more and more stunted, which is a sign of decay. What then is happening. Today? Are we trying to improve in this respect or are we merely functioning somewhere on the surface without touching the reality which is afflicting on the surface without touching the reality which is afflicting the world & which may result in political conflict, economic warfare or world war? So, when there are discussions on the concept of man as visualized in the Eastern Ideal or The Western Ideal. They interest me greatly from a historical point of view and from a cultural point of view, although I have always resisted this idea of dividing the world into the orient and occident, I do not believe in such divisions. There have, of course, been differences in racial and nation of outlook and in ideals but to talk of the east & west as such as little meaning. I can see the difference between an industrialized and a non-industrialised country. I think the difference, say, between India and Europe in the middle ages, would not have been very great and would have been comparable to the difference between any of the great countries of Asia today. I feel that we think roughly because we are misled in our approach. Differences have crept in and been intensified by this process of industrialization & mechanization which has promoted material well being tremendously and which has been a blessing to humanity. At the same time, it is corroding the life of the mind & thereby encouraging a process of self destruction. I am not for the moment talking or thinking about wars and the like we have seen in history races come up and gradually fade away in Asia, in Europe and other places. Are we witnessing the same thing today? It may be that this will not take effect in our lifetime. In the past anyway, one great consolation was that things happened only in one particular greater of the world. If there was a collapse in one part of the world, the other part carried on. No part will be left to survive, as it could in older times. During the so called Dark ages of Europe, there were bright periods in Asia, in China, in India, in the middle east and else where. In the old days if progress was limited, disaster was also limited in extent and intensity. Today, when we have arrived at a period of great disaster and it is a little difficult for us to choose a middle way which would enable us to achieve a little progress and, at the same time to limit the scope of disaster. That is the major question. A person who has to carry a burden of responsibility is greater troubled by the practical aspects of this question. Am I right in saying that the mental life of the world is in a process of deterioration, chiefly because the environment that has been created by the Industrial Revolution does not give time or opportunity to individuals to think? I do not deny that today there are many great thinkers but it is quite likely that they might be submerged in the mass of unthinking humanity. We are dealing with and talking a great deal about democracy and I have little doubt that democracy is the best of all the various methods available to us for the governance of human beings. At the same time, we are using today-by today I mean the last two decades or so-the emergence of democracy in a somewhat uncontrolled form. When we think of democracy, we normally think of it in the rather limited sense of the 19<sup>th</sup> century or the early 20<sup>th</sup> century use of the term. Owing to the remarkable technological growth, something has happened since then and meanwhile democracy has also spread. The result is that we have vast masses of human beings brought up by the Industrial Revolution, who are not encouraged or given an opportunity to think much. They live a life which, from the point of view of physical comfort, is incomparably better than it has been in any previous generation, but they seldom have a chance to think. And yet in a democratic system, it is this vast mass of human beings that will ultimately govern or elect those who govern.

- Q1. Which one of the following statements is true according to the passage?
- (1) Vitality and courage endanger creative imagination.
  - (2) Our attempts to grow are becoming more and more stunted.
  - (3) Decadence stunts the faculty of imagination.
  - (4) We are not attempting seriously enough to encourage the growth of creative imagination.

- Q2. According to the author, the present is characterized by
- (1) self destructive tendencies
  - (2) great scope for disaster
  - (3) localized progress
  - (4) material progress
- Q3. The problem facing us, as per the passage, is the choice between
- (1) extent of progress and scope of disaster
  - (2) creativity and economic growth
  - (3) spirituality and materialism
  - (4) physical comfort and vitality
- Q4. According to the passage, which one of the following statements is true and modern democracy?
- (1) It stifles the individually of human beings.
  - (2) It is a product of modern materialism.
  - (3) It has engendered technological progress.
  - (4) It is largely constituted of individuals who do not think.
- Q5. We can conclude from the passage that
- (1) the price of progress is very high
  - (2) an environment that supports progress and human individuality must be created.
  - (3) economic growth will have to be slowed down to give people time to think.
  - (4) industrialization has proved to be a curse to humanity.

### Passage II

In many underdeveloped countries, the state plays an important and increasingly varied role in economic development today. There are four general arguments, all of them related, for state participation in economic development. First, the entrance requirements in terms of financial and capital equipment are very large in industries, and the size of these obstacles will serve as barriers to entry on the part of private investors. One can imagine that these obstacles are imposing in industries such as steel production, automobiles, electronics, and parts of the textiles industry. In addition, there are what Myint calls "technical indivisibilities in social overhead capital." Public utilities, transport, and communication facilities must be in place before industrial development can occur, and they do not lend themselves to small-scale improvements. A related argument centres on the demand side of the economy. This economy is seen as fragmented, disconnected, and incapable of using inputs from other parts of the economy. Consequently, economic activity in one part of the economy does not generate the dynamism in other sectors that is expected in more cohesive economies. Industrialization necessarily involves many different sectors; economic enterprises will thrive best in an environment in which they draw on inputs from related economic sectors and, in turn, release their own goods for industrial utilization within their own economies. A third argument concerns the low-level equilibrium trap in which less developed countries find themselves. At subsistence levels, societies consume exactly what they produce. There is no remaining surplus for reinvestment. As per-capita income rises, however, the additional income will not be used for saving and investment. Instead, it will have the effect of increasing the population that will eat up the surplus and force the society to its former subsistence position. Fortunately, after a certain point, the rate of population growth will decrease; economic growth will intersect with and eventually outstrip population growth. The private sector, however, will not be able to provide the one-shot large dose of capital to push economic growth beyond those levels where population increases eat up the incremental advances. The final argument concerns the relationship between delayed development and the state. Countries wishing to industrialize today have more competitors, and these competitors occupy a more differentiated industrial terrain than previously. This means that the available niches in the international system are more limited. For today's industrializers, therefore, the process of industrialization cannot be a haphazard affair, nor can the pace, content, and direction be left, solely to market forces. Part of the reason for strong state presence, then, relates specifically to the competitive international environment in which modern countries and firms must operate.

- Q6. What does the author suggest about the “technical indivisibilities in social overhead capital”?
- (1) It is a barrier to private investment
  - (2) It enhances the development effects of private sector investment
  - (3) It leads to rapid technological progress
  - (4) It can prevent development from occurring
- Q7. According to the passage, the “low-level equilibrium trap” in underdeveloped countries results from
- (1) the inability of market forces to overcome the effects of population growth
  - (2) intervention of the state in economic development
  - (3) the tendency for societies to produce more than they can use
  - (4) the fragmented and disconnected nature of the demand side of the economy.
- Q8. According to the author, a strong state presence is necessary
- (1) to provide food for everyone
  - (2) to provide the capital needed to spur economic growth
  - (3) to ensure the livelihood of workers
  - (4) to ensure that people have more than what is necessary for subsistence
- Q9. In the passage, the word ‘cohesive’ means
- (1) containing many cohorts or groups
  - (2) modern and competitive
  - (3) naturally and logically connected
  - (4) containing many different sectors
- Q10. In the passage, the word ‘imposing’ means
- (1) Something huge
  - (2) something that strikes a pose
  - (3) something that obtrudes on others
  - (4) to act with a delusive effect

### Passage III

Scientists seeking view new ways to repair damaged arteries and ailing hearts have coaxed stem cells from a human embryo into forming tiny blood vessels. It's the first time human embryonic stem cells have been nurtured to the point where they will organize into blood vessels that could nourish the body, according to Robert Langer, leader of a laboratory team at the Massachusetts Institute of Technology. But it isn't likely to be the last, as scientists pursue research into uses for stem cells despite debate over the ethics of using the cells. The new development was reported in Tuesday's online issue of proceedings of the National Academy of Sciences. Dr. John Gearhart of the Johns Hopkins Schools of Medicine said research was a “nice illustration” of how stem cells can serve as a source of various types of cells, in this case for blood vessels. “I think this is terrific” said Gearhart, who was not part of the research team. “It's another good example of the isolation of an important cell type from human embryonic stem cells.” “These are the kinds of papers we are going to see a lot of,” Gearhart added. Langer said the work showed that endothelial cells could be made from human embryonic stem cells. Endothelial cells have veins, arteries and lymph tissue. They are key to the structures that carry blood throughout the body. He said that if the technique we refined, scientists would eventually be able to make in the laboratory blood vessels that could be used to replace diseased arteries in the body: “There are thousands of operations a year now where doctors take vessels from one part of the body and transplant them to another,” said Langer. Eventually, he said, such vessels might be made outside the body from embryonic stem cells. Langer said endothelial cells also might be used to restore circulation to cells damaged by heart attacks. He said the processed stem cells may be able to reestablish blood flow to hearts failing due to blocked arteries. The research was conducted under a private grant, but Langer said the cell culture used is one of 61 worldwide that have been approved by the National Institutes of Health for federally funded research. The use of embryonic stem cells is controversial because extracting the cells kills a living human embryo. President Bush last summer decided that federal funding would be permitted only for stem cell cultures that already existed and were made from embryos that were to be discarded by fertility clinics. The aim was to prevent further killing for research purposes of other human embryos. Langer said his lab will seek federal money to continue research

using the same stem cell cultures, which were obtained from the Ram Bam Medial Center in Haifa, Israel. Embryonic stem cells are the ancestral cells of every cell in the body. In a developing embryo, they transform into cells that make up the organs, bone, skin and other tissues. Researchers hope to direct the transformation of such cells to treat ailing hearts, livers, brains and other organs. Langer said his team cultured the cells in such a way that they were allowed to develop into the various types of cells that are precursors to mature tissue. From this colony, the researchers extracted cells that were following a lineage that would lead to mature endothelial cells. These were further cultured and some eventually formed primitive vascular structures.

- Q11. Which of the following statements does *not* follow from the passage?
- (1) Fertility clinics collect human embryos.
  - (2) Human embryos are destroyed in stem cell research
  - (3) Stem cells are being researched especially for forming blood vessels
  - (4) Stem cell research uses federal funding
- Q12. Which of the following would be made redundant by the research mentioned?
- (1) Sourcing embryonic cells from fertility clinics.
  - (2) Transplanting of blood vessels from one part to another.
  - (3) Cardiac operations necessitated by heart attacks.
  - (4) Performing open heart surgeries.
- Q13. Stem cell research involves?
- (1) cell cultures from various genetically altered embryos.
  - (2) Killing of a live human embryo
  - (3) wastage of embryo by fertility clinics
  - (4) genetic cloning of abilities

**Directions (Questions 14 - 18) :** A sentence is split into four parts. Mark the part that has a grammatical error.

- Q14. (1) By changing the way they channel.  
(2) the careers of its people  
(3) companies can build their enterprises  
(4) around the strengths of each person
- Q15. (1) Despite the evident tensions  
(2) both side insist  
(3) that compromise can be worked out  
(4) given their strong historical links
- Q16. (1) If we examine the saturation aspect.  
(2) the enterprise market  
(3) is a short term  
(4) revenue buying programmes
- Q17. (1) Therefore, your taxability in India.  
(2) will depends on the total time  
(3) spend by your consultancy services  
(4) in providing consultancy countries.
- Q18. (1) India outstrips other countries  
(2) in terms  
(3) for employment  
(4) and number of companies

**Directions (Questions 19-23) :** Fill in the blanks in the passage with appropriate choice.

The one essential 19 factor in a company being able to create the right customer experience that is so necessary for it's continued 20 is it's people. A company will have among it's employees

planners, 21, and doers. But it doesn't pay to forget that all of them are people and that their roles can never be 22 in a 23 fashion.

- Q19. (1) measurable (2) indispensable  
(3) sustainable (4) gullible
- Q20. (1) survival (2) surplus  
(3) implication (4) mayors
- Q21. (1) majors (2) losers  
(3) enablers (4) mayors
- Q22. (1) compartmentalized (2) mayors  
(3) revolutionized (4) short
- Q23. (1) turbid (2) frigid  
(3) rigid (4) morbid

**Directions (Questions 24 - 25) :** Choose the pair of words that best expresses the same relationship as that in the pair of words given in capital letters.

- Q24. DILAPIDATED : RESTORE ::  
(1) Torn : Cloth (2) Malfunction : Repair  
(3) Lose : Console (4) Forget : Remember
- Q25. BEHEAD : GHILLOTINE ::  
(1) Hang : Gallows (2) Perfect : Pictures  
(3) Polish : Nail (4) Cause : Murdered

**Directions (Questions 26 - 30) :** Each question consists of a group of sentences followed by a suggested sequential arrangement. Select the best sequence that forms a coherent paragraph.

- Q26. (A) It is much smaller than the Earth, with a diameter of only 6500 kilometers.  
(B) One white dwarf, called Kupee's Star after a famous American astronomer, is particularly well-known.  
(C) Yet its mass is equal to that of the Sun.  
(D) The matter inside a white dwarf is incredibly dense.  
(E) It is no dense that just a thimbleful would weigh thousands of kilograms.
- (1) DBACE (2) ACBDE  
(3) BACDE (4) BACED
- Q27. (A) This is another kind of sign behaviour.  
(B) The same basic characteristics is there, automatic reaction to some stimulus.  
(C) Human beings, like other animals, may be conditioned to respond in particular ways to a given stimulus.  
(D) Instead the reaction is wired in by some outside force.  
(E) The difference is that the stimulus reaction pattern is not wired into the animals' nervous system by its own genetic code.
- (1) BDECA (2) ABDEC  
(3) CABDE (4) CABED
- Q28. (A) If you look at a number of important inventions and discoveries that have been made over the last 1,000 years you will find that most of them occurred in the last 300 years.  
(B) What prevented progress being made in the previous 700 years?  
(C) One reason was the mistaken belief that once a scientific model has been built, it was a complete picture of the real thing.  
(D) Why this?

(E) Those who doubted this ran the risk of being ridiculed by their fellow men and in some cases of even losing their lives by carrying on with their investigation.

- |           |           |
|-----------|-----------|
| (1) ADBCE | (2) DCBAE |
| (3) EDCBA | (4) BCDEA |

- Q29. (A) For 25 years he painstakingly amassed evidence to support it.  
(B) This concept did not become clear in Darwin's mind until long after he had left the Galapagos.  
(C) After a great number of generations tortoises on the arid islands will have longer necks than those on the watered islands.  
(D) And so one species will have given rise to another.

- |          |          |
|----------|----------|
| (1) DBAC | (2) CDBA |
| (3) ACBD | (4) DCAB |

- Q30. (A) Since then, intelligence tests been mostly used to separate dull children in school from average or bright children, so that special education is provided to the dull.  
(B) In other words, intelligence tests give us a norm for each age.  
(C) Intelligence is expressed as intelligence quotient and tests are developed to indicate what an average child of a certain age can do, what a five-year old can answer, but a four-year old cannot, for instance.  
(D) Binet developed the first set of such tests in the early 1990s to find out which children in school needed special attention.  
(E) Intelligence can be measured by tests.

- |           |           |
|-----------|-----------|
| (1) CBADE | (2) EDACB |
| (3) CDABE | (4) DECAB |

**Directions (Questions 31 - 35) :** The following questions consist of sentences that are either partly or entirely underlined. Below each sentence that are either partly or entirely underlined. Below each sentence are four versions of the underlined portion of the sentence. Choice (1) duplicates the original version. The three other versions revise the underlined portion of the sentence. Read the sentence and the four choice carefully, and select the best version. If the original seems better than any of the revisions, select choice (1). If not, choose one of the revisions.

- Q31. To control public unease over the regime's impending economic collapse, the government ordered local officials should censor records of what were their communities' unemployment figures.  
(1) censoring records of unemployment figures in their communities.  
(2) would do the censorship of records of their communities' unemployment figures.  
(3) should censor records of what were their communities' unemployment figures.  
(4) to censor records of unemployment figures in their communities.
- Q32. In response to higher oil prices, window manufacturers have improved the insulating capability of their products; their windows have been built to conserve energy and they are.  
(1) are built to conserve energy,, and they do  
(2) are built to conserve energy, and they have  
(3) have been built to conserve energy, and they are  
(4) are being built to conserve energy, have
- Q33. Complied from documents provided by several government agencies, the investigative commission produced a report clearly indicating that federal officials had frequently authorized expenditures far above statutory limits.  
(1) A complication of documents from several governments agencies  
(2) Compiling it from several government agencies' documents  
(3) Compiled from documents provided by several government agencies  
(4) Working from documents provided by several government agencies



- Q34. In addition to being more expensive than manual research, the compounds identified by machine-based research are often of lower quality than those identified by manual research, which are more likely to become marketable pharmaceutical products.  
 (1) machine-based research is lower in quality than those compounds identified by  
 (2) machine-based research often identifies compounds that are of lower quality than those identified by  
 (3) the compounds identified by machine-based research are often of lower quality than those identified by  
 (4) the compounds identified by machine-based research are often lower in quality than
- Q35. Stereos as already a standard feature on many new automobiles, more car companies are including CD players and multi-disk changers as added incentives to buyers.  
 (1) As stereos being (2) As stereos  
 (3) Stereos as (4) Since stereos are

**Directions (Questions 36 - 40) :** Each question has four words marked A, B, C and D; of which two words are most nearly SAME or OPPOSITE in meaning. Choose one such pair from the alternatives given.

- Q36. (A) desecrate (B) Describe  
 (C) Damage (D) Descent  
 (1) A-C (2) C-D  
 (3) B-C (4) A-D
- Q37. (A) Asinine (B) profound  
 (C) Intelligent (D) Cruel  
 (1) A-C (2) B-D  
 (3) B-C (4) A-B
- Q38. (A) Vivacious (B) Weird  
 (C) Rabid (D) Fanatical  
 (1) B-D (2) B-C  
 (3) A-B (4) C-D
- Q39. (A) Stupendous (B) Calm  
 (C) Livid (D) Pretentious  
 (1) A-B (2) A-D  
 (3) B-D (4) A-C
- Q40. (A) Shambles (B) Flexible  
 (C) Periodic (D) Organized  
 (1) A-C (2) B-C  
 (3) A-D (4) C-D

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NUMERICAL SKILLS

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- Q41. A cube of white chalk is painted red, and then cut parallel to the sides to form two rectangular solids of equal volume. What percent of the surface area of each of the new solids is not painted red?  
 (A) 20% (B)  $16\frac{2}{3}\%$   
 (C) 15% (D) 25%
- Q42. If  $0 < p < 1$ , which of the following has the least value?



- (A)  $\frac{1}{p^2 + 1}$  (B)  $\frac{1}{\sqrt{p}}$  (C)  $\frac{1}{p^2}$  (D)  $\frac{1}{(p+1)^2}$

Q43. In a certain game, each player scores either 2 points or 5 points. If  $n$  players score 2 points and  $m$  players score 5 points, and the total number of points scored is 50, what is the least possible positive difference between  $n$  and  $m$ ?

- (A) 5 (B) 3 (C) 1 (D) 7

Q44.

On time	X%
Up to 15 minutes delayed	43%
15-30 minutes delayed	17%
30-60 minutes delayed	12%
More than 60 minutes delayed	3%

The chart above describes departures from a certain airport on a certain day. If 1,200 flights were delayed, how many flights departed on time?

- (A) 350 (B) 300 (C) 250 (D) 400

Q45. How many different subsets of the set  $\{10, 14, 17, 24\}$  are there that contain an odd number of elements?

- (A) 8 (B) 6 (C) 3 (D) 10

Q46. Which of the following must equal zero for all real numbers  $x$ ?

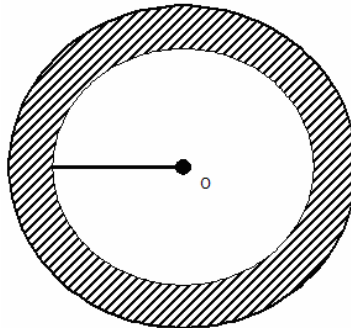
- I.  $x^3 - x^2$  II.  $x^0$   
III.  $x^1$

- (A) II only (B) I only (C) None (D) I and II only

Q47. The speed of a train pulling out of a station is given by the equation  $s = t^2 + t$ , where  $s$  is the speed in kilometers per hour and  $t$  is the time in seconds from when the train starts moving. The equation holds for all situations where  $0 \leq t \leq 4$ . In kilometers per hour, what is the difference in the speed of the train four seconds after it starts moving, compared to the speed two seconds after it starts moving?

- (A) 14 (B) 6 (C) 0 (D) 20

Q48. In the figure below, a circular swimming pool (the unshaded area) is surrounded by a circular walkway (the shaded area). Both the circular swimming pool and the entire circular region consisting of the swimming pool and the walkway have the centre  $O$ . If the radius of the swimming pool is 10 meters and the width of the walkway is 5 meters, how much greater than the surface area of the swimming pool is the area of the walkway?



- (A)  $100\pi$  (B)  $50\pi$   
(C)  $25\pi$  (D)  $125\pi$

- Q49. In a rectangular coordinate system, triangle ABC is drawn so that one side of the triangle connects two points on the y axis, A(0, 2) and B(0, -4). If point C has coordinates (c, 0) and the area of ABC is 21, then C =  
 (A)  $\sqrt{53}$  (B) 7 (C)  $\frac{1}{3}$  (D) 21
- Q50. A company received two shipments of ball bearings. In the first shipment, 1 percent of the ball bearings were defective. In the second shipment, which was twice as large as the first, 4.5 percent of the ball bearings were defective. If the company received a total of 100 defective ball bearings, how many ball bearings were in the first shipment?  
 (A) 2000 (B) 1000 (C) 990 (D) 3000
- Q51. In a certain laboratory, chemicals are identified by a colour-coding system. There are 20 different chemicals. Each one is coded with either a single colour or a unique two-colour pair. If the order of colours in the pairs doesn't matter, what is the minimum number of different colours needed to code all 20 chemicals with either a single colour or a unique pair of colours?  
 (A) 7 (B) 6 (C) 5 (D) 20
- Q52. If both  $5^2$  and  $3^3$  are factors of  $n \times 2^5 \times 6^2 \times 7^3$ , what is the smallest possible positive value of n?  
 (A) 45 (B) 27 (C) 25 (D) 75
- Q53. How many different ways can 2 students be seated in a row of 4 desks, so that there is always at least one empty desk between the students?  
 (A) 4 (B) 3 (C) 2 (D) 6
- Q54. A clothing supplier stores 800 coats in a warehouse, of which 15 percent are full-length coats. If 500 of the shorter length coats are removed from the warehouse, what percent of the remaining coats is full-length?  
 (A) 35% (B) 9.37% (C) 5.62% (D) 40%
- Q55. The arrangement of rational numbers  $\frac{-7}{10}, \frac{5}{-8}, \frac{2}{-3}$  in ascending order is  
 (A)  $\frac{-7}{10}, \frac{5}{-8}, \frac{2}{-3}$  (B)  $\frac{5}{-8}, \frac{-7}{10}, \frac{2}{-3}$   
 (C)  $\frac{2}{-3}, \frac{5}{-8}, \frac{-7}{10}$  (D)  $\frac{-7}{10}, \frac{2}{-3}, \frac{5}{-8}$
- Q56. when simplified, the product  $\left\{2 - \frac{1}{3}\right\} \left\{2 - \frac{3}{5}\right\} \left\{2 - \frac{5}{7}\right\} \dots \left\{2 - \frac{999}{1001}\right\}$  is equal to  
 (A)  $\frac{1003}{13}$  (B)  $\frac{1001}{13}$  (C)  $\frac{991}{1001}$  (D) None of these
- Q57. One test tube contains some acid and another test tube contains an equal quantity of water. To prepare a solution, 20 grams of the acid is poured into the second test tube. Then, two-thirds of the so-formed solution is poured from the second tube into the first. If the fluid in the first test tube is four times that in the second, what quantity of water was taken initially?  
 (A) 80 grams (B) 60 grams (C) 40 grams (D) 100 grams
- Q58. If the digit in the unit's place of a two-digit number is halved and the digit in the ten's place is doubled, the number thus obtained is equal to the number obtained by interchanging the digits. Which of the following is definitely true?  
 (A) Digits in the unit's place and the ten's place are equal

- (B) Digit in the unit's place is twice the digit in the ten's place  
 (C) Sum of the digits is a two-digit number  
 (D) Digit in the unit's place is half of the digit in the ten's place
- Q59. Sneha's age is  $\frac{1}{6}$ th of her father's age. Sneha's father's age will be twice of Vimal's age after 10 years. If Vimal's eighth birthday was celebrated two years before, then what is Sneha's present age?  
 (A) 30 years (B) 24 years (C) 6 years (D) None of these
- Q60. The value of expression  $\left\{x^b / x^c\right\}^{(b+c-a)} \left\{x^c / x^a\right\}^{(c+a-b)} \left\{x^a / x^b\right\}^{(a+b-c)}$  is  
 (A)  $x^{ab+bc+ca}$  (B) 1 (C)  $x^{abc}$  (D)  $x^{a+b+c}$
- Q61. In a city, 35% of the population is composed of migrants, 20% of whom are from rural areas. Of the local population, 48% is female while this figure for rural and urban migrants is 30% and 40% respectively. If the total population of the city is 7,28,400, what is its female population?  
 (A) 5,09,940 (B) 3,49,680 (C) 3,24,138 (D) None of these
- Q62. A tradesman gives 4% discount on the marked price and gives 1 article free for buying every 15 articles and thus gains 35%. The marked price is above the cost price by  
 (A) 40% (B) 39% (C) 20% (D) 50%
- Q63. A trader purchases a watch and a wall clock of Rs. 390. He sells them making a profit of 10% on the watch and 15% on the wall clock. He earns a profit of Rs. 51.50. The difference between the original prices of the wall clock and the watch is equal to  
 (A) Rs. 110 (B) Rs. 100 (C) Rs. 80 (D) Rs. 120
- Q64. Padam purchased 30 kg of rice at the rate of Rs. 17.50 per kg and another 30 kg rice at a certain rate. He mixed the two and sold the entire quantity at the rate of Rs. 18.60 per kg and made 20% overall profit. At what price per kg did he purchase the lot of another 30 kg rice?  
 (A) Rs. 14.50 (B) Rs. 13.50 (C) Rs. 12.50 (D) Rs. 15.50
- Q65. Out of a total 85 children playing badminton or table tennis or both, total number of girls in the group is 70% of the total number of boys in the group. The number of boys playing only badminton is 50% of the number of boys and the total number of boys playing badminton is 60% of the total number of boys. The number of children playing only table tennis is 40% of the total number of children and a total of 12 children play badminton and table tennis both. What is the number of girls playing only badminton?  
 (A) 17 (B) 14 (C) 16 (D) Data inadequate
- Q66. Vineet calculates his profit percentage on the selling price whereas Roshan calculates his profit on the cost price. They find that the difference of their profits is Rs. 275. If the selling price of both of them are the same, and Vineet gets 25% profit and Roshan gets 15% profit, then find their selling price.  
 (A) Rs. 2100 (B) Rs. 2300 (C) 2350 (D) Rs. 2250
- Q67. A man sells two horses for Rs. 1475. The cost price of the first is equal to the selling price of the second. If the first is sold at 20% loss and the second at 25% gain, what is his total gain or loss (in rupees)?  
 (A) Rs. 80 gain (B) Rs. 60 gain (C) Rs. 60 loss (D) Neither gain nor loss
- Q68. A farmer sold a cow and an ox for Rs. 800 and got a profit of 20% on the cow and 25% on the ox. If he sells the cow and the ox for Rs. 820 and gets a profit of 25% on the cow and 20% on the ox, the individual cost price of the cow and the ox is  
 (A) Rs. 515.60, Rs. 115.60 (Approx.)  
 (B) Rs. 531.50, Rs. 135.50 (Approx.)  
 (C) Rs. 530.60, Rs. 130.60 (Approx.)

(D) Cannot be determined

- Q69. Arun borrowed a sum of money from Jayant at the rate of 8% per annum simple interest for the first four years, 10% per annum for the next 6 years and 12% per annum for the period beyond 10 years. If he pays a total of Rs. 12,160 as interest only at the end of 15 years, how much money did he borrow?  
 (A) Rs. 12,000 (B) Rs. 10,000 (C) Rs. 8,000 (D) Rs. 9,000
- Q70. A sum of Rs. 1,440 is lent out in three parts in such a way that the interests on first part at 2% for 3 years, second part at 3% for 4 years and third part at 4% for 5 years are equal. Then the difference between the largest and the smallest sum is  
 (A) Rs. 400 (B) Rs. 560 (C) Rs. 460 (D) Rs. 200
- Q71. A sum of Rs. 18,750 is left by will by a father to be divided between two sons, 12 and 14 years of age, so that when they attain maturity at 18, the amount (principal + interest) received by each at 5 per cent simple interest will be the same. Find the sum allotted at present to each son.  
 (A) Rs. 9,500, Rs. 9,250 (B) Rs. 8,000, Rs. 1,750  
 (C) Rs. 9,000, Rs. 9,750 (D) None of these
- Q72. A man borrows Rs. 4,000 at 20% compound rate of interest. At the end of each year he pays back Rs. 1,500. How much amount should he pay at the end of the third year to clear all his dues?  
 (A) Rs. 2,952 (B) Rs. 2,852 (C) Rs. 2,592 (D) Rs. 2,953
- Q73. One can purchase a flat from a house building society for Rs. 55,000 cash or on the terms that he should pay Rs. 4,275 as cash down payment and the rest in three equal yearly instalments. The society charges interest at the rate of 16% per annum compounded half yearly. If the flat is purchased under instalment plan, find the value of each instalment  
 (A) Rs. 39,683 (B) Rs. 19,683 (C) Rs. 29,683 (D) Rs. 9,683
- Q74. A petrol pump mixed leaded and unleaded petrol in such a way that the mixture contains 10% unleaded to 1 litre mixture so that the percentage of unleaded petrol becomes 5%?  
 (A) 1900 ml (B) 900 ml (C) 1000 ml (D) 1800 ml
- Q75. There are two vessels of equal capacity, one full of milk, and the second one-third full of water. The second vessel is then filled up out of the first, the contents of the second are then poured back into the first till it is full and then again the contents of the first are poured back into the second till it is full. What is the proportion of milk in the second vessel?  
 (A) 37/20 (B) 20/27 (C) 20/37 (D) 27/20
- Q76. A started a work and left after working for 1 day. Then B was called and he finished the work in  $4\frac{1}{2}$  days. Had A left the work after working for  $1\frac{1}{2}$  days, B would have finished the remaining work in 3 days. In how many days can each of them, working alone, finish the whole work?  
 (A) 3.5 days, 8.5 days (B) 2.5 days, 7.5 days  
 (C) 5 days, 15 days (D) None of these
- Q77. The dimensions of a room are 12.5 metres by 9 metres by 7 metres. There are 2 doors and 4 windows in the room; each door measures 2.5 metres by 1.2 metres and each window 1.5 metres by 1 metre. Find the cost of painting the walls at Rs. 3.50 per square metre.  
 (A) Rs. 1,101.50 (B) Rs. 1,050.50  
 (C) Rs. 1,011.50 (D) Cannot be determined
- Q78. The diameter of the driving wheel of a bus is 140 cm. How many revolutions per minute must the wheel make in order to keep a speed of 66 km per hour?  
 (A) 200 (B) 300 (C) 250 (D) 350

- Q79. A swimming bath is 24 m long and 15 m broad. When a number of men dive into the bath, the height of the water rises by one cm. If the average amount of water displaced by one of the men be 0.1 cu. m, how many men are there in the bath?  
(A) 42 (B) 46 (C) 32 (D) 36
- Q80. Two posts are  $k$  metres apart and the height of one is double that of the other. If from the middle point of the line joining their feet, an observer finds the angular elevations of their tops to be complementary, then the height (in metres) of the shorter post is  
(A)  $k\sqrt{2}$  (B)  $k/4$  (C)  $k/2\sqrt{2}$  (D)  $k/\sqrt{2}$

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DATA ANALYSIS & SUFFICIENCY

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**Directions (Questions 81-83) :** Study the information given below to answer these questions.

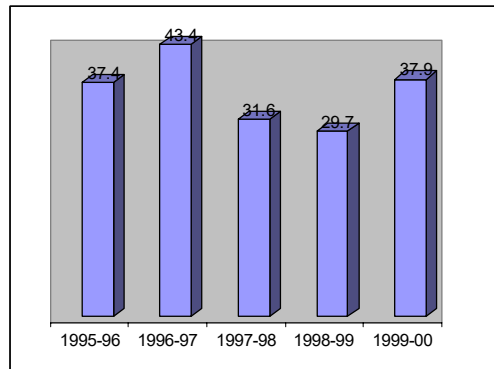
Mr. Kunal Dwivedi wants to buy a motorbike which is priced at Rs. 45,000. The bike is also available at Rs. 25,000 down payment and monthly installments of Rs. 1000 per month for 2 years or Rs. 18,000 down payment and monthly instalment of Rs. 1000 per month for 3 years. Mr. Kunal has with him only Rs. 12,000. He wants to borrow the balance money of the down payment from a private money lender whose terms are :

If Rs. 6,000 is borrowed for 12 months, the rate of interest is 20%. The interest will be calculated on the whole amount for the whole year, even though the repayment has to be done in 12 equal monthly instalments starting from the first month itself. Thus he will have to repay an amount of Rs. 600 per month for 12 months to repay Rs. 6000 (Principal) + Rs. 1,200 (Interest @ 20%).

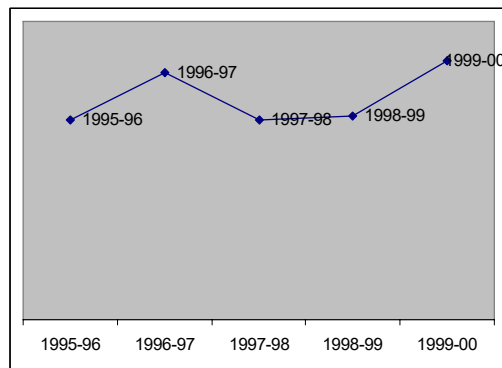
If Rs. 10,000 upwards is borrowed for one year, the rate of interest is 30% and is calculated in exactly the same manner as above.

- Q81. If Mr. Kunal is ready to pay either of the down payments then which of the instalment schemes is the better operation of the two? (Assume that Mr. Kunal will pay the instalments out of his own earnings and he keeps his savings with himself and earns no interest on the same. also assume that instead of borrowing the remaining money for the down payment, he saves the balance before purchase.)  
(1) Rs. 1,000 for 2 years (2) Rs. 1,000 for 3 years  
(3) Either of the two (4) Data inadequate
- Q82. What is the percentage difference in the total amount paid to the bike dealer, between the two instalment schemes with respect to the total payment of the scheme with Rs. 25,000 down payment?  
(1) 11.4% (2) 13.5% (3) 10.25 (4) None of these
- Q83. If Kunal can spare only a total of Rs. 2,000 to be paid to the bike dealer and the money lender from his monthly earnings starting from the first month onwards, which scheme should he choose?  
(1) Rs. 1,000 for 2 years (2) Rs. 1,000 for 3 years  
(3) Either of the two (4) Data inadequate

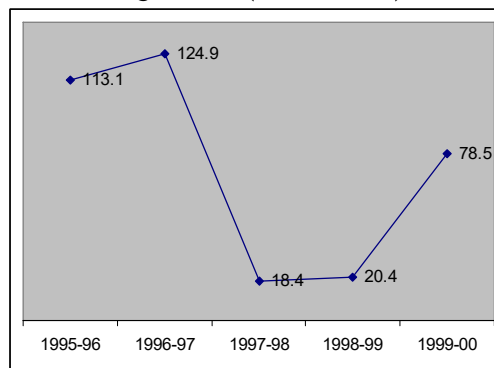
**Directions (Questions 84 - 87) :** Refer to the following charts given in Fig 1, 2 & 3 to answer these questions.



**Fig 1 AL's Vehicle Sales (in '000 Units)**



**Fig 2 Sales (in Rs. Crore)**



**Fig 3 Profits After Tax (in Rs. Crore)**

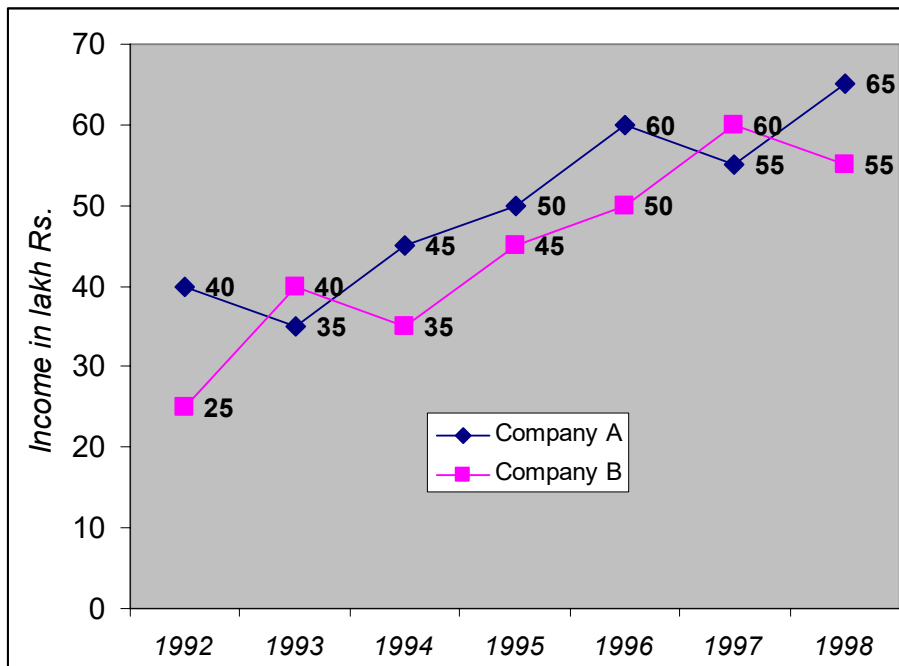
- Q84. It can be inferred that the price per vehicle between 1997-98 to 1998-99 has  
 (1) remained constant (2) dopped  
 (3) risen (4) No inference can be made
- Q85. The highest percentage change in profit is seen for the year  
 (1) 1996-97 (2) 1998-99  
 (3) 1997-98 (4) 1999-2000
- Q86. Vehicles sales have been closest to the average sales of the five year period for the year  
 (1) 1998-99 (2) 1997-98  
 (3) 1995-96 (4) 1999-2000
- Q87. With respect to the trends of the three variables. (viz. (i) vehicle sales, (ii) sales revenue and (iii) profits) which of them have shown identical trends over the periods shown?  
 (1) i and iii only (2) ii and iii only  
 (3) i and ii only (4) All these

**Directions (Questions 88-90) :** Refer to the table given below and answer the questions that follow.  
**TERM LIFE INSURANCE**

Policy/Insurance	Max age of Entry	Tenures possible	Max. age at expiry	Min. sum assured	For life cover of Rs. 10 lakh premium in Rs. (Entry age/coverage period in yrs)			
					(30/25)	(40/20)	(50/10)	(55/10)
ICICI Prudential	50	5 to 25 yrs.	65	Rs. 1 lakh	3043	5110	8197	N.A.
HDFC Standard Life	60	5 to 30 yrs	65	Rs. 1 lakh	3050	5110	8320	12600
Max New York Life	55	5, 10, 15, 20, 25 yrs.	60	Rs. 2.5 lakh	3220	5650	10000	12150
Birla Sun Life	55	5, 10, 15, 20, 25 yrs.	70	Rs. 2 lakh	3160	5150	8790	13100
LIC Anmol Jeevan	50	5 to 25 yrs.	60	Rs. 5 lakh	3860	7010	11450	N.A.

- Q88. The maximum that a 50-year-old individual can hope to insure his life for is  
 (1) 20 yrs. (2) 15 yrs. (3) 10 yrs. (4) Cannot be determined
- Q89. From the table above, if a 50-year-old individual wants to buy a life insurance cover of Rs. 10 lakh (for a coverage period of 10 yrs.), then his best option is  
 (1) Max New York Life (2) HDFC Standard Life  
 (3) ICICI Prudential (4) Cannot be determined
- Q90. From the table, how many life insurance options are available for a 51-year-old who wants 6 years of coverage?  
 (1) 3 (2) 2 (3) 1 (4) None of these

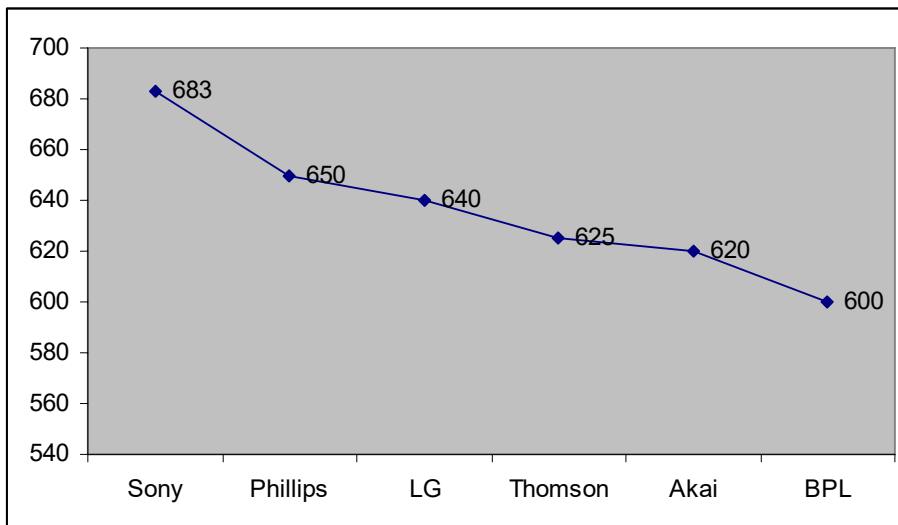
**Directions (Questions 91-94) :** Study the following graph carefully and answer the questions given below.



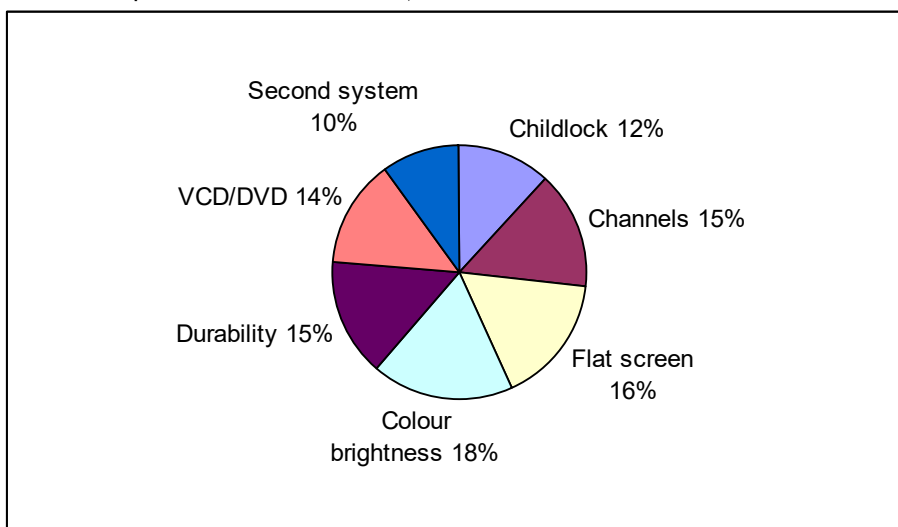


- Q91. If the per cent profit earned by both the companies A and B in 1997 is equal and the expenditure of company B in 1997 is Rs. 50 lakh, what approximately is the amount of profit earned by company A in 1997?  
 (1) Rs. 6.2 lakh (2) Rs. 5 lakh (3) Rs. 4.5 lakh (4) Rs. 5.5 lakh
- Q92. For which of the following contribution of company and year is the percentage increase in income from the previous year the maximum among all such given combinations?  
 (1) Company A-1993 (2) Company B-1996 (3) Company C-1994 (4) Company A-1994
- Q93. If company A had a loss of 15% in the year 1992, what approximately was its expenditure in that year?  
 (1) Rs. 21 lakh (2) Rs. 29 lakh (3) Rs. 22 lakh (4) Rs. 28 lakh
- Q94. Average income of company A per year is approximately what percentage of the average income of company B per year?  
 (1) 115% (2) 110% (3) 80% (4) 90%

**Directions (Questions 95-99) :** Refer the information given in the graphs below.



(of the total points received assume that the following is the break-up of points received due to each of the parameters listed below)



- Q95. The point obtained by Thomson for durability is equal to which of the following?  
(1) BPL-Flat screen (2) Akai-Colour brightness  
(3) LG-Sound system (4) Thomson-Channels
- Q96. What is the total number of points earned by all the TVs for Channels?  
(1) 553.70 (2) 513.72 (3) 490.42 (4) 572.70
- Q97. What are the average points per TV earned for Child lock?  
(1) 70.42 (2) 76.36 (3) 80.34 (4) 86.89
- Q98. The Sound system of LG is approximately what percentage of the Flat Screen of Sony?  
(1) 59% (2) 171% (3) 52% (4) 64%
- Q99. The points earned by Philips for VCD/DVD is what percentage more/less than the points earned by BPL for Colour brightness?  
(1) 22.84% (more) (2) 15.74% (more)  
(3) 15.74% (less) (4) 22.84% (less)

**Directions (Questions 100-104) :** Each, of the questions below consists of a question and two statements numbered I and II given below it. You have to decide whether the data provided in the statements are sufficient to answer the question. Read both the statements and give your answer as

- (1) If the data either in statement I alone or in statement II alone are sufficient to answer the question.  
(2) If the data in statement II alone are sufficient to answer the question, while the data in statement I alone are not sufficient to answer the question.  
(3) If the data in statement I alone are sufficient to answer the question, while the data in statement II alone are not sufficient to answer the question.  
(4) If the data even in both statements I and II together are not sufficient to answer the question.

- Q100. What will be the area of a plot in sq. metres?  
I. The length of that plot is  $1\frac{1}{3}$  times the breadth of that plot.  
II. The diagonal of that plot is 30 metres?
- Q101. What will be the cost of the second necklace?  
I. The cost of the first necklace is  $\frac{1}{5}$  more than the second and the cost of the third necklace is  $\frac{2}{5}$  more than the second. The total cost of all the three neckless is Rs. 1,20,000.  
II. The cost of the first necklace  $\frac{2}{5}$  more than the second. The cost of the third necklace is the least and total cost of all the three necklaces is Rs. 1,20,000.
- Q102. What was the ratio between the ages of P and Q four years ago?  
I. The ratio between the present ages of P and Q 3:4.  
II. The ratio between the present ages of Q and R is 4 : 5.
- Q103. Which is the two-digit number?  
I. The number obtained by interchanging the digits is smaller than the original number by 63.  
II. Sym of the digits is 11.
- Q104. What will be the average weight of the remaining class?  
I. Average weight of 30 children out of total 46 in the class is 22.5 kg and that of the remaining children is 29.125 kg. A child having weight more than 40 kg is excluded.  
II. Average weight of a class of 46 children is 23.5 kg. A child weighting 46 is dropped out.

**Directions (Questions 105-107) :** Each of the questions below consists of a question and three statements numbered I, II and III given below it. You have to study the questions and decide that the data in which of the statements are sufficient to answer the questions.

- Q105. Who earns most among M, N, P, Q and R?  
 I. M earns less than P but not less than R.  
 II. Q earns more than M but not equal to N.  
 III. N earns more than M and R.
- (1) Only I and II or only I and III  
 (2) I and II only  
 (3) Question cannot be answered even with information in all three statements.  
 (4) Only I and III
- Q106. In how many days can 10 women finish a work?  
 I. 10 men can complete the work in 6 days.  
 II. 10 men and 10 women together can complete the work in  $3\frac{3}{7}$  days.  
 III. If 10 men work for 3 days and thereafter 10 women replace them, the remaining work is completed in 4 days.
- (1) Only I and III                      (2) Any two the three  
 (3) Only I and II                      (4) Only II and III
- Q107. What is the per cent profit earned by a shopkeeper on selling the articles in his shop?  
 I. Labelled price of the articles sold was 130% of the cost price.  
 II. Cost price of each article was Rs. 550.  
 III. A discount of 10% on labelled price was offered.
- (1) Only III              (2) Only II              (3) Only I              (4) All the three are required.

**Directions (Questions 108-109) :** In each of the following questions a question is asked followed by three statements. You have to study the questions and all the three statements given and decide whether any information provided in the statement(s) is/are redundant and not required while answering the questions.

- Q108. P, Q and R together invested an amount of Rs. 20,000 in the ratio of 5:3:2. What was the per cent profit earned by them at the end of one year?  
 A. Q's share in the profit is Rs. 2,400.  
 B. The amount of profit received by P is equal to the amount of profit received by Q and R together.  
 C. The amount of profit received by Q and R together is Rs. 4,000.
- (1) A and B both  
 (2) A or C only  
 (3) B and A or C only  
 (4) B and C both
- Q109. What will be the cost of fencing a circular plot? ( $r = \frac{22}{7}$ )  
 A. Area of the plot is 616 sq. m.  
 B. Cost of fencing a rectangular plot whose perimeter is 120m is Rs. 780.  
 C. Area of a square plot with side equal to the radius of the circular plot is 196. sq.m.
- (1) A or C only                      (2) C only  
 (3) A only                      (4) B only

**Directions (Questions 110-114) :** Study the following table carefully and answer the questions given below it.

**Fare in Rupees for Three Different Types of Vehicles**

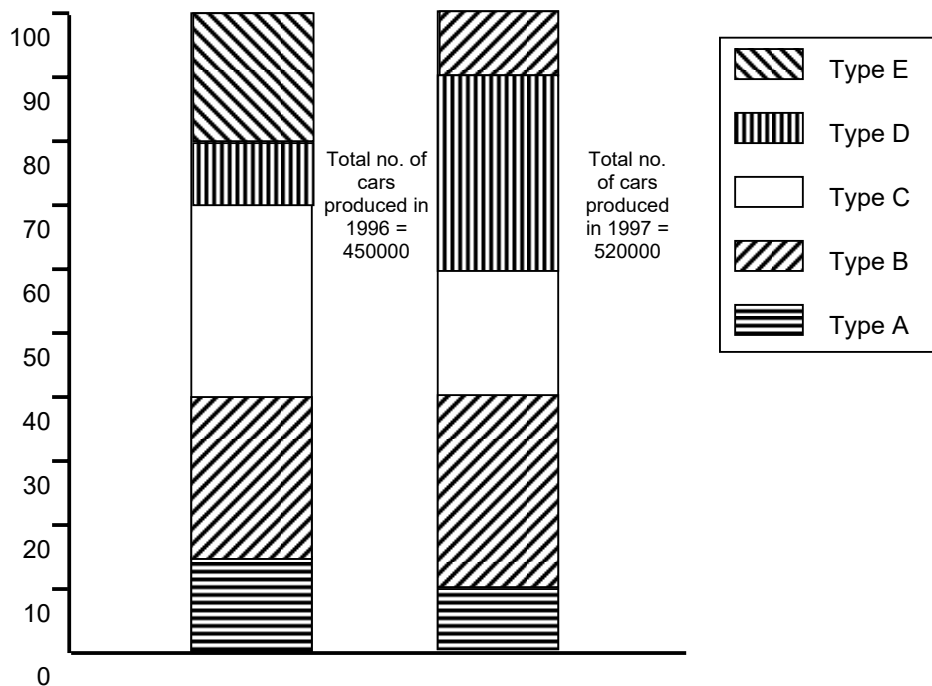
Fare for distance upto	Vehicle		
	Type A	Type B	Type C
2 km	Rs. 5.00	Rs. 7.50	Rs. 10.00
4 km	Rs. 9.00	Rs. 14.50	Rs. 19.00

7 km	Rs. 13.50	Rs. 24.25	Rs. 31.00
10 km	Rs. 17.25	Rs. 33.25	Rs. 41.50
15 km	Rs. 22.25	Rs. 45.75	Rs. 56.50
20 km	Rs. 26.00	Rs. 55.75	Rs. 69.00

**Note :** Fare per km for intervening distance is the same.

- Q110. Shiv Kumar has to travel a distance of 15km in all. He decides to travel equal distance by each of the three types of vehicles. How much money is to be spent as fare?  
 (1) Rs. 47.25 (2) Rs. 47.50  
 (3) Rs. 51.75 (4) 51.25
- Q111. Ajit Singh wants to travel a distance of 15 km. He starts his journey by Type A vehicle. After traveling 6 km, he changes the vehicle to Type B for the remaining distance. How much money will he be spending in all?  
 (1) Rs. 40.25 (2) Rs. 12.50  
 (3) Rs. 16 (4) 13.50
- Q112. Mr. X wants to travel a distance of 8 km by Type A vehicle. How much more money will be required to be spent if he decides to travel by Type B vehicle instead of Type A?  
 (1) Rs. 14 (2) Rs. 12.50 (3) Rs. 16 (4) 13.50
- Q113. Rita hired a Type B vehicle for traveling a distance of 18 km. After traveling 5 km, she charged the vehicle to Type A. Again, after traveling 9 km by Type A vehicle, she charged the vehicle to type C and completed her journey. Hoe much money did she spend in all?  
 (1) Rs. 55 (2) Rs. 45.50 (3) Rs. 50 (4) None of these
- Q114. Fare for 14<sup>th</sup> km by type C vehicle is equal to the fare for which of the following?  
 (1) type A - 4<sup>th</sup> km (2) Type B - 9<sup>th</sup> km  
 (3) type B - 11<sup>th</sup> km (4) Type C - 8<sup>th</sup> km

**Directions (Questions 115-118) :** Study the following graph carefully and then answer the questions based on it. The percentage of five different types of cars produced by a company during two years is given below.



- Q115. What was the difference in the production of C type cars between 1996 and 1997?  
 (1) 31000 (2) 7500 (3) 5000 (4) 2500
- Q116. If 85% of E type cars produced during 1996 and 1997 are being sold by the company, then how many E type cars are left unsold by the company?  
 (1) 29100 (2) 21825 (3) 142800 (4) None of these
- Q117. If the number of A type cars manufactured in 1997 was the same as that of 1996, what would have been its approximate percentage share in the total production of 1997?  
 (1) 15 (2) 13 (3) 11 (4) 9
- Q118. In the case of which of the following types of cars was the percentage increase from 1996 to 1997 the maximum?  
 (1) D (2) E (3) A (4) C

**Directions (Questions 119-120) :** The following table gives the percentage distribution of population of five states, P, Q, R, S and T on the basis of poverty line and also on the basis of sex. Study the table and answer the questions based on it.

State	Percentage of population below Poverty Line	Proportion of Males and Females	
		Below Poverty Line	Above Poverty Line
		M:F	M:F
P	35	5:6	6:7
Q	25	3:5	4:5
R	24	1:2	2:3
S	19	3:2	4:3
T	15	5:3	3:2

- Q119. What will be the number of females above poverty line in the State S if it is known that the population of State S is 7 million?  
 (1) 1.33 million (2) 2.43 million  
 (3) 3 million (4) 5.7 million
- Q120. If the male population above poverty line for State R is 1.9 million, then the total population of State R is  
 (1) 5.35 million (2) 4.85 million  
 (3) 4.5 million (4) 6.25 million

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#### INTELLIGENCE & LOGICAL REASONING

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**Directions (questions 121-126) :** Answer these questions independent of each other.

- Q121. The extent to which a society is really free can be gauged by its attitude towards artistic expression. Freedom of expression can easily be violated in even the most outwardly democratic of societies. When a government arts council withholds funding from a dance performance that its members deem “obscene”, the voices of a few bureaucrats have in fact censored the real obscenity of repression.

Which of the following, if true, would most seriously weaken the argument above?

- (1) Failing to provide financial support for a performance is not the same as actively preventing or inhibiting it.  
 (2) The term obscenity has several different definitions that should not be used interchangeably for rhetorical effect.  
 (3) Members of government arts councils are screened to ensure that their beliefs reflect those of the majority.  
 (4) The council’s decision could be reversed if the performance were altered to conform to public standards of appropriateness.

- Q122. Techniques to increase productivity in the performance of discrete tasks, by requiring less human labour in each step of the production process, are widely utilized. Consultants on productivity enhancement point out, however, that although these techniques achieve their specific goal, they are not without drawbacks. They often instill enough resentment in the workforce eventually to lead to a slowdown in the production process as a whole.

Which of the following can be reasonably inferred from the statements above?

- (1) If productivity consultants continue to utilize these techniques, complete work stoppages will eventually result.
  - (2) The fact that productivity enhancement techniques are so widely employed has led to a decline in the ability of American business to compete abroad.
  - (3) Productivity enhancement techniques do not attain their intended purpose and should not be employed in the workplace.
  - (4) Ironically, an increase in the productivity of discrete tasks may result in a decrease in the productivity of the whole production process.
- Q123. The increase in the number of newspaper articles exposed as fabrications serves to bolster the contention that publishers are more increased in boosting circulation than in printing the truth. Even minor publications have staff to check such obvious fraud.  
The argument above assumes that
- (1) fact checking is more comprehensive for minor publications than for major ones.
  - (2) everything a newspaper prints must be factually verifiable.
  - (3) newspaper stories exposed as fabrications are a recent phenomenon.
  - (4) only recently have newspapers admitted to publishing fraudulent stories intentionally.
- Q124. All German Philosophers, except for Marx, are idealists. From which of the following can the statement, above be most properly inferred?
- (1) If a German is an idealist, then he or she is a philosopher, as long as he or she is not Marx.
  - (2) Marx is the only non-German philosopher who is an idealist.
  - (3) Except for Marx, if someone is an idealist philosopher, then he or she is German.
  - (4) Aside from the philosopher Marx, if someone is a German philosopher, then he or she is an idealist.
- Q125. Recent surveys show that many people who have left medical school before graduating suffer from depression. Clearly, depression is likely to cause withdrawal from medical school.

Which of the following, if true, would most strengthen the conclusion above?

- (1) Depression is very common among management consultants who have a similarly difficult work schedule to those of many young doctors.
  - (2) About half of those who leave medical school report feeling depressed after the decision to leave.
  - (3) Many medical schools provide psychological counseling for their students.
  - (4) Medical students who have sought depression counseling due to family problems leave at a higher rate than the national average.
- Q126. A brochure for City X highlights the reasons why residents should move there rather than to other cities in the state. One reason that the brochure mentions is the relative ease of finding a job in City X, where the unemployment rate is 4.7 percent.

Which of the following statements, if true, casts the maximum doubt on the validity of the reason to move to City X mentioned above?

- (1) Other reasons to move to City X include the school system and easy access to recreational activities.
- (2) The state where City X is located has an average unemployment rate of 3.9 percent.
- (3) Most of the jobs in City X are hourly rather than salary jobs.
- (4) The national unemployment rate, calculated during the last census, is 4.3 percent.

**Directions (Questions 127-129) :** Study the following information carefully to answer these questions.

At an Electronic Data Processing Unit, five out of the eight program sets P, Q, R, S, T, U, V and W are to be operated daily. On any one day, except for the first day of a month, only three of the program sets must be the ones that were operated on the previous day. The program operating must also satisfy the following conditions:

- (i) If program P is to be operated on a day, V cannot be operated on that day.
- (ii) If Q is to be operated on a day, T must be one of the programs to be operated after Q.
- (iii) If R is to be operated on a day, V must be one of the programs to be operated after R.
- (iv) the last program to be operated on any day must be either S or U.

Q127. Which of the following could be the set of programs to be operated on the first day of a month?

- (1) T, U, R, V, S                      (2) U, Q, S, T, W
- (3) V, Q, R, T, S                      (4) Q, S, R, V, U

Q128. Which of the following is true of any day's valid program set operation?

- (1) R cannot be operated at fourth place.
- (2) Q cannot be operated at third place.
- (3) P cannot be operated at third place.
- (4) T cannot be operated at third place.

Q129. If R is operated at third place in a sequence, which of the following cannot be the second program in that sequence?

- (1) T                      (2) S                      (3) Q                      (4) U

**Directions (Questions 130-131) :** In each of the following questions, a matrix of certain characters is given. These characters follow a certain trend, row-wise or column-wise. Find out this trend and choose the missing character.

Q130.

6	6	8
5	7	5
4	3	?
120	126	320

- (1) 12                      (2) 8                      (3) 4                      (4) 16

Q131.

7B	5C	6B
3C	9B	19A
15A	17A	?

- (1) 14B                      (2) 12C                      (3) 10C                      (4) 16C

**Directions (Questions 132-134):** Read the following information to answer these questions.

The Director of a Management Institute has announced that six guest lectures on different areas like Leadership, Decision Making, Quality Circle, Motivation, Assessment Centre and Group Discussion are to be organized, one on each day from Monday to Sunday.

- (i) Motivation should be organized immediately after Assessment Centre.
- (ii) Quality Circle should be organized on Wednesday and should be followed by Group Discussion.
- (iii) Decision Making should be organized on Friday and there should be a gap of two days between Leadership and Group Discussion.
- (iv) One day there will be no lecture (Saturday is not that day), just before that day Group Discussion will be organized.



- Q132. Which of the pairs of lectures were organized on the first and the last day?  
(1) Group Discussion and Decision Making  
(2) Group Discussion and Quality Circle  
(3) Quality Circle and Motivation  
(4) None of these
- Q133. How many lectures are organized between Motivation and Quality Circle?  
(1) Three (2) Two (3) One (4) Four
- Q134. Which day will the lectures on Leadership be organized?  
(1) Friday (2) Wednesday (3) Tuesday (4) None of these

**Directions (Questions 135-138) :** These questions are based on the context given below.

Following are the conditions of promotion from Junior Officer's Cadre to Senior Officer's Cadre in an organization. The Candidate must

- (1) have completed at least 5 years in the organization.
- (2) have secured 65% marks in the written test for promotion.
- (3) have secured 60% marks in the Group Discussion.
- (4) have secured 70% marks in the interview.
- (5) have good record of his work performance.
- (6) have good communication skill and get along well with his colleagues.
- (7) not be more than 40 years and less than 30 years as on 1-9-2003.
- (8) have good academic record with an average of at least 65% marks.

However, in the case of a candidate who

- (9) satisfies all other conditions except (4) above but has secured 75% marks in the written test and 65% marks in the Group Discussion, the case is to be referred to the General Manager (Personnel)-GM (P) for the decision.
- (10) satisfies all other criteria except (8) above but secured an average of more than 60% marks, the case is to be referred to the Managing Director (MD) of the organization.

Now read the information provided in the case of each candidate in each of the questions given below and decide on the basis of the information provided and based on the above conditions, which of the courses of action you would suggest. These cases are given to you as on 5.9.2003. You are not to assume anything.

- (1) if the case is to be referred to MD.
- (2) if the candidate is not to be promoted.
- (3) if the candidate is to be promoted.
- (4) if the case is to be referred to GM(P).

- Q135. 33 years old Renu has a good academic record with an average of 68% marks and has good communication skill. She has completed six years in the organization. She has secured 63% marks in Group Discussion, 71% marks in interview and 68% marks in written test for promotion. She gets along well with her colleagues and has good record of her work performance.
- Q136. Venkatesh, who is 38 years old, has good academic record with an average of 61% marks. He has secured 65% marks in the written test for promotion, 72% marks in interview and 63% marks in Group discussion. He has good communication skill and gets along well with his colleagues. He has good record of his work performance and has completed 7 years in the organization.
- Q137. 34 years old Madhu has secured 60% marks in written promotion test, 72% marks in interview and 69% marks in Group Discussion. She has good communication skill and gets along well with her colleagues. Her record of work performance is good and she has completed 6 ½ years in the organization.
- Q138. Tarun has completed 6 years in the organization. He is 34 years old and has a good academic record with an average of 68% marks. He has secured 66% marks in Group

Discussion, 67% marks in interview and 76% marks in the written test for promotion. He has good communication skill, gets along well with his colleagues and his work performance is good.

**Directions (Questions 139-141) :** Refer to the following data and answer the questions that follow.

There is an empty three-shelf bookcase. T, U, V, W, X, Y and Z are seven objects to be placed either on the lower middle or top shelf of the bookcase with the following conditions:

- (i) At least two objects should be on the top shelf.
- (ii) There should be no more than four objects on any shelf.
- (iii) T and U should be on different shelves.
- (iv) V is to be either on one shelf or two shelves above the shelf where X is placed.
- (v) W is to be either on one shelf or two shelves above the shelf that X is on.

Q139. If V and w are the only two objects on one of the shelves and four objects are on the middle shelf, which of the following must be true?

- (1) Y is on the top shelf.
- (2) U is on the bottom shelf
- (3) T is on the middle shelf
- (4) Z is on the middle shelf

Q140. If all the seven objects are on two shelves, which of the following must be true?

- (1) T, V and W are on the top shelf.
- (2) No more than three objects are on the middle shelf.
- (3) At least three objects are on the top shelf.
- (4) U is on the top shelf.

Q141. If V and T are the only objects on one of the shelves, which of the following must be true?

- (1) U is either on the middle or top shelf.
- (2) X is on the bottom shelf.
- (3) W is on the top shelf.
- (4) If Y is on the bottom shelf, Z is on the middle shelf.

**Directions (Questions 142-143) :** In each of these questions select the alternative which will come in place of (?)

Q142. Computer : fqprxvht : : Language : ?

- (1) ocqixcjg
- (2) ocqicyig
- (3) oxpidxig
- (4) ocqixcig

Q143. BLOCKED : YOLXPVW : : ? : OZFMXS

- (1) LABOR
- (2) RESULT
- (3) DEVATE
- (4) LAUNCH

**Directions (Questions 144-146) :** In each of these questions, there is a statement followed by three courses of action numbered I, II and III. Assuming everything in the statement to be true, which of the three courses of action is logical to follow?

Q144. **Statement :** Lack of coordination University, its colleges and various authorities has resulted in students ousted from one college seeking migration to another.

**Course of action :**

- I. If a student is ousted from a college, the information should be sent to all other colleges of the University.
- II. The admission to all colleges of the University should be centralized at the University.
- III. A separate section should be created for taking action against students indulging in anti-social activities.

- (1) Only III follows
- (2) Only II follows
- (3) Only I follows
- (4) Only II and III follow

Q145. **Statement :** Faced with a source crunch and a depression overall economic scenario, State Y is unlikely to achieve the targeted per cent compound growth rate during the 9<sup>th</sup> Plan.

**Course of action :**

I. The targeted growth plan should be reduced for the 10<sup>th</sup> plan.

II. The reasons for the failure should be studied.

III. The performance of State 'Y' should be compared with other states.

(1) Only II and III follow

(2) Only I and II follow

(3) Only I follows

(4) All follow

Q146. **Statement :** The weather bureau has through a recent bulletin forecast heavy rainfall during the next week which may cause water logging in several parts of the city.

**Course of action :**

I. The bulletin should be widely publicized.

II. The civic authority should be kept in readiness for removal of water from waterlogged parts.

III. The people should be advised to stay indoors during the period.

(1) Only I and II follow

(2) Only II and III follow

(3) Only II follow

(4) None follows

**Directions (Questions 147-148) :** In each of these questions, there are four choices. Three of them are alike in some respect and one is different. Find the odd one out.

Q147. (1) 41, 5, 3, 47

(2) 37, 14, 19, 7

(3) 11, 3, 3, 17

(4) 67, 71, 3, 5

Q148. (1) G T I R E

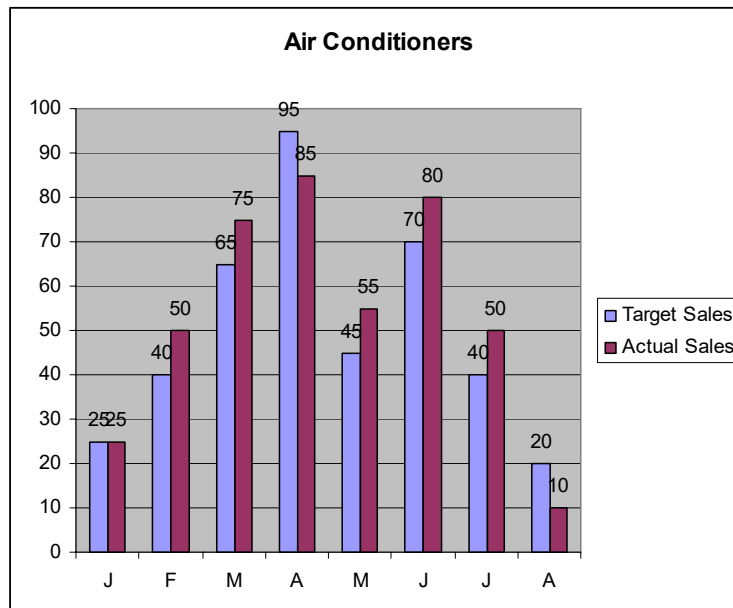
(2) B R T B I A

(3) S H E O R

(4) C C K P O E A

**Directions (Question 149) :** Study the graph given below to answer the question.

A company manufacturing air-conditions has set a monthly target. The target and realized values are shown in the bar chart.



**Consider the following statements based on the chart.**

A. The target sales on the monthly basis have been achieved.

B. The overall target value has been exceeded by 7.5%.

C. The sales department deserves a pat on the back.

Q149. Which of the above statement is/are correct?

- (1) A and B (2) B alone  
(3) A alone (4) B and C

**Directions (Questions 150-151) :** Study the information given below and answer the questions that follow

The BSNL announced a cut in the STD rates on 27 December 2003. The new rates and slabs are given in the table below and are to be implemented from the 14 January 2004.

Rates (Rs./min)				
Distance (km)	Peak Rates		Off Peak	
	Old	New	Old	New
50-200	4.8	2.4	1.2	1.2
200-500	11.6	4.8	3	2.4
500-1000	17.56	9.00	4.5	4.5
1000+	17.56	9.00	6	4.5

Q150. The maximum percentage reduction in costs will be experienced for calls over which of the following distances?

- (1) 1000+ (2) 500-1000 (3) 50-200 (4) 200-500

Q151. The percentage difference in the cost of a set of telephone calls made on the 13<sup>th</sup> and 14<sup>th</sup> January having durations of 4 minutes over a distance of 350 km, 3 minutes for a distance of 700 km and 3 minutes for a distance of 1050 km is (if all the three calls are made in peak times)

- (1) 59.8% (2) 51.76% (3) 41.2% (4) Cannot be determined

**Directions (Questions 152-153) :** Study the following and answer the questions that follow :

A gas cylinder can discharge gas at the rate of 1 cc/minute from burner A and at the rate of 2 cc/minute from burner B (maximum rates of discharge). The capacity of the gas cylinder is 1000 cc of gas. The amount of heat generated is equal to 1 kcal/cc of gas. However, there is wastage of the heat as per the following table :

Gas discharge @	Loss of heat
0-0.5 cc/minute	10%
0.5-1 cc/minute	20%
1-1.5 cc/minute	25%
1.5 + cc/minute	30%
(include higher extremes)	

Q152. If both burners are opened simultaneously such that the first is opened to 90% of its capacity and the second is opened to 80% of its capacity, the amount of time in which the gas cylinder, the amount of time in which the gas cylinder will be empty (if it was half full at the start) will be

- (1) 200 minutes (2) 400 minutes (3) 250 minutes (4) None of these

Q153. The maximum amount of heat with the fastest speed of cooking that can be utilized for cooking will be when

- (1) the first burner is opened upto 50% of its aperture  
(2) the second burner is opened upto 25% of its aperture  
(3) Either (1) or (2) (4) None of these

**Direction for (Questions 154 and 155) :** Study the following information and answer the questions given below it.

The admission ticket for an exhibition bears a password which is changed after every clock hour based on a set of words chosen for each day. The following is an illustration of the code and steps of rearrangement for subsequent clock hours. The time is 9 am. To 3 PM.

Day's first password : First Batch - 9 a.m. to 10 a.m. is not ready cloth simple harmony burning  
Second Batch - 10 a.m. to 11 a.m. ready not is cloth burning harmony simple  
Third Batch - 11 a.m. to 12 noon cloth is not ready simply harmony burning  
Fourth Batch - 12 noon to 1 p.m. not is cloth ready burning harmony simple  
Fifth Batch - 1 p.m. to 2 p.m. ready cloth is not simple harmony burning and so on.

Q154. If the password for the first batch was - "rate go long top we let have", which batch will have the password-"go rate top long have let we"?  
(1) Fourth (2) Third (3) Second (4) Fifth

Q155. Day's first password - "camel road no toy say me not". What will be the password for the fourth batch i.e. 12 noon to 1 p.m.  
(1) toy no road camel not me say  
(2) no road camel toy not me say  
(3) road camel toy no not me say  
(4) toy camel road no say me not

**Directions (Questions 156-157) :** Study the information given below carefully and answer the questions that follow.

On a playing ground, Dinesh, Kunal, Nitin, Atul and Prashant are standing as described below facing the North.

- (i) Kunal is 40 metres to the right of Atul.
- (ii) Dinesh is 60 metres to the south of Kunal.
- (iii) Nitin is 25 metres to the west of Atul.
- (iv) Prashant is 90 metres to the north of Dinesh.

Q156. Who is to the north-east of the person who is to the left of Kunal?  
(1) Atul (2) Nitin (3) Dinesh (4) None of these

Q157. If a boy walks from Nitin, meets Atul followed by Kunal, Dinesh and then Prashant, now many metres has he walked if he has traveled the straight distance all through?  
(1) 215 metres (2) 185 metres (3) 155 metres (4) 245 metres

**Directions (Questions 158-160) :** Answer these questions independent of each other.

Q158. If MACHINE is coded as 19-7-9-14-15-20-11, now will you code DANGER?  
(1) 13-7-20-9-11-25 (2) 11-7-20-16-11-24  
(3) 10-7-20-13-11-24 (4) 13-7-20-10-11-25

Q159. Pointing to a photograph, a lady tell Pramod, "I am the only daughter of this lady and her son is your maternal uncle." How is the speaker related to Pramod's father?  
(1) Sister-in-law (2) Wife (3) Either (1) to (2) (4) Neither (1) nor (2)

Q160. If  $P + Q$  means P is the husband of Q;  $P \div Q$  means P is the sister of Q and  $P \times Q$  means P is the son of Q, which of the following shows A is the daughter of B?  
(1)  $D \times B + C \div A$  (2)  $B + C \times A$  (3)  $C \times B \div A$  (4)  $A \div D \times B$

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**INDIAN & GLOBAL ENVIRONMENT**

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Q161. Ken-Betwa Link Project which will enable diversion of surplus water pertains to which two states?  
(1) Punjab & Haryana (2) MP and UP (3) UP and Bihar (4) UP and MP

- Q162. For this outstanding contribution, this person was awarded the nation's highest honour in Indian cinema i.e. Dada Phalke Award for 2004.  
(1) Lata Mangeskar (2) Dev Anand  
(3) Adoor Gopalakrishnan (4) None of these
- Q163. How is the erstwhile Burmah Shell Group of companies that was taken over by the Government of India in 1976 known today?  
(1) IBP (2) Bharat Petroleum Corporation Ltd.  
(3) Indian Oil (4) Hindustan Petroleum
- Q164. Traditionally, who is the Chairman of the Planning Commission in India.  
(1) Commerce Minister (2) Finance Minister  
(3) Vice President of India (4) None of these
- Q165. Ad line 'Total Control' is associated with which tyre company?"  
(1) MRF (2) Bridgestone (3) JK Tyre (4) Dunlop
- Q166. Which is not a neighbouring state of Chhattisgarh?  
(1) Maharashtra (2) Bihar (3) Orissa (4) Andhra Pradesh
- Q167. Which Indian Group had taken over Videsh Sanchar Nigam Ltd. (VSNL)?  
(1) Reliance Group (2) Tata Group (3) Aditya Birla Group (4) Modi Group
- Q168. Who was the Co-founder and CEO of Apple Computers?  
(1) Sabeer Bhatia (2) S.P.Jobs (3) Bill Gates (4) None of these
- Q169. Which one of the following banks is not the sponsor of Unit Trust of India?  
(1) Bank of Baroda (2) Bank of India  
(3) Punjab National Bank (4) State Bank of India
- Q170. Who lost in the final of US open Women's singles event in 2005?  
(1) Elena Dementieva (2) Lisa Raymond (3) Kim Clijsters (4) None of these
- Q171. Which is our country's highest peace-time gallantry award?  
(1) Kirti Chakra (2) Vir Chakra (3) Ashok Chakra (4) Mahavir Chakra
- Q172. Kiran Kher is a well-known  
(1) Actress (2) Musician (3) Sportsperson (4) Painter
- Q173. Hargobind Khorana was awarded Nobel Prize for  
(1) Physics (2) Medicine (3) Economics (4) Chemistry
- Q174. The famous novel "The Alchemy of Desire" has been written by  
(1) Dom Moraes (2) Vikram Seth (3) Khushwant Singh (4) Tarun J. Tejpal
- Q175. Which musical instrument does Amjed Ali Khan play?  
(1) Sarod (2) Sitar (3) Santoor (4) Shehnai
- Q176. What is the capital of Senegal?  
(1) Victoria (2) Freetown (3) Dakar (4) None of these
- Q177. National Chemical Laboratory is located at  
(1) Pune (2) Mysore (3) New Delhi (4) Bangalore
- Q178. 'Victor' motorbike models have been launched by which company?  
(1) Yamaha (2) Hero (3) Honda (4) TVS
- Q179. Jeeva Mikha Singh is associated with which sport?  
(1) Golf (2) Athletics (3) Hockey (4) Football

- Q180. Tagline 'Empowering people' is linked with which brand?  
(1) Compaq (2) HCL (3) Acer (4) Wipro
- Q181. This country has recently emerged as the second-most preferred destination in textiles?  
(1) China (2) Sweden (3) Italy (4) India
- Q182. Javed Ali is a well-known  
(1) Sports person (2) Singer (3) Painter (4) Politician
- Q183. Sikkim has international borders with which country?  
(1) Bhutan (2) Nepal (3) China (4) All the above
- Q184. Which was the first Indian private sector company to feature on *Fortune* magazine's Global 500 list?  
(1) Infosys (2) Reliance Industries Ltd (3) TCS (4) Wipro
- Q185. Who is the youngest M.P. in the 14<sup>th</sup> Lok Sabha?  
(1) Rahul Gandhi (2) Sandeep Dixit  
(3) Sachin Pilot (4) Jyotiraditya Scindia
- Q186. Which is the smallest state in India?  
(1) Tripura (2) Manipur (3) Goa (4) None of these
- Q187. India has been a member of the UN since  
(1) 1947 (2) 1946 (3) 1945 (4) 1950
- Q188. In India, Diesel Locomotive Engines are designed at  
(1) Jamalpur (2) Jamshedpur (3) Chennai (4) Varanasi
- Q189. Which country has won World Cup Football for the maximum number of times?  
(1) West Germany (2) Brazil (3) Italy (4) Argentina
- Q190. How many International Grand-Masters of chess are there in India?  
(1) 6 (2) 9 (3) 10 (4) 7
- Q191. Who was the first Indian to play in 100 Test matches?  
(1) S.Gavaskar (2) Kapil Dev (3) S.Venkatraghavan (4) None of these
- Q192. Which Indian state is renowned for the Madhubani style of painting?  
(1) Chhattisgarh (2) Jharkhand (3) Orissa (4) Bihar
- Q193. Who is the first person of Indian origin to win the Booker Prize?  
(1) Salman Rushdie (2) Arundhati Roy (3) V.S.Naipaul (4) Jhumpa Lahiri
- Q194. UN Day is observed on which date?  
(1) 20 September (2) 24 October (3) 20 October (4) 14 November
- Q195. Mahatma Gandhi was awarded Bharat Ratna in which year?  
(1) 1957 (2) 1955 (3) 1954 (4) None of these is true
- Q196. Which of the following countries is not a member of G-8 Group?  
(1) Japan (2) China (3) Russia (4) Canada
- Q197. In which state is the National Institute of Oceanography located?  
(1) Tamil Nadu (2) Kerala (3) Goa (4) Orissa
- Q198. Amitabh Bachchan does not figure in the advertising campaign of this Dabur product?  
(1) Chyawanprah (2) Hajmola (3) Pundin Hara (4) Amla Hair Oil
- Q199. Which channel claims that it is the World's greatest movie channel?



(1) AXN      (2) HBO      (3) Zee Cinema      (4) Star Movies

Q200. Which is the top country in cotton production?

(1) Pakistan      (2) USA      (3) India      (4) China

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### ANSWER KEYS

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1.	(4)	58.	(2)	115.	(1)	172.	(1)
2.	(1)	59.	(4)	116.	(4)	173.	(2)
3.	(1)	60.	(2)	117.	(2)	174.	(4)
4.	(4)	61.	(3)	118.	(1)	175.	(1)
5.	(2)	62.	(4)	119.	(2)	176.	(3)
6.	(4)	63.	(1)	120.	(4)	177.	(1)
7.	(1)	64.	(2)	121.	(1)	178.	(4)
8.	(2)	65.	(2)	122.	(4)	179.	(1)
9.	(3)	66.	(2)	123.	(2)	180.	(3)
10.	(1)	67.	(4)	124.	(4)	181.	(4)
11.	(4)	68.	(3)	125.	(3)	182.	(2)
12.	(2)	69.	(3)	126.	(2)	183.	(4)
13.	(2)	70.	(2)	127.	(1)	184.	(2)
14.	(2)	71.	(3)	128.	(1)	185.	(3)
15.	(2)	72.	(1)	129.	(3)	186.	(3)
16.	(4)	73.	(2)	130.	(2)	187.	(3)
17.	(2)	74.	(3)	131.	(4)	188.	(4)
18.	(3)	75.	(2)	132.	(4)	189.	(2)
19.	(2)	76.	(2)	133.	(1)	190.	(3)
20.	(1)	77.	(3)	134.	(4)	191.	(1)
21.	(3)	78.	(3)	135.	(3)	192.	(4)
22.	(2)	79.	(4)	136.	(1)	193.	(3)
23.	(4)	80.	(3)	137.	(2)	194.	(2)
24.	(3)	81.	(1)	138.	(4)	195.	(4)
25.	(1)	82.	(3)	139.	(4)	196.	(2)
26.	(3)	83.	(1)	140.	(3)	197.	(3)
27.	(4)	84.	(3)	141.	(2)	198.	(1)
28.	(1)	85.	(3)	142.	(1)	199.	(4)
29.	(2)	86.	(3)	143.	(4)	200.	(4)
30.	(2)	87.	(2)	144.	(3)		
31.	(4)	88.	(1)	145.	(2)		
32.	(3)	89.	(3)	146.	(2)		
33.	(3)	90.	(4)	147.	(2)		
34.	(4)	91.	(4)	148.	(2)		
35.	(1)	92.	(1)	149.	(2)		
36.	(1)	93.	(2)	150.	(3)		
37.	(1)	94.	(4)	151.	(2)		
38.	(3)	95.	(4)	152.	(1)		
39.	(2)	96.	(4)	153.	(3)		
40.	(3)	97.	(2)	154.	(1)		
41.	(4)	98.	(1)	155.	(3)		
42.	(4)	99.	(3)	156.	(4)		
43.	(2)	100.	(2)	157.	(1)		
44.	(4)	101.	(3)	158.	(3)		
45.	(1)	102.	(4)	159.	(2)		
46.	(3)	103.	(4)	160.	(4)		
47.	(1)	104.	(2)	161.	(2)		
48.	(4)	105.	(3)	162.	(3)		
49.	(2)	106.	(2)	163.	(2)		
50.	(2)	107.	(4)	164.	(4)		
51.	(2)	108.	(3)	165.	(3)		
52.	(4)	109.	(1)	166.	(2)		
53.	(4)	110.	(4)	167.	(2)		
54.	(4)	111.	(3)	168.	(2)		
55.	(4)	112.	(2)	169.	(2)		
56.	(4)	113.	(4)	170.	(4)		
57.	(4)	114.	(2)	171.	(3)		