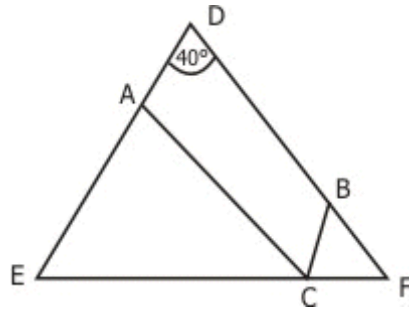


# CAT 2001

## SECTION I Number of questions 50

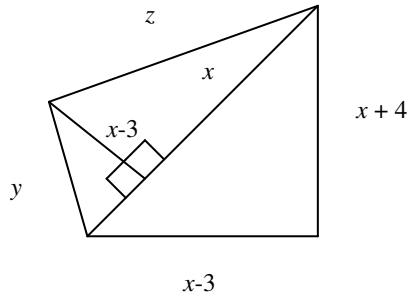
- A boy appears for 5 papers, each of the same number of maximum marks. He scores in each of the papers in the ratio of 6: 7: 8: 9: 10. If his average score in all the five papers together was 60%, then in how many papers did he get more than 50% marks ?  
1. 2                                      2. 3                                      3. 4                                      4. 5
- A square of side 2 m is made to form an octagon by chipping off triangular portions from its sides. If the octagon so formed is regular in nature, then the side of the octagon is:  
1.  $\sqrt{2}/(\sqrt{2} + 1)$                       2.  $2/(\sqrt{2} + 1)$                       3.  $\sqrt{2}/(\sqrt{2} - 1)$                       4.  $2/(\sqrt{2} - 1)$
- Numbers  $x$  and  $y$  are positive and odd, and the number  $z$  is also positive but even. Then which of the following is not true?  
1.  $(x - z)^2 y$  is even                      2.  $(x - z) y$  is odd                      3.  $(x - z) y^2$  is odd                      4.  $(x - y)^2 z$  is even
- If  $x > 5$  and  $y < -1$ , then which of the following statement is true?  
1.  $x > -4y$                                       2.  $x + 4y > 1$                                       3.  $-4x < 5y$                                       4. None of these
- There are 2 lights, one red and the other green. The red one flashes 3 times every minute and the green one flashes 5 times every two minutes. If the lights start flashing together, then the total number of times both will have flashed together in an hour is  
1. 30                                      2. 24                                      3. 48                                      4. None of these
- There are in all 128 boxes of Oranges. Each contains at least 120 Oranges and a maximum of 144 Oranges. Then the minimum number of boxes that will have the same number of Oranges is  
1. 5                                      2. 103                                      3. 3                                      4. 6
- If the 9th of Dec 2001 is a Sunday, then what day was it on the 9th of Dec 1971?  
1. Wednesday                                      2. Tuesday                                      3. Saturday                                      4. Thursday
- There are four gates for a circular compound having a wall around it. The four gates are in the North, South, East and the West directions. A house lying outside the compound, 3 km directly in line of the gate in the North, is just visible when we move 9 km to the east from the gate in the South. Then the diameter of the compound wall is :  
1. 6 km                                      2. 9 km                                      3. 12 km                                      4. None of these
- A rectangular pool is 20 m wide and 60 m long. Around it is a walkway of uniform width. If the area of this walkway is 516 sq m, what is the width of the walkway?  
1. 43 m                                      2. 4.3 m                                      3. 3 m                                      4. 3.5 m
- Manisha has to multiply 2 numbers together, but she uses 35 instead of 53 in this product, and finds that the product has increased by 540. What is this increased product?  
1. 1050                                      2. 540                                      3. 1440                                      4. 1590

11. In the triangle DEF above,  $EC = AC$ ,  $CF = BC$ . Angle  $D = 40^\circ$ . What is the measure of  $\angle ACB$ ?



1.  $140^\circ$                       2.  $70^\circ$                       3.  $100^\circ$                       4. None of these
12. 2 friends X and Y both start their employment on the 1st Jan 1950. X starts off with an initial salary of Rs. 300 per month and with an annual increment of Rs. 30 per month. Y starts off with an initial salary of Rs. 200 per month but with six monthly increments of Rs. 15. All salaries are given on the last day of the calendar month. What is the total salary drawn by X and Y till the 31st of Dec 1959?
1. Rs. 93,300                      2. Rs. 93,200                      3. Rs. 93,100                      4. None of these
13. In a 4-digit number, the sum of the first two digits is equal to that of the last two digits. The sum of the first and last digits is equal to the third digit. Finally the sum of the second and fourth digits is twice the sum of the other two digits. What is the third digit of the number ?
1. 5                                      2. 8                                      3. 1                                      4. 4
14. Euclid has just created a triangle whose longest side is 20. If the length of the other side is 10 cm and the area of the triangle is 80 sq. cm, then what is the length of the longest side?
1.  $\sqrt{260}$                               2.  $\sqrt{250}$                               3.  $\sqrt{240}$                               4.  $\sqrt{270}$
15. All the page numbers of the pages of a book are added up to 1000, but there is a mistake committed during this addition. One page is counted twice. What is the page number of the page counted twice?
1. 44                                      2. 45                                      3. 10                                      4. 12
16. A college has to finance its new project by way of donations. It gets 75% of the money required by collecting Rs. 600 each from 60% of the population they expect to donate the money. What will be the per head contribution that will be required from the remaining people ?
1. Rs 300                                      2. Rs 250                                      3. Rs 400                                      4. Rs 500
17. A ladder leans against a vertical wall. The top of the ladder is 8m above the ground. When the bottom of the ladder is moved 2 m farther away from the wall, the top of the ladder rests against the foot of the wall. What is the length of the ladder?
1. 10 m                                      2. 15 m                                      3. 20 m                                      4. 17 m
18.  $m$  is the smallest positive integer such that  $n > m$ . Also if it is known that  $n^3 - 7n^2 + 11n - 5$  is positive, then the possible value of  $m$  is:
1. 4                                      2. 5                                      3. 8                                      4. None of these

19. Based on the figure below, what is the value of  $x$ , if  $y = 10$ ?



1. 10                      2. 11                      3. 12                      4. None of these

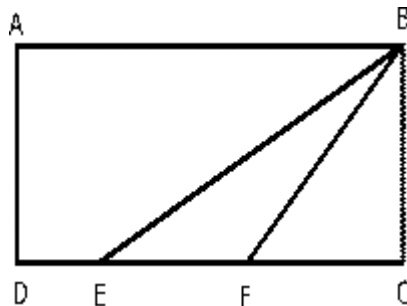
20. Three Maths classes : X, Y, and Z, take an algebra test.

The average score in class X is 83.  
 The average score in class Y is 76.  
 The average score in class Z is 85.  
 The average score of all students in classes X and Y together is 79.  
 The average score of all students in classes Y and Z together 81.

What is the average for all the three classes ?

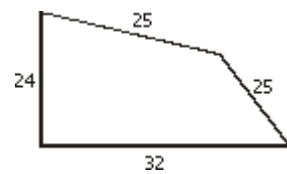
1. 81                      2. 81.5                      3. 82                      4. 84.5

21. In the rectangle above ABCD,  $DE = EF = FC$ . What is the ratio of the area of triangle BEF to the area of rectangle ABCD?



1.  $1/6$                       2.  $1/8$                       3.  $1/9$                       4. None of these

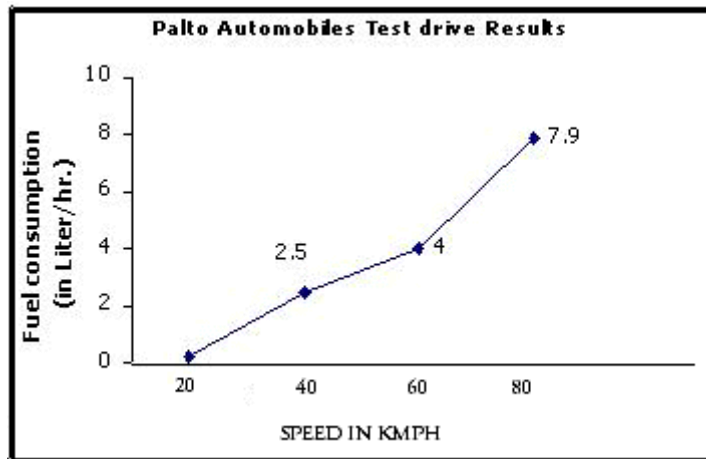
22. Two sides of plot measure 32 meters and 24 meters and the angle between them is a perfect right angle. The other two sides measure 25 meters each and the other three angles are not right angles. What is the area of the plot in  $m^2$ ?



1. 768                      2. 534                      3. 696.5                      4. 684

23. Three friends, returning from a movie, stopped to eat a restaurant. After dinner, they paid their bill and noticed a bowl of mints at the front counter. Sita took  $\frac{1}{3}$  of the mints, but returned four because she had a momentary pang of guilt. Fatima then took  $\frac{1}{4}$  of what was left but returned three for similar reasons. Eswari then took half of the remainder but threw two back into the bowl. The bowl had only 17 mints left when the raid was over. How many mints were originally in the bowl ?
1. 38                                      2. 31                                      3. 41                                      4. None of these
24.  $x$  and  $y$  are both greater than 0. Also the sum of  $x$  and  $y$  is 1. What is the minimum value of  $(x + (1/x))^2 + (y + (1/y))^2$ ?
1. 12                                      2. 20                                      3. 12.5                                      4. 13.3
25. A finishes a piece of work in 4 days. B takes double the time of A. C takes double the time of B and D takes double the time of C. The four of them are grouped into 2 pairs. One pair takes  $\frac{2}{3}$ rd the time needed by the second pair. Who are the members of the first pair?
1. A, B                                      2. A, C                                      3. B, C                                      4. A, D
26. In a race A beats B by 12 metres and C by 18 metres. In another race of same length B beats C by 8 meters. The speed of A, B & C remain constant. Then length of the track in metres is:
1. 48                                      2. 36                                      3. 72                                      4. 60

**DIRECTIONS for questions 27 – 28:** Manasa is going from Mumbai to Pune which are 200 km apart at the speed of 60 kmph.



27. How much fuel would be required for the journey in litres ?
1. 13.33                                      2. 12.5                                      3. 14.60                                      4. None of these
28. Manasa wants to reduce the fuel consumption, then which of the following should she do ?
1. Increase the speed from 60 kmph                                      2. Decrease the speed from 60 kmph  
 3. Maintain the speed at 60 kmph                                      4. Cannot be determined

29. Shyama and Vyom walk up an escalator (moving stairway). The escalator moves at a constant speed. Shyama takes three steps for every two of Vyom's steps. Shyama gets to the top of the escalator after having taken 25 steps, while Vyom (because his slower pace lets the escalator do a little more of the work) takes only 20 steps to reach the top. If the escalator were turned off, how many steps would they have to take to walk up?
1. 44                      2. 50                      3. 60                      4. 80
30. At a certain fast food restaurant, Brian can buy 3 burgers, 7 shakes, and one order of french fries for Rs. 120 exactly. At the same place it would cost Rs. 164.5 for 4 burgers, 10 shakes, and one order of french fries. How much would it cost for ordinary meal of one burger, one shake, and one order of french fries?
1. Rs. 31                      2. Rs. 41                      3. Rs 21                      4. None of these
31.  $a, b, c$  and  $d$  are 4 positive and real numbers. The product of  $abcd$  is 1. What is the minimum value of  $(1+a)(1+b)(1+c)(1+d)$ ?
1. 4                      2. 1                      3. 16                      4. 18
32. There's a lot of work in preparing a birthday dinner. Even after the turkey is in the oven, there's still the potatoes and gravy, yams, salad, and cranberries, not to mention setting the table. Three friends, Asit, Arnold and Afzal, work together to get all of these chores done. The time it takes them to do the work together is six hours less than Asit would have taken working alone, one hour less than Arnold would have taken alone, and half the time Afzal would have taken working alone.
- How long did it take them to complete the chores working together?
1. 20 minutes                      2. 30 minutes                      3. 40 minutes                      4. 50 minutes
33. Rohit is rowing his boat in the river. He takes 6 hours less for rowing downstream than for rowing upstream in a trip that is 12 miles one way. If his rowing rate is doubled, then he takes 1 hour less for rowing downstream than for rowing upstream. What is the speed of the current of the river in miles/h?
1.  $7/3$                       2.  $4/3$                       3.  $5/3$                       4.  $8/3$
34. Fresh Grapes contain 90 % water by weight. Dried grapes contain 20 % water by percentage. What will be the weight of dried grapes, when we begin with 20 kg. of fresh grapes?
1. 2 kg                      2. 2.4 kg                      3. 2.5 kg                      4. None of these
35. A Fibonacci series of numbers is one in which any number in the sequence is the sum of the previous two terms. The first two terms for such a sequence are determined arbitrarily. In a particular Fibonacci sequence of numbers, the difference between the squares of the seventh and the sixth terms is 517. What is the value of the 10th term?
1. 147                      2. 76                      3. 123                      4. None of these

36. Owner of an art shop on a regular basis keeps on increasing the prices of all the products by  $x\%$ , then after some time, he will reduce the prices by  $x\%$ . This constitutes his one cycle. At the end of one cycle the price of a painting reduced by Rs. 441, and at the end of second such cycle he sold it at a price of Rs. 1944.81. Then the original price of the painting in Rs. is :
1. 2756.25                      2. 2256.25                      3. 2500                      4. 2000
37. In the latest census of two villages Chhota Shahar and Motha Shahar, the following statistics were observed. The number of males in Chhota Shahar were more than the corresponding number of males in Motha Shahar by 4522. The number of females in Motha Sshahar were more than the number of males in Motha Shahar by 4020. The number of females in Chhota Shahar were double the number of males in Motha Shahar. The number of females in Chhota Shahar were 2910 less than the number of females in Motha Shahar. How many males were there in Chhota Shahar?
1. 11,264                      2. 14,174                      3. 5,632                      4. 10,154
38.  $x$  and  $y$  are real numbers such that,  $2 < x < 3$  and  $-8 < y < -7$ . Which of the following expressions will have the least value?
1.  $(x^2)y$                       2.  $xy^2$                       3.  $5xy$                       4. None of these
39. Two trains run between the stations of A and B, which are 180 km apart. X and Y start simultaneously from A and B at 11 am and move towards each other. X runs nonstop between A and B at the speed of 70 km/h. Y runs at 50 kmph, but stops for 15 minutes at C, which is 60 km from B. At what distance from A do the trains X and Y cross each other?
1. 112 km                      2. 118 km                      3. 120 km                      4. None of these
40. There are coins of denomination 1 Re, 2 Rs, & 5 Rs. There total number is 300. Total amount is Rs. 960. When the number of 1 Re. & 2 Rs. coins are interchanged, the total value is decreased by Rs. 40. The total number of 5 Rs. coins are :
1. 100                      2. 140                      3. 60                      4. 150
41. In a certain number system, the product of 44 and 11 is 1034. What is 3111 of this particular number system in the decimal system?
1. 406                      2. 1086                      3. 213                      4. 691
42. One rupee coins worth Rs. 158 are put into separate bags, such that any amount between Rs. 1 and Rs. 158 can be handed over without having to open any of the bags to remove coins. What are the total number of bags required for this?
1. 11                      2. 12                      3. 13                      4. None of these
43.  $a = b^2 - b$ ;  $b \geq 4$ ;  $a^2 - 2a$  is divisible by
1. 15                      2. 20                      3. 24                      4. None of these
44. How many 5 digit number can be formed from the digits 1, 2, 3, 4, 5, 6 which are divisible by 4 and digits are not repeated ?
1. 144                      2. 168                      3. 192                      4. 186



49. A set of consecutive positive integers beginning with 1 is written on the blackboard. A student came along and erased one number. The average of the remaining numbers is  $35 \frac{7}{17}$ . What was the number erased?

1. 7                              2. 8                              3. 9                              4. None of these

50. In some code, letters  $a$ ,  $b$ ,  $c$ ,  $d$  and  $e$  represents numbers 2, 4, 5, 6 and 10. We just don't know which letter represents which number. Consider the following relationships:

- i)  $a + c = e$ ,              ii)  $b - d = d$ , and              iii)  $e + a = b$

Which statement below is true?

1.  $b = 4, d = 2$               2.  $a = 4, e = 6$               3.  $b = 6, e = 2$               4.  $a = 4, c = 6$

***End of Section I***



**SECTION II**  
**Number of questions 50**

**PASSAGE I**

In the modern scientific story, light was created not once but twice. The first time was in the Big Bang, when the universe began its existence as a glowing, expanding, fireball, which cooled off into darkness after a few million years. The second time was hundreds of millions of years later, when the cold material condensed into dense nuggets under the influence of gravity, and ignited to become the first stars.

Sir Martin Rees, Britain's astronomer royal, named the long interval between these two enlightenments, the cosmic "Dark Age". The name describes not only the poorly lit conditions, but also the ignorance of astronomers about that period. Nobody knows exactly when the first stars formed, or how they organised themselves into galaxies - or even whether stars were the first luminous objects. They may have been preceded by quasars, which are mysterious, bright spots found at the centres of some galaxies.

Now, two independent groups of astronomers, one led by Robert Becker of the University of California, Davis, and the other by George Djorgovski of the Caltech, claim to have peered far enough into space with their telescopes (and therefore backwards enough in time) to observe the closing days of the Dark Age.

The main problem that plagued previous efforts to study the Dark Age was not the lack of suitable telescopes, but rather the lack of suitable things at which to point them. Because these events took place over 13 billion years ago, if astronomers are to have any hope of unravelling them they must study objects that are at least 13 billion light years away. The best prospects are quasars, because they are so bright and compact that they can be seen across vast stretches of space. The energy source that powers a quasar is unknown, although it is suspected to be the intense gravity of a giant black hole. However, at the distances required for the study of Dark Age, even quasars are extremely rare and faint.

Recently some members of Dr. Becker's team announced their discovery of the four most distant quasars known. All the new quasars are terribly faint, a challenge that both teams overcame by peering at them through one of the twin Keck telescopes in Hawaii. These are the world's largest, and can therefore collect the most light. The new work by Dr. Becker's team analysed the light from all four quasars. Three of them appeared to be similar to ordinary, less distant quasars. However, the fourth and most distant, unlike any other quasar ever seen, showed unmistakable signs of being shrouded in a fog of hydrogen gas. This gas is leftover material from the Big Bang that did not condense into stars or quasars. It acts like fog because new-born stars and quasars emit mainly ultraviolet light, and hydrogen gas is opaque to ultraviolet. Seeing this fog had been the goal of would-be Dark Age astronomers since 1965, when James Gunn and Bruce Peterson spelled out the technique for using quasars as backlighting beacons to observe the fog's ultraviolet shadow.

The fog prolonged the period of darkness until the heat from the first stars and quasars had the chance to ionise the hydrogen (breaking it into its constituent parts, protons and electrons). Ionised hydrogen is transparent to ultraviolet radiation, so at that moment the fog lifted and the universe became the well-lit place it is today. For this reason, the end of the Dark Age is called the "Epoch of Re-ionisation". Because the ultraviolet shadow is visible only in the most distant of the four quasars, Dr. Becker's team concluded that the fog had dissipated completely by the time the universe was about 900 million years old, and one-seventh of its current size.

**51.** Astronomers find it difficult to study the Dark Age because:

1. suitable telescopes are few.
2. the associated events took place aeons ago.
3. the energy source that powers a quasar is unknown.
4. their best chance is to study quasars, which are faint objects to begin with.

52. The fog of hydrogen gas seen through the telescopes:

1. is transparent to hydrogen radiation from stars and quasars in all states.
2. was lifted after heat from stars and quasars ionised it.
3. is material which eventually became stars and quasars.
4. is broken into constituent elements when stars and quasars are formed.

53. In the passage, the Dark Age refers to:

1. the period when the universe became cold after the Big Bang.
2. a period about which astronomers know very little.
3. the medieval period when cultural activity seemed to have come to an end.
4. the time that the universe took to heat up after the Big Bang.

54. The four most distant quasars discovered recently:

1. could only be seen with the help of large telescopes.
2. appear to be similar to other ordinary quasars.
3. appear to be shrouded in a fog of hydrogen gas.
4. have been sought to be discovered by Dark Age astronomers since 1965.

## PASSAGE II

Studies of the factors governing reading development in young children have achieved a remarkable degree of consensus over the past two decades. This consensus concerns the causal role of phonological skills in young children's reading progress. Children who have good phonological skills, or good "phonological awareness", become good readers and good spellers. Children with poor phonological skills progress more poorly. In particular, those who have a specific phonological deficit are likely to be classified as dyslexic by the time that they are 9 or 10 years old.

Phonological skills in young children can be measured at a number of different levels. The term phonological awareness is a global one, and refers to a deficit in recognising smaller units of sound within spoken words. Developmental work has shown that this deficit can be at the level of syllables, of onsets and rimes, or of phonemes. For example, a 4-year old child might have difficulty in recognising that a word like valentine has three syllables, suggesting a lack of syllabic awareness. A 5-year old might have difficulty in recognising that the odd word out in the set of words fan, cat, hat, mat is fan. This task requires an awareness of the sub-syllabic units of the onset and the rime. The onset corresponds to any initial consonants in a syllable, and the rime corresponds to the vowel and to any following consonants. Rimes correspond to rhyme in single-syllable words, and so the rime in fan differs from the rime in cat, hat, and mat. In longer words, rime and rhyme may differ. The onsets in val:en:tine are /v/ and /t/, and the rimes correspond to the spelling patterns 'al', 'en', and 'ine'.

A 6-year-old might have difficulty in recognising that plea and pray begin with the same initial sound. This is a phonemic judgement. Although the initial phoneme /p/ is shared between the two words, in plea it is part of the onset 'pl', and in pray it is part of the onset "pr". Until children can segment the onset (or the rime), such phonemic judgements are difficult for them to make. In fact, a recent survey of different developmental studies has shown that the different levels of phonological awareness appear to emerge sequentially. The awareness of syllables, onsets, and rimes appears to emerge at around the ages of 3 and 4, long before most children go to school. The awareness of phonemes, on the other hand, usually emerges at around the age of 5 or 6, when children have been taught to read for about a year. An awareness of onsets and rimes thus appears to be a precursor of reading, whereas an awareness of phonemes at every serial position in a word only appears to develop as reading is taught. The onset-rime and phonemic levels of phonological structure, however, are not distinct. Many onsets in English are single phonemes, and so are some rimes (e.g., sea, go, zoo).

The early availability of onsets and rimes is supported by studies that have compared the development of phonological awareness of onsets, rimes, and phonemes in the same subjects using the same phonological awareness tasks. For example, a study by Treiman and Zudowski used a same/different judgement task based on the beginning or the end sounds of words. In the beginning sound task, the words either began with the same onset, as in plea and plank, or shared only the initial phoneme, as in plea and pray. In the end-sound task, the words either shared the entire rime, as in spit and wit, or shared only the final phoneme, as in rat and wit. Treiman and Zudowski showed that 4- and 5-year old children found the onset-rime version of the same/different task significantly easier than the version based on phonemes. Only the 6-year-olds, who had been learning to read for about a year, were able to perform both versions of the tasks with an equal level of success.

55. The single-syllable words Rhyme and Rime are constituted by the exact same set of:
- A. rime(s).                      B. onset(s).                      C. rhyme(s).                      D. phonemes(s).
1. A,B                              2. A,C                              3. A,B,C                              4. B,C,D
56. Which one of the following is likely to emerge last in the cognitive development of a child?
1. Rhyme.                              2. Rime.                              3. Onset.                              4. Phoneme.
57. A phonological deficit in which of the following is likely to be classified as dyslexia?
1. Phonemic judgement                              2. Onset judgement.  
3. Rime judgement.                              4. Any one or more of the above.
58. The Treiman and Zudowski experiment found evidence to support the following:
1. At age 6, reading instruction helps children perform, both, the same-different judgement task.
  2. The development of onset-rime awareness precedes the development of an awareness of phonemes.
  3. At age 4-5 children find the onset-rime version of the same/different task significantly easier.
  4. The development of onset-rime awareness is a necessary and sufficient condition for the development of an awareness of phonemes.
59. From the following statements, pick out the true statement according to the passage:
1. A mono-syllabic word can have only one onset.
  2. A mono-syllabic word can have only one rhyme but more than one rime.
  3. A mono-syllabic word can have only one phoneme.
  4. All of the above.

### PASSAGE III

The union government's present position vis-à-vis the upcoming United Nations conference on racial and related discrimination world-wide seems to be the following: discuss race please, not caste; caste is our very own and not at all as bad as you think. The gross hypocrisy of that position has been lucidly underscored by Kancha Ilaiah. Explicitly, the world community is to be cheated out of considering the matter on the technicality that caste is not, as a concept, tantamount to a racial category. Internally, however, allowing the issue to be put on agenda at the said conference would, we are patriotically admonished, damage the country's image. Somehow, India's virtual beliefs elbow out concrete actualities. Inverted representations, as we know, have often been deployed in human histories as balm

for the forsaken - religion being the most persistent of such inversions. Yet, we would humbly submit that if globalising our markets are thought good for the 'national' pocket, globalising our social inequities might not be so bad for the mass of our people. After all, racism was as uniquely institutionalised in South Africa as caste discrimination has been within our society; why then can't we permit the world community to express itself on the latter with a fraction of the zeal with which, through the years, we pronounced on the former?

As to the technicality about whether or not caste is admissible into an agenda about race (that the conference is also about 'related discriminations' tends to be forgotten), a reputed sociologist has recently argued that where race is a 'biological' category caste is a 'social' one. Having earlier fiercely opposed implementation of the Mandal Commission Report, the said sociologist is at least to be complemented now for admitting, however tangentially, that caste discrimination is a reality, although, in his view, incompatible with racial discrimination. One would like quickly to offer the hypothesis that biology, in important ways that affect the lives of many millions, is in itself perhaps a social construction. But let us look at the matter in another way.

If it is agreed - as per the position today at which anthropological and allied scientific determinations rest - that the entire race of *homo sapiens* derived from an originally black African female (called 'Eve') then one is hard put to understand how, on some subsequent ground, ontological distinctions are to be drawn either between races or castes. Let us also underline the distinction between the supposition that we are all god's children and the rather more substantiated argument about our descent from 'Eve', lest both positions are thought to be equally diversionary. It then stands to reason that all subsequent distinctions are, in modern parlance, 'constructed' ones, and, like all ideological constructions, attributable to changing equations between knowledge and power among human communities through contested histories here, there, and elsewhere.

This line of thought receives, thankfully, extremely consequential buttress from the findings of the Human Genome project. Contrary to earlier (chiefly 19th century colonial) persuasions on the subject of race, as well as, one might add, the somewhat infamous Jensen offerings in the 20th century from America, those findings deny genetic difference between 'races'. If anything, they suggest that environmental factors impinge on gene-function, as a dialectic seen to unfold between nature and culture. It would thus seem that 'biology' as the constitution of pigmentation enters the picture first only as a part of that dialectic. Taken together, the original mother stipulation and the Genome finding ought indeed to furnish ground for human equality across the board, as well as yield policy initiatives toward equitable material dispensations aimed at building a global order where, in Hegel's stirring formulation, only the rational constitutes, the right. Such, sadly, is not the case as everyday fresh arbitrary grounds for discrimination are constructed in the interests of sectional dominance.

**60.** When the author writes “globalising our social inequities”, the reference is to:

1. Going beyond an internal deliberation on social inequity.
2. Dealing with internal poverty through the economic benefits of globalisation.
3. Going beyond an internal delimitation of social inequity.
4. Achieving disadvantaged people's empowerment, globally.

**61.** According to the author, 'inverted representations as balm for the forsaken':

1. Is good for the forsaken and often deployed in human histories.
2. Is good for the forsaken, but not often deployed historically for the oppressed.
3. Occurs often as a means of keeping people oppressed
4. Occurs often to invert the status quo.

62. Based on the passage, which broad areas unambiguously fall under the purview of the UN conference being discussed?
- Racial prejudice.
  - Racial pride.
  - Discrimination, racial or otherwise.
  - Caste-related discrimination.
  - Race-related discrimination.
- A, E
  - C, E
  - A, C, E
  - B, C, D
63. According to the author, the sociologist who argued that race is a 'biological' category and caste is a 'social' one:
- Generally shares the same orientation as the author's on many of the central issues discussed.
  - Tangentially admits to the existence of "caste" as a category.
  - Admits the incompatibility between the people of different race and caste.
  - Admits indirectly that both caste-based prejudice and racial discrimination exist.
64. An important message in the passage, if one accepts a dialectic between nature and culture, is that:
- The results of the Human Genome project reinforces racial differences.
  - Race is at least partially a social construct.
  - Discrimination is at least partially a social construct.
  - Caste is at least partially a social construct.

#### PASSAGE IV

Billie Holiday died a few weeks ago. I have been unable until now to write about her, but since she will survive many who receive longer obituaries, a short delay in one small appreciation will not harm her or us. When she died we - the musicians, critics, all who were ever transfixed by the most heart-rending voice of the past generation - grieved bitterly. There was no reason to. Few people pursued self-destruction more whole-heartedly than she, and when the pursuit was at an end, at the age of forty-four, she had turned herself into a physical and artistic wreck. Some of us tried gallantly to pretend otherwise, taking comfort in the occasional moments when she still sounded like a ravaged echo of her greatness. Others had not even the heart to see and listen any more. We preferred to stay home and, if old and lucky enough to own the incomparable records of her heyday from 1937 to 1946, many of which are not even available on British LP, to recreate those coarse-textured, sinuous, sensual and unbearable sad noises which gave her a sure corner of immortality. Her physical death called, if anything, for relief rather than sorrow. What sort of middle age would she have faced without the voice to earn money for her drinks and fixes, without the looks - and in her day she was hauntingly beautiful - to attract the men she needed, without business sense, without anything but the disinterested worship of ageing men who had heard and seen her in her glory?

And yet, irrational though it is, our grief expressed Billie Holiday's art, that of a woman for whom one must be sorry. The great blues singers, to whom she may be justly compared, played their game from strength. Lionesses, though often wounded or at bay (did not Bessie Smith call herself 'a tiger, ready to jump?'), their tragic equivalents were Cleopatra and Phaedra; Holiday's was an embittered Ophelia. She was the Puccini heroine among blues singers, or rather among jazz singers, for though she sang a cabaret version of the blues incomparably, her natural idiom was the pop song. Her unique achievement

was to have twisted this into a genuine expression of the major passions by means of a total disregard of its sugary tunes, or indeed of any tune other than her own few delicately crying elongated notes, phrased like Bessie Smith or Louis Armstrong in sackcloth, sung in a thin, gritty, haunting voice whose natural mood was an unresigned and voluptuous welcome for the pains of love. Nobody has sung, or will sing, Bess's songs from *Porgy* as she did. It was this combination of bitterness and physical submission, as of someone lying still while watching his legs being amputated, which gives such a blood-curdling quality to her *Strange Fruit*, the anti-lynching poem which she turned into an unforgettable art song. Suffering was her profession; but she did not accept it.

Little need be said about her horrifying life, which she described with emotional, though hardly with factual, truth in her autobiography *Lady Sings the Blues*. After an adolescence in which self-respect was measured by a girl's insistence on picking up the coins thrown to her by clients with her hands, she was plainly beyond help. She did not lack it, for she had the flair and scrupulous honesty of John Hammond to launch her, the best musicians of the 1930s to accompany her - notably Teddy Wilson, Frankie Newton and Lester Young - the boundless devotion of all serious connoisseurs, and much public success. It was too late to arrest a career of systematic embittered self-immolation. To be born with both beauty and self-respect in the Negro ghetto of Baltimore in 1915 was too much of a handicap, even without rape at the age of ten and drug-addiction in her teens. But, while she destroyed herself, she sang, unmelodious, profound and heartbreaking. It is impossible not to weep for her, or not to hate the world which made her what she was.

**65.** Why will Billie Holiday survive many who receive longer obituaries?

1. Because of her blues creations.
2. Because she was not as self-destructive as some other blues exponents.
3. Because of her smooth and mellow voice.
4. Because of the expression of anger in her songs.

**66.** According to the author, if Billie Holiday had not died in her middle age:

1. She would have gone on to make a further mark.
2. She would have become even richer than what she was when she died.
3. She would have led a rather ravaged existence.
4. She would have led a rather comfortable existence.

**67.** Which of the following statements is not representative of the author's opinion:

1. Billie Holiday had her unique brand of melody.
2. Billie Holiday's voice can be compared to other singers in certain ways.
3. Billie Holiday's voice had a ring of profound sorrow.
4. Billie Holiday welcomed suffering in her profession and in her life.

**68.** According to the passage, Billie Holiday was fortunate in all but one of the following ways:

1. She was fortunate to have been picked up young by an honest producer.
2. She was fortunate to have the likes of Louis Armstrong and Bessie Smith accompany her
3. She was fortunate to possess the looks.
4. She enjoyed success among the public and connoisseurs.



## PASSAGE V

The narrative of *Dersu Uzala* is divided into two major sections, set in 1902 and 1907, that deal with separate expeditions which Arseniev conducts into the Ussuri region. In addition, a third time frame forms a prologue to the film. Each of the temporal frames has a different focus, and by shifting them Kurosawa is able to describe the encroachment of settlements upon the wilderness and the consequent erosion of Dersu's way of life. As the film opens, that erosion has already begun. The first image is a long shot of a huge forest, the trees piled upon one another by the effects of the telephoto lens so that the landscape becomes an abstraction and appears like a huge curtain of green. A title informs us that the year is 1910. This is as late into the century as Kurosawa will go. After this prologue, the events of the film will transpire even farther back in time and will be presented as Arseniev's recollections. The character of Dersu Uzala is the heart of the film, his life the example that Kurosawa wishes to affirm. Yet the formal organisation of the film works to contain, to close, to circumscribe that life by erecting a series of obstacles around it. The film itself is circular, opening and closing by Dersu's grave, thus sealing off the character from the modern world to which Kurosawa once so desperately wanted to speak. The multiple time frames also work to maintain a separation between Dersu and the contemporary world. We must go back farther even than 1910 to discover who he was. But this narrative structure has yet another implication. It safeguards Dersu's example, inoculates it from contamination with history, and protects it from contact with the industrialised, urban world. Time is organised by the narrative into a series of barriers, which enclose Dersu in a kind of vacuum chamber, protecting him from the social and historical dialectics that destroyed the other Kurosawa heroes. Within the film, Dersu does die, but the narrative structure attempts to immortalise him and his example, as Dersu passes from history into myth.

We see all this at work in the enormously evocative prologue. The camera tilts down to reveal felled trees littering the landscape and an abundance of construction. Roads and houses outline the settlement that is being built. Kurosawa cuts to a medium shot of Arseniev standing in the midst of the clearing, looking uncomfortable and disoriented. A man passing in a wagon asks him what he is doing, and the explorer says he is looking for a grave. The driver replies that no one has died here, the settlement is too recent. These words enunciate the temporal rupture that the film studies. It is the beginning of things (industrial society) and the end of things (the forest), the commencement of one world so young that no one has had time yet to die and the eclipse of another, in which Dersu has died. It is his grave for which the explorer searches. His passing symbolises the new order, the development that now surrounds Arseniev. The explorer says he buried his friend three years ago, next to huge cedar and fir trees, but now they are all gone. The man on the wagon replies they were probably chopped down when the settlement was built, and he drives off. Arseniev walks to a barren, treeless spot next to a pile of bricks. As he moves, the camera tracks and pans to follow, revealing a line of freshly built houses and a woman hanging her laundry to dry. A distant train whistle is heard, and the sounds of construction in the clearing vie with the cries of birds and the rustle of wind in the trees. Arseniev pauses, looks around for the grave that once was, and murmurs desolately, "Dersu." The image now cuts farther into the past, to 1902, and the first section of the film commences, which describes Arseniev's meeting with Dersu and their friendship.

Kurosawa defines the world of the film initially upon a void, a missing presence. The grave is gone, brushed aside by a world rushing into modernism, and now the hunter exists only in Arseniev's memories. The hallucinatory dreams and visions of Dodeskaden are succeeded by nostalgic, melancholy ruminations. Yet by exploring these ruminations, the film celebrates the timelessness of Dersu's wisdom. The first section of the film has two purposes: to describe the magnificence and inhuman vastness of nature and to delineate the code of ethics by which Dersu lives and which permits him to survive in these conditions. When Dersu first appears, the other soldiers treat him with condescension and laughter, but Arseniev watches him closely and does not share their derisive response. Unlike them, he is capable of immediately grasping Dersu's extraordinary qualities. In camp, Kurosawa frames Arseniev by himself, sitting on the other side of the fire from his soldiers. While they sleep or joke among themselves, he writes in his diary and Kurosawa cuts in several point-of-view shots from his perspective of trees that appear animated and sinister as the fire light dances across their gnarled,

leafless outlines. This reflective dimension this sensitivity to the spirituality of nature, distinguishes him from the others and forms the basis of his receptivity to Dersu and their friendship. It makes him a fit pupil for the hunter.

**69.** How is Kurosawa able to show the erosion of Dersu's way of life?

1. By documenting the ebb and flow of modernisation.
2. By going back farther and farther in time.
3. By using three different time frames and shifting them.
4. Through his death in a distant time.

**70.** Arseniev's search for Dersu's grave:

1. Is part of the beginning of the film.
2. Symbolises the end of the industrial society.
3. Is misguided since the settlement is too new.
4. Symbolises the rediscovery of modernity.

**71.** The film celebrates Dersu's wisdom:

1. By exhibiting the moral vacuum of the pre-modern world.
2. By turning him into a mythical figure.
3. Through hallucinatory dreams and visions.
4. Through Arseniev's nostalgic melancholy ruminations.

**72.** According to the author the section of the film following the prologue:

1. Serves to highlight the difficulties that Dersu faces that eventually kills him.
2. Shows the difference in thinking between Arseniev and Dersu.
3. Shows the code by which Dersu lives that allows him to survive his surroundings.
4. Serves to criticize the lack of understanding of nature in the pre-modern era.

**73.** In the film Kurosawa hints at Arseniev's reflective and sensitive nature:

1. By showing him as not being derisive towards Dersu, unlike other soldiers.
2. By showing him as being aloof from other soldiers.
3. Through shots of Arseniev writing his diary, framed by trees.
4. All of the above.

**74.** According to the author, which of these statements about the film are correct?

1. The film makes its arguments circuitously
2. The film highlights the insularity of Arseniev.
3. The film begins with the absence of its main protagonist.
4. None of the above.

### PASSAGE VI

Democracy rests on a tension between two different principles. There is, on the one hand, the principle of equality before the law, or more generally, of equality and on the other, what may be described as the leadership principle. The first gives priority to rules and the second to persons. No matter how skilfully we contrive our schemes, there is a point beyond which the one principle cannot be promoted without some sacrifice of the other.



Alexis de Tocqueville, the great nineteenth century writer on democracy, maintained that the age of democracy, whose birth he was witnessing, would also be the age of mediocrity: in saying this he was thinking primarily of a regime of equality governed by impersonal rules. Despite his strong attachment to democracy, he took great pains to point out what he believed to be its negative side: a dead level plane of achievement in practically every sphere of life. The age of democracy would, in his view, be an unheroic age; there would not be room in it for either heroes or hero-worshippers.

But modern democracies have not been able to do without heroes: this too was foreseen, with much misgiving, by Tocqueville. Tocqueville viewed this with misgiving because he believed, rightly or wrongly, that unlike in aristocratic societies there was no proper place in a democracy for heroes and, hence, when they arose they would sooner or later turn into despots. Whether they require heroes or not, democracies certainly require leaders, and, in the contemporary age, breed them in great profusion; the problem is to know what to do with them.

In a world preoccupied with scientific rationality the advantages of a system based on an impersonal rule of law should be a recommendation with everybody. There is something orderly and predictable about such a system. When life is lived mainly in small, self-contained communities, men are able to take finer personal distinctions into account in dealing with their fellow men. They are unable to do this in a large and amorphous society, and organised living would be impossible here without a system of impersonal rules. Above all, such a system guarantees a kind of equality to the extent that everybody, no matter in what station of life, is bound by the same explicit, often written, rules, and nobody is above them.

But a system governed solely by impersonal rules can at best ensure order and stability; it cannot create any shining vision of a future in which mere formal equality will be replaced by real equality and fellowship. A world governed by impersonal rules cannot easily change itself, or when it does, the change is so gradual as to make the basic and fundamental feature of society appear unchanged. For any kind of basic or fundamental change, a push is needed from within, a kind of individual initiative which will create new rules, new terms and conditions of life.

The issue of leadership thus acquires crucial significance in the context of change. If the modern age is preoccupied with scientific rationality, it is no less preoccupied with change. To accept what exists on its own terms is traditional, not modern, and it may be all very well to appreciate tradition in music, dance and drama, but for society as a whole the choice has already been made in favour of modernisation and development. Moreover, in some countries the gap between ideal and reality has become so great that the argument for development and change is now irresistible.

In these countries no argument for development has greater appeal or urgency than the one which shows development to be the condition for the mitigation, if not the elimination, of inequality. There is something contradictory about the very presence of large inequalities in a society which professes to be democratic. It does not take people too long to realise that democracy by itself can guarantee only formal equality; beyond this, it can only whet people's appetite for real or substantive equality. From this arises their continued preoccupation with plans and schemes that will help to bridge the gap between the ideal of equality and the reality which is so contrary to it.

When pre-existing rules give no clear directions of change, leadership comes into its own. Every democracy invests its leadership with a measure of charisma, and expects from it a corresponding measure of energy and vitality. Now, the greater the urge for change in a society the stronger the appeal of a dynamic leadership in it. A dynamic leadership seeks to free itself from the constraints of existing rules; in a sense that is the test of its dynamism. In this process it may take a turn at which it ceases to regard itself as being bound by these rules, placing itself above them. There is always a tension between 'charisma' and 'discipline' in the case of a democratic leadership, and when this leadership puts forward revolutionary claims, the tension tends to be resolved at the expense of discipline.

Characteristically, the legitimacy of such a leadership rests on its claim to be able to abolish or at least substantially reduce the existing inequalities in society. From the argument that formal equality or equality before the law is but a limited good, it is often one short step to the argument that it is a hindrance or an obstacle to the establishment of real or substantive equality. The conflict between a

‘progressive’ executive and a ‘conservative’ judiciary is but one aspect of this larger problem. This conflict naturally acquires added piquancy when the executive is elected and the judiciary appointed.

**75.** Dynamic leaders are needed in democracies because:

1. They have adopted the principles of ‘formal’ equality rather than ‘substantive’ equality
2. ‘Formal’ equality whets people’s appetite for ‘substantive’ equality.
3. Systems that rely on the impersonal rules of ‘formal’ equality lose their ability to make large changes.
4. Of the conflict between a ‘progressive’ executive and a ‘conservative’ judiciary.

**76.** What possible factor would a dynamic leader consider a ‘hindrance’ in achieving the development goals of a nation?

1. Principle of equality before the law
2. Judicial activism
3. A conservative judiciary.
4. Need for discipline.

**77.** Which of the following four statements can be inferred from the above passage?

- A. Scientific rationality is an essential feature of modernity.
- B. Scientific rationality results in the development of impersonal rules.
- C. Modernisation and development have been chosen over traditional music, dance and drama.
- D. Democracies aspire to achieve substantive equality.

1. A, B, D but not C
2. A, B but not C, D
3. A, D but not B, C
4. A, B, C but not D

**78.** Tocqueville believed that the age of democracy would be an un-heroic age because:

1. Democratic principles do not encourage heroes.
2. There is no urgency for development in democratic countries.
3. Heroes that emerged in democracies would become depots.
4. Aristocratic society had a greater ability to produce heroes.

**79.** A key argument the author is making is that:

1. In the context of extreme inequality the issue of leadership has limited significance.
2. Democracy is incapable of eradicating inequality.
3. Formal equality facilitates development and change.
4. Impersonal rules are good for avoiding instability but fall short of achieving real equality.

**80.** Which of the following four statements can be inferred from the above passage?

- A. There is conflict between the pursuit of equality and individuality
- B. The disadvantages of impersonal rules can be overcome in small communities.
- C. Despite limitations, impersonal rules are essential in large system.
- D. Inspired leadership, rather than plans and schemes is more effective in bridging inequality.

1. B, D but not A, C
2. A, B but not C, D
3. A, D but not B, C
4. A, C but not B, D

**DIRECTIONS for questions 81 – 85:** The sentences given in each question, when properly sequenced, form a coherent paragraph. Each sentence is labelled with a letter. Choose the most logical order of sentences from among the given choices to construct a coherent paragraph

81.

- A. Although there are large regional variations, it is not infrequent to find a large number of people sitting here and there and doing nothing.
- B. Once in Office, they receive friends and relatives who feel free to call any time without prior appointment.
- C. While working, one is struck by the slow and clumsy actions and reactions, indifferent attitudes, procedure rather than outcome orientation, and the lack of consideration for others.
- D. Even those who are employed often come late to the office and leave early unless they are forced to be punctual.
- E. Work is not intrinsically valued in India.
- F. Quite often people visit ailing friends and relatives or go out of their way to help them in their personal matters even during office hours.

1. ECADBF                      2. EADCFB                      3. EADBFC                      4. ABFCDE

82.

- A. But in the industrial era destroying the enemy's productive capacity means bombing the factories which are located in the cities.
- B. So in the agrarian era, if you need to destroy the enemy's productive capacity, what you want to do is burn his fields or if you're really vicious, salt them.
- C. Now in the information era, destroying the enemy's productive capacity means destroying the information infrastructure.
- D. How do you do battle with your enemy?
- E. The idea is destroy the enemy's productive capacity, and depending upon the economic foundation, that productive capacity is different in each case.
- F. With regard to defence, the purpose of the military is to defend the nation and be prepared to do battle with its enemy.

1. FDEBAC                      2. FCABED                      3. DEBACF                      4. DFEBAC

83.

- A. Michael Hofman, a poet and translator, accepts this sorry fact without approval or complaint.
- B. But thanklessness and impossibility do not daunt him.
- C. He acknowledges too – in fact he returns to the point often – that best translators of poetry always fails at some level.
- D. Hofman feels passionately about his work, and this is clear from his writings.
- E. In terms of the gap between worth and rewards, translators come somewhere near nurses and street cleaners.

1. EACDB                      2. ADEBC                      3. EACBD                      4. DCEAB

84.

- A. Passivity is not, of course, universal.
- B. In areas where there are no lords or laws, or in frontier zones where all men go armed, the attitude of the peasantry may well be different
- C. So indeed it may be on the fringe of the unsubmitive
- D. However for most of the soil-bound peasants the problem is, not whether to be normally passive or active, but when to pass from one state to another.
- E. This depends on an assessment of the political situation.

1. BEDAC                      2. CDABE                      3. EDBAC                      4. ABCDE

- 85.
- A. The situations in which violence occurs and the nature of that violence tends to be clearly defined at least in theory as in the proverbial Irishman's question: 'Is this a private fight or can anyone join in?'
  - B. So the actual risk to outsiders though no doubt higher than our society is calculable
  - C. Probably the only uncontrolled application of force are those of social superiors to social inferiors, even here there are probably some rules.
  - D. However binding the obligation to kill, members of feuding families engaged in mutual massacres will be genuinely appalled if by some mischance a bystander or outsider is killed.

1. DABC                      2. ACDB                      3. CBAD                      4. DBAC

**DIRECTIONS for questions 86 – 90:** In each of the following sentence are left blank. Beneath each sentence, four different ways of completing the sentence are indicated. Choose the best alternative from among the four.

86. Since her face was free of \_\_\_\_\_ there was no way to \_\_\_\_\_ if she appreciated what had happened.

1. make-up, realize                      2. expression, ascertain  
3. emotion, diagnose                      4. scars, understand

87. In this context, the \_\_\_\_\_ of the British labour movement is particularly \_\_\_\_\_

1. affair, weird                      2. activity, moving  
3. experience, significant                      4. atmosphere, gloomy

88. The Darwin who \_\_\_\_\_ is most remarkable for the way in which he \_\_\_\_\_ the attributes of the world class thinker and head of household.

1. comes, figures                      2. arises, adds  
3. emerges, combines                      4. appeared, combines

89. But \_\_\_\_\_ are now regularly written not just as tools but for well established organisations and institutions, not all of which seem to be \_\_\_\_\_ away

1. reports, withering      2. stories, handling      3. books, dying      4. obituaries, fading

90. Indian intellectuals may boast if they are so inclined of being \_\_\_\_\_ to the most elitist among the intellectual \_\_\_\_\_ of the world.

1. subordinate, traditions      2. heirs, cliques      3. ancestors, societies      4. heir, traditions

**DIRECTIONS for questions 91 – 95:** For the word given at the top of the sentences, match the directions of the below (A, B, C, D) with their corresponding usage on the right

**91. MELLOW**

	Dictionary definition		Usage
A	Adequately and properly aged so as to be free of harshness	E	He has mellowed with age
B	Freed from the rashness of youth	F	The tones of the old violin were mellow
C	Of soft and loamy consistency	G	Some wines are mellow.
D	Rich and full but free from stridency	H	Mellow soil is found in the Gangetic plains.

1	
A	E
B	G
C	F
D	H
3	
A	G
B	E
C	H
D	F

2	
A	E
B	F
C	G
D	H
4	
A	H
B	G
C	F
D	E

**92. PURGE**

	Dictionary definition		Usage
A	Remove a stigma from the name of	E	The opposition was purged after the coup.
B	Make clean by removing whatever is superfluous, foreign	F	The committee heard his attempt to purge himself of a charge of heresy
C	Get rid of	G	Drugs that purge the bowels are often bad for the brain.
D	To cause evacuation of	H	It is recommended to purge water by distillation

1	
A	E
B	G
C	F
D	H
3	
A	H
B	F
C	G
D	E

2	
A	F
B	E
C	H
D	G
4	
A	F
B	H
C	E
D	G

93. **EXCEED**

	Dictionary definition		Usage
A	To extend outside of or enlarge beyond	E	The mercy of God exceeds our finite minds
B	To be greater than or superior to	F	Their accomplishments exceeded our expectation.
C	Be beyond the comprehension of	G	He exceeded his authority when he paid his brother's gambling debts with money from the trust.
D	To go beyond a limit set by (as an authority or privilege)	H	If this rain keeps up, the river will exceed its banks by morning.

1	
A	H
B	F
C	E
D	G
3	
A	G
B	F
C	E
D	H

2	
A	H
B	E
C	F
D	G
4	
A	F
B	G
C	H
D	E

94. **RELIEF**

	Dictionary definition		Usage
A	Removal or lightening of something distressing	E	A ceremony follows the relief of a sentry after the morning shift.
B	Aid in the form of necessities for the indigent	F	It was relief to take off the tight shoes
C	Diversion	G	The only relief I get is by playing cards.
D	Release from the performance of duty	H	Disaster relief was offered to the victims

1	
A	F
B	H
C	E
D	G
3	
A	H
B	F
C	G
D	E

2	
A	F
B	H
C	G
D	E
4	
A	G
B	E
C	H
D	F

95. INFER

	Dictionary definition		Usage
A	To derive by reasoning or implication	E	We see smoke and the infer fire
B	To surmise	F	Given some utterance, a listener may infer from it all sorts of things which neither the utterance nor the uttered implied
C	To point out	G	I waited all day to meet him; from this you can infer my zeal to see him
D	To hint	H	She did not take part in the debate except to ask and question inferring that she was not interested in the debate.

1	
A	G
B	E
C	F
D	H
3	
A	H
B	G
C	F
D	E

2	
A	F
B	H
C	E
D	G
4	
A	E
B	F
C	G
D	H

**DIRECTIONS for questions 96 – 100:** For each of the words below, a contextual usage is provided pick the word from the alternatives that is most inappropriate in the given context.

96. **Parsimonious.** The evidence was constructed from very parsimonious scraps of information.

1. Frugal                      2. Penurious                      3. Thrifty                      4. Altruistic

97. **Obviate.** The new mass transit system may obviate the need for the use of personal cars.

1. Prevent                      2. Forestall                      3. Preclude                      4. Bolster

98. **Disuse.** Some words fall into disuse as technology makes objects obsolete.

1. Prevalent                      2. Discarded                      3. Obliterated                      4. Unfashionable

99. **Specious.** A specious argument is not simply a false one but one that has the ring of truth.

1. Deceitful                      2. Fallacious                      3. Credible                      4. Deceptive

100. **Facetious.** When I suggested that war is a method of controlling population, my father remarked that I was being facetious.

1. Jovian                      2. Jovial                      3. Jocular                      4. Joking

*End of Section II*

**SECTION III**  
**Number of questions 50**

**DIRECTIONS for questions 101 – 103:** Answer each of the questions independent of each other.

- 101.** A king has unflinching loyalty from 8 of his ministers from M1 to M8. But he has to select only 4 to make a cabinet committee. He decides to choose these 4 such that each selected person shares a liking with at least one of the other 3 person selected. The selected person must also hate at least one of the likings of any of the other three person selected.

M1 likes fishing and smoking, but hates gambling.  
M2 likes smoking and drinking, but hates fishing.  
M3 likes gambling but hates smoking.  
M4 likes mountaineering but hates drinking.  
M5 likes drinking but hates smoking and mountaineering.  
M6 likes fishing but hates smoking and mountaineering.  
M7 likes gambling and mountaineering but hates fishing.  
M8 likes smoking and gambling but hates mountaineering.

Who are four people selected by the king ?

1. M1, M2, M5, M6      2. M3, M4, M5, M6      3. M4, M5, M6, M8      4. M1, M2, M4, M7

- 102.** Balbir the butcher has gone out of his shop when a dog came and licked away piece of meat. A furious Balbir went out in search of the devil dog and started questioning his neighbors about the looks and features of the dog. But then Balbir not being very popular among his neighbors, they were not very keen on helping him out. So they answered his questions with two statements each one of which was definitely true and the other was definitely false. Following are the responses that Balbir got from the neighbors.

N1: the dog had black hair and a long tail.  
N2: the dog had a short tail and was wearing a collar.  
N3: the dog had white hair and was not wearing a collar.

Give the correct description of the dog:

1. Long tail and white hair with a collar      2. Short tail and black hair with a collar  
3. Long tail and black hair without a collar      4. Long tail and white hair without a collar



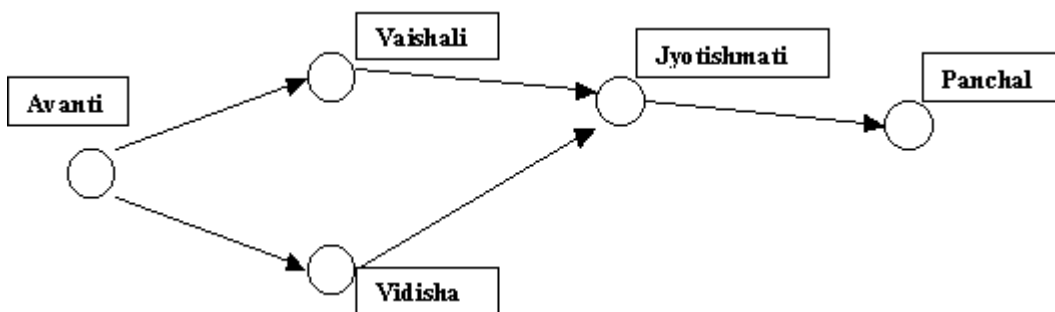
103. A nautanki carnival has come to the village which was playing six different nautankis as per the duration and schedule given below:

Name of the Nautanki	Duration	Scheduled starting time and the shows
Sati Savitri	1 hour	9 am, 2 pm
Joru ka Gulam	1 hour	10:30 am, 11:30 am
Sunderkand	30 minutes	10 am, 11 am
Veer Abhimanyu	1 hour	10 am, 11 am
reshma aur Shera	1 hour	9:30 am, 12 noon, 2 pm
Jhansi ki Rani	30 minutes	11 am, 1:30 pm

On a given day you would like to witness all the nautankis, fulfilling the additional condition of observing a lunch break from 12:30 pm to 1:30 pm. Which of the following arrangements shall fulfill all the conditions above:

1. Sati Savitri comes first, Sunderkand in third slot and Jhansi ki Rani at the end.
2. Jhansi ki Rani first, Sunderkand fourth and Sati Savitri fifth.
3. Sati Savitri comes first, Sunderkand in third slot and Jhansi ki Rani at the fifth place
4. Veer Abhimanyu comes in third slot, Reshma aur Shera in fourth slot and Jhansi ki Rani fifth slot

**DIRECTIONS for questions 104 – 106:** The figure shows an oil pipeline network among 5 cities. each pipeline has the load carrying capacity of 1000. and each destination has a specific requirement that has to met. The city of Vaishali and Jyotishmati have a requirement of 400 each. The requirement at Panchal is 700 where as that at Vidisha is 200. The load can be carried in the indicated direction only. It is further given that the load carried from Vaishali to Jyotishmati is 300.



104. What is the free capacity in the Avanti – Vidisha pipeline:

1. 300
2. 200
3. 100
4. 0

105. What is the free capacity in the Avanti – Vaishali pipeline:

1. 0
2. 100
3. 200
4. 300

106. What is the quantity moved from Avanti to Vidisha:

1. 200
2. 800
3. 700
4. 1000

**DIRECTIONS for questions 107 – 110:** Operation on sets are defined as  $C = A \cdot B$  implies elements belonging to both A and B,  $D = A \cup B$  implies elements belonging to either set A or set B or both. Further a null set ( $\emptyset$ ) is defined as a set that does not contain any element.

In addition, the following sets are defined:

*V is the set of vertebrates.*

*M is the set of Mammals.*

*D is the set of dogs.*

*F is the set of fish.*

*A is the set of alsatians.*

*P is dog named Pluto*

**107.**  $P \cdot A = \emptyset$  and  $P \cup A = D$ , then which of the following is true:

- |                             |                         |
|-----------------------------|-------------------------|
| 1. P and A are dogs         | 2. Pluto is an alsatian |
| 3. Pluto is not an alsatian | 4. D is a Null set      |

**108.** If  $Y = F(D \cdot V)$  is not a null set. Then which of the following is implied:

- |                |                |                 |                  |
|----------------|----------------|-----------------|------------------|
| 1. All F are V | 2. All D are V | 3. Some F are D | 4. None of these |
|----------------|----------------|-----------------|------------------|

**109.** If  $Z = (P \cdot D) \cup M$  then it can be inferred that:

1. The elements of Z consist of Pluto the dog or any other mammal
2. Z implies any dog or mammal.
3. Z implies pluto or any other dog i.e. mammal
4. Z is a null set.

**110.** If  $X = M \cdot D$  is such that  $X = D$ , which of the following is true:

- |                 |                 |                    |                |
|-----------------|-----------------|--------------------|----------------|
| 1. All D are M. | 2. Some D are M | 3. X is a Null set | 4. All M are D |
|-----------------|-----------------|--------------------|----------------|

**DIRECTIONS for questions 111 – 116:** Answer each of the questions independent of each other.

**111.** Eight people carrying food baskets are going for a picnic on motorcycles. Their names are A, B, C, D, E, F, G, and H. They have four motorcycles, M1, M2, M3 and M4 among them. They also have four food baskets O, P, Q and R of different sizes and shapes and each can be carried only on motorcycles M1, M2, M3, or M4, respectively. No more than two persons can travel on a motorcycle and no more than one basket can be carried on a motorcycle. There are two husband-wife pairs in this group of eight people and each pair will ride on a motorcycle together. C cannot travel with A or B. E cannot travel with B or F. G cannot travel with F, or H, or D. The husband-wife pairs must carry baskets O and P. Q is with A and P is with D. F travels on M1 and E travels on M2 motorcycles. G is with Q, and B cannot go with R. Who is travelling with H?

- |      |      |      |      |
|------|------|------|------|
| 1. A | 2. B | 3. C | 4. D |
|------|------|------|------|

**112.** In a family gathering there are two males who are grandfathers and four males who are fathers. In the same gathering there are two females who are grandmothers and four females who are mothers. There is at least one grandson or a granddaughter present in this gathering. There are two husband-wife pairs in this group. These can either be a grandfather and a grandmother, or a father and a mother. The single grandfather (whose wife is not present) has two grandsons and a son present. The single grandmother (whose husband is not present) has two grand daughters and a daughter present. A grandfather or a grandmother present with their spouses does not have any grandson or granddaughter present. What is the minimum number of people present in this gathering?

1. 10                                      2. 12                                      3. 14                                      4. 16

**113.** I have a total of Rs. 1000. Item A costs Rs. 110, item B costs Rs. 90, item C costs Rs. 70, item D costs Rs. 40 and item E costs Rs. 45. For every item D that I purchase, I must also buy two of item B. For every item A, I must buy one of item C. For every item E, I must also buy two of item D and one of item B. For every item purchased I earn 1000 points and for every rupee not spent I earn a penalty of 1500 points. My objective is to maximise the points I earn. What is the number of items that I must purchase to maximise my points?

1. 13                                      2. 14                                      3. 15                                      4. 16

**114.** Four friends Ashok, Bashir, Chirag and Deepak are out shopping. Ashok has less money than three times the amount that Bashir has. Chirag has more money than Bashir. Deepak has an amount equal to the difference of amounts with Bashir and Chirag. Ashok has three times the money with Deepak. They each have to buy at least one shirt, or one shawl, or one sweater, or one jacket that are priced Rs. 200, Rs. 400, Rs. 600, and Rs. 1000 a piece, respectively. Chirag borrows Rs. 300 from Ashok and buys a jacket. Bashir buys a sweater after borrowing Rs. 100 from Ashok and is left with no money. Ashok buys three shirts. What is the costliest item that Deepak could buy with his own money?

1. A shirt                                      2. A shawl                                      3. A sweater                                      4. A jacket

**115.** In a "keep-fit" gymnasium class there are fifteen females enrolled in a weight-loss program. They all have been grouped in any one of the five weight-groups W1, W2, W3, W4, or W5. One instructor is assigned to one weight-group only. Sonali, Shalini, Shubhra, and Shahira belong to the same weight-group. Sonali and Rupa are in one weight-group, Rupali and Renuka are also in one weight-group. Rupa, Radha, Renuka, Ruchika, and Ritu belong to different weight-groups. Sornya cannot be with Ritu, and Tara cannot be with Radha. Komal cannot be with Radha, Sornya, or Ritu. Shahira is in W1 and Somya is in W4 with Ruchika. Sweta and Jyotika cannot be with Rupali, but are in a weight-group with total membership of four. No weight-group can have more than five or less than one member. Amita, Babita, Chandrika, Deepika, and Elina are instructors of weight-groups with membership sizes 5, 4, 3, 2, and 1 respectively. Who is the instructor of Radha?

1. Babita                                      2. Elina                                      3. Chandrika                                      4. Deepika

116. On her walk through the park, Harnsa collected 50 coloured leaves, all either maple or oak. She sorted them by category when she got home, and found the following:

The number of red oak leaves with spots is even and positive.

The number of red oak leaves without any spot equals the number of red maple leaves without spots.

All non-red oak leaves have spots, and there are five times as many of them as there are red spotted oak leaves.

There are no spotted maple leaves that are not red.

There are exactly 6 red spotted maple leaves.

There are exactly 22 maple leaves that are neither spotted nor red.

How many oak leaves did she collect?

1. 22

2. 17

3. 25

4. 18

**DIRECTIONS for questions 117 – 119:** A group of 3 or 4 is to be selected out five boys Ram, Shyam, David, Peter and Rahim; and two girls Fiza and Kavita. The selection has to be made subject to the following conditions:

*If Shyam is selected, he would insists on Ram not being selected for the same team.*

*If Rahim is selected, then Shyam must also be selected and vice versa.*

*Kavita can be selected only if David is selected.*

*David does not like Peter's presence in the same team as his.*

*Ram insists that he would be in the team only if Peter is there. David would like to have Fiza in the same team as his.*

117. Which of the following is a feasible group of four?

1. Ram, Peter, Fiza, Rahim

2. Shyam, Rahim, Kavita, David

3. Shyam, Rahim, Fiza, David

4. Fiza, David, Ram, Peter

118. Which of the following is a feasible group of three?

1. David, Ram, Rahim

2. Peter, Shyam, Rahim

3. Kavita, David, Shyam

4. Fiza, David, Ram

119. Which of the following statements is true?

1. Kavita and Ram can be part of a group of four.

2. A group of four can have two women.

3. A group of four can have all four men.

4. None of the above.

**DIRECTIONS for questions 120 – 123:** The following is a table describing garments manufactured based upon the colour and size of each lay. There are four sizes: M – Medium, L- Large, XL –Extra Large. There are three colours: Yellow, Red and White.

Lay No	Number of Garments											
	Yellow				Red				White			
	M	L	XL	XXL	M	L	XL	XXL	M	L	XL	XXL
1	14	14	7	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	42	42	21	0
3	20	20	10	0	18	18	9	9	0	0	0	0
4	20	20	10	0	0	0	0	0	30	30	15	0
5	0	0	0	0	24	24	12	0	30	30	15	0
6	22	22	11	0	24	24	12	0	32	32	16	0
7	0	24	24	12	0	0	0	0	0	0	0	0
8	0	20	20	10	0	2	2	1	0	0	0	0
9	0	20	20	10	0	0	0	0	0	22	22	11
10	0	0	0	0	0	26	26	13	0	20	20	10
11	0	22	2	11	0	26	26	13	0	22	22	11
12	0	0	2	2	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	20	20
14	0	0	0	0	0	0	0	0	0	0	22	22
15	0	0	10	10	0	0	2	2	0	0	22	22
16	0	0	0	0	1	0	0	0	1	0	0	0
17	0	0	0	0	0	5	0	0	0	0	0	0
18	0	0	0	0	0	32	0	0	0	0	0	0
19	0	0	0	0	0	32	0	0	0	0	0	0
20	0	0	0	0	0	5	0	0	0	0	0	0
21	0	0	0	18	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	26	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	22
24	0	0	0	8	0	0	0	1	0	0	0	0
25	0	0	0	8	0	0	0	0	0	0	0	12
26	0	0	0	0	0	0	0	1	0	0	0	14
27	0	0	0	8	0	0	0	2	0	0	0	12
Production	76	162	136	97	67	194	89	59	135	198	195	156
Order	75	162	135	97	67	194	89	59	135	197	195	155
Surplus	1	0	1	0	0	0	0	0	0	1	0	1

**120.** How many lays are used to produce Extra-Extra large fabrics?

1. 15                                      2. 16                                      3. 17                                      4. 18

**121.** How many lays are used to produce yellow coloured fabrics ?

1. 10                                      2. 11                                      3. 12                                      4. 14

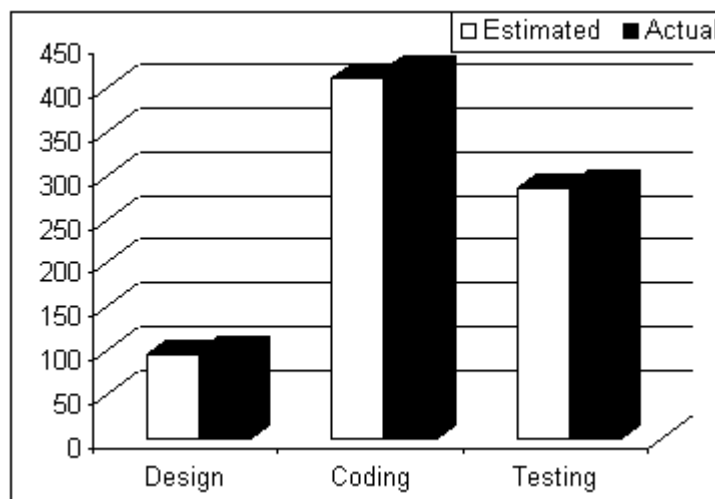
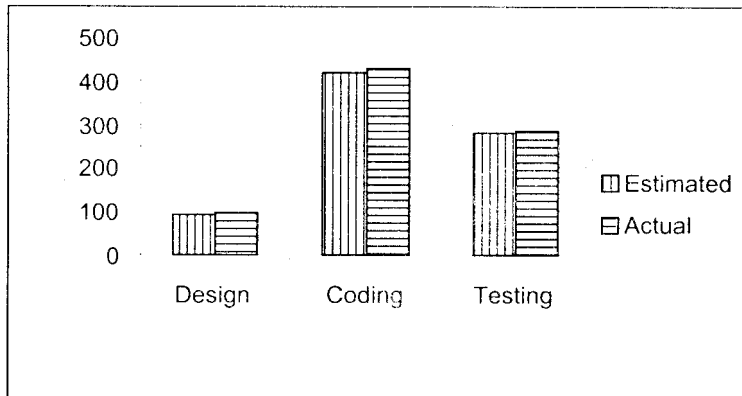
**122.** How many varieties of fabrics, which exceed the order, have been produced ?

1. 3                                      2. 4                                      3. 5                                      4. 6

**123.** How many lays are used to produce Extra-extra Large Yellow or Extra-extra Large White Fabrics?

1. 8                                      2. 9                                      3. 10                                      4. 15

**DIRECTIONS for questions 124 – 129:** Answer the questions based on the two graphs shown below. Figure 1 shows the amount of work distribution, in man-hours, for a software company between onsite and offsite activities. Figure 2 shows the estimated and actual work effort involved in the different offshore activities in the same company during the same period. [Note: onsite refers to work performed at the customer's premise and offshore refers to work performed at the developer's premise] There are



only three operations to be undertaken i.e., Design, Coding and Testing.

**124.** Which of the work requires as many man-hours as that spent in coding?

1. Offshore, design and coding
2. Offshore coding
3. Testing
4. Offshore, testing and coding

**125.** Roughly what percentage of the total work is carried out onsite?

1. 40 percent
2. 20 percent
3. 30 percent
4. 50 percent

**126.** The total effort in man-hours spent onsite is nearest to which of the following ?

1. Estimated and actual effort for offshore
2. Estimated man hours of offshore coding
3. Actual manhours of offshore testing
4. Half of the manhours of estimated offshore coding

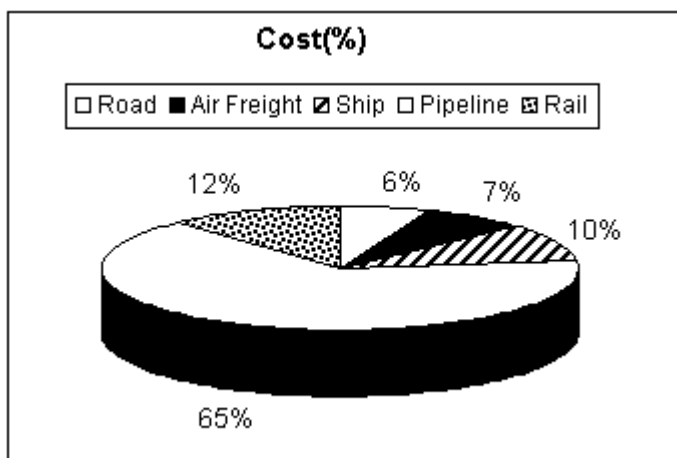
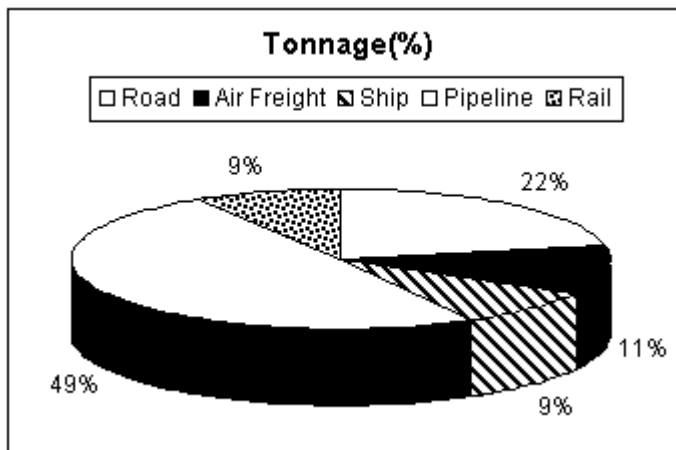
127. If 50 percent of offshore work were onsite, with distribution of effort between the tasks remaining the same, which is true about onsite work?
1. The amount of effort in coding is greater than the amount in testing
  2. The amount of effort in coding is less than the amount in design
  3. The amount of effort in design is greater than the amount in testing
  4. The amount of effort in offshore testing is greater than the amount in total design
128. If 50 percent of offshore work were onsite, with distribution of effort between the tasks remaining the same, the proportion of testing carried out offshore would be:
1. 40 %
  2. 30 %
  3. 50 %
  4. 70 %
129. If the total working hours were 100, which of the following tasks will account for approximately 50 hours?
1. Coding
  2. Design
  3. Offshore Testing
  4. Offshore Testing and Design

**DIRECTIONS for questions 130 – 133:** Answer these question based on the table given below concerning the busiest twenty international airports in the world.

No.	Name	International Airport Type	Code	Location	Passengers
1	Hartsfield	A	ALT	Atlanta, Georgia, USA	77939536
2	Chicago-O/hare	A	ORD	Chicago, Illinois, USA	72568076
3	Los Angeles	A	LAX	Los Angles, California, USA	63876561
4	Heathrow Airport	E	LHR	London, United Kingdom	62263710
5	DFW	A	DFW	Dallas/Ft. Worth, Texas, USA	60000125
6	Haneda Airport	F	HND	Tokyo, Japan	54338212
7	Frankfurt Airport	E	FRA	Frankfurt, Germany	45858315
8	Roissy-Charles de Gaulle	E	CDG	Paris, France	43596943
9	Sam Francisco	A	SFO	San Francisco, California, USA	40387422
10	Denver	A	DIA	Denver, Colorado, USA	38034231
11	Amsterdam Schiphol	E	AMS	Amsterdam, Netherlands	36781015
12	Minneapolis-St. Paul	E	MSP	Minneapolis-St.Paul USA	34216331
13	Detroit Metropolitan	A	DTW	Detroit, Michigan USA	34038381
14	Miami	A	MIA	Miami, Florida, USA	33899246
15	Newark	A	EWR	Newark, New Jersey, USA	33814000
16	McCarran	A	LAS	Las Vegas, Nevada, USA	33669185
17	Phoenix Sky Harbor	A	PHX	Phoenix, Arizona, USA	33533353
18	Kimpo	FE	SEL	Seoul, Korea	33371074
19	George Bush	A	IAH	Houston, Texas, USA	33089333
20	John F. Kennedy	A	JFK	New York, New York USA	32003000

130. Of the five busiest airports, what is the percentage of passengers handled by Heathrow airport?
1. 30                      2. 40                      3. 20                      4. 50
131. What percentage of the top 10 airports are in the United States of America?
1. 60                      2. 80                      3. 70                      4. 90
132. How many A category airports account for > 40 million passengers?
1. 4                        2. 5                        3. 6                        4. 7
133. How many non US airports handle greater than 30 million passengers?
1. 5                        2. 6                        3. 10                      4. 14

**DIRECTIONS for questions 134 – 136:** The question has two pie charts first depicting the percentage break up the total crude oil tonnage of the various transportation available. The second pie given the percentage break up of the total cost incurred. The total tonnage is 12 million tonnes and the total cost incurred is Rs. 30 million.



134. If P, Q, R be the cost incurred per ton of crude oil by ship, air freight and road respectively then find the correct relationship between P, Q, R :
1.  $R > Q > P$                       2.  $P > R > Q$                       3.  $P > Q > R$                       4.  $R > P > Q$



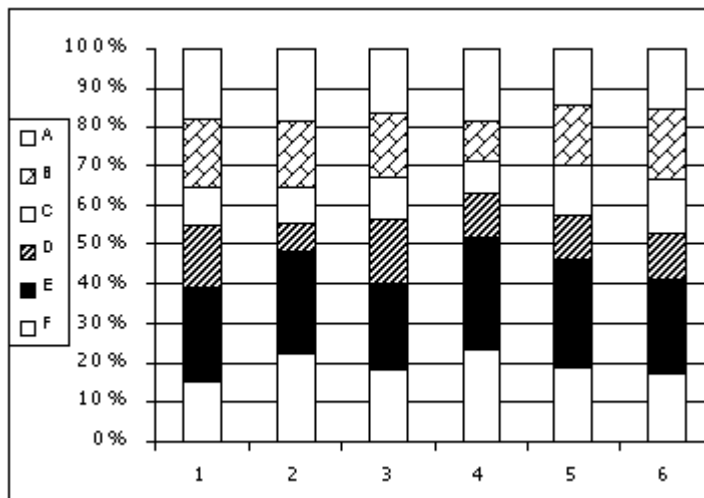
135. The cost incurred Rs. per ton for transportation of crude by rail and road (in Rs.) is :

1. 3                                      2. 1.5                                      3. 4.5                                      4. 8

136. Of all the options available the cheapest mode of transport is :

1. Road                                      2. Rail                                      3. Ship                                      4. Pipline

**DIRECTIONS for questions137 – 139:** Answer the following questions based on the data below:  
*Each of the Six companies in an industry have to perform exactly six operations A, B, C, D, E, and F. the percentage distribution of efforts for these six companies on these operations are given below:*



137. If the effort allocated to various operations is changed in the sequence: B and C are interchanged, then C and D are interchanged and finally D and E are interchanged. If the companies are now ranked in ascending order of the percentage effort allocated to operation E, then the rank of the company three is

1. 2                                      2. 3                                      3. 4                                      4. 5

138. If it is possible that the companies can remove outright the operations B, C, and D and redistribute the spared effort equally among all operations, then which operation will show maximum across all companies and all operations.

1. The company one in operation E                                      2. The company four in operation E  
 3. The company five in operation E                                      4. The company five in operation E

139. A new technology is introduced in company 4 such that the efforts allocated to operations B, C, D, E and F gets equally divided among these. What is the change in percentage effort of E?

- 1 Reduce by 12.3                      2. Reduce by 5.6                      3 Increase by 12.3                      4 Increase by 5.6

**140.** The Sharmas, The Banerjees and The Pattabirhamins eat different dishes for their lunch. The three families eat at different times and in different coloured chinaware. The following information is available about their eating habits:

The Sharmas eat at noon.

The family serving fried brinjal uses blue coloured chinaware

The Banerjees eat at two in the afternoon.

The family serving sambhar does not use red coloured chinaware

The family eating at 1 pm serves fried brinjal for lunch

The Pattabrahmins do not use white coloured chinaware

The family eating last serves makki ki roti

Which of the following statements is true?

1. The Bannerjees eat at 12.
2. The Sharma family eats sambhar in the white dinner set.
3. The Pittabrahmins eat brinjal in the red dinner set.
4. None of these

**141.** Mr. Ranga has three children about whose ages and dates of birth, he is always confused. However he has the following information available to help him out with the facts :

The Boy born in June is aged 7 years

One child whose name is not Anshuman is aged 4 years

Vaibhav is elder than Suprita

One boy was born in September. His name is not Vaibhav.

Suprita's Birthday falls in April

The youngest child is two years old.

Which of the following statements is true?

Based on the above clues, which one of the following statements is true?

1. Vaibhav is the oldest, followed by Anshuman who was born in September, Suprita was born in April and is the youngest.
2. Anshuman, the eldest of the three was born in June. Suprita is 4 and Vaibhav is 2.
3. Vaibhav is 7. Suprita was born in April and Anshuman is 2.
4. None of the above

**DIRECTIONS for Questions 142 to 143:** Elle is three times older than Zaheer. Zaheer is half as old as Waheeda. Yogesh is elder than Zaheer.

**142.** What is sufficient to estimate Elle's age ?

1. Zaheer is ten years old
2. Yogesh and Waheeda are both older than Zaheer by the same number of years
3. Both of the above
4. None of the above

**143.** Which of the following statements can be inferred from the information above

1. Yogesh is elder than waheeda
2. Elle is older than waheeda
3. Elle's age may be less than that of waheeda
4. None of the above

**DIRECTIONS for questions 144 to 150:** Each question is followed by two statements A and B. answer the question using the following instructions:

**Choose 1** if the question can be answered by using one of the statements alone, but cannot be answered using the other statement alone.

**Choose 2** if the question can be answered by using either statement alone.

**Choose 3** if the question can be answered by using both statements together, but cannot be answered using either statement alone.

**Choose 4** if the question cannot be answered even by using both statements together.

- 144.** Ram and Gopal bought apples from a fruit vendor. How many apples were bought by them?
- A. Ram bought half as many apples as Gopak bought.
  - B. The dealer had a stock of 500 apples.
- 145.** On a given day a boat ferried 1500 passengers in 12 hours. How many round trips did the boat make?
- A. The boat can carry 200 passengers at any time.
  - B. The boat takes 40 minutes each way with a 20 minute waiting time at the terminal
- 146.** What is the value of  $x$ ?
- A.  $x$  and  $y$  are unequal even integers,  $x/y$  is an odd integer
  - B.  $x$  and  $y$  are both even integers, each is less than 10 and the product of  $x$  and  $y$  is 12.
- 147.** What are the values of  $m$  and  $n$ ?
- A.  $n$  is an even integer and  $m$  is odd;  $m > n$
  - B. the product of  $m$  and  $n$  is 30
- 148.** A square is inscribed in a circle. What is the difference between their areas?
- A. The diameter of the circle is  $25\sqrt{2}$ cm
  - B. The side of the square is 25cm
- 149.** How much time is required for downloading the software?
- A. The data transfer rate is 6 kilobytes per second.
  - B. The size of the software is 4.5 megabytes
- 150.** Is the GDP of country X higher than that of country Y?
- A. The GDPs of countries X and Y have been growing at a compounded annual growth rate of 5 % and 6 % respectively over the past 5 years.
  - B. Five years ago the GDP of country X was higher than that of country Y.

***End of Section III***

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