CAT Model Paper 2019

Section 1 Quantitative Ability

Directions for Questions 1 and 2: Answer the questions on the basis of the information given below.

In an examination, there are 100 questions divided into three groups A, B and C such that each group contains at least one question. Each question in group A carries 1 mark, each question in group B carries 2 marks and each question in group C carries 3 marks. It is known that the questions in group A together carry at least 60% of the total marks.

Q.1 If group C contains 8 questions and group B carries at least 20% of the total marks, which of the following best describes the number of questions in group B?
1. 11 or 12
2. 12 or 13
3. 13 or 14
4. 14 or 15

Q.2 If group B contains 23 questions, then how many questions are there in group C?
1. 1
2. 2
3. 3
4. Cannot be determined

Directions for Questions 3 and 4: Answer the questions independently of each other.

Q.3 Consider the sequence of numbers a1 , a2, a3 ...to infinity where a1 = 81.33 and a2 = -19 and a j = a j-1 -a j-2 for j > 3 .
What is the sum of the first 6002 terms of this sequence?
1. -100.33
2. -30.00
3. 62.33
4. 119.33

Q.4 Let u = (log2x) 2 -61og2x + 12 where. x is a real number. Then the equation xU = 256, has
1. No solution for x
2. exactly one solution for x.
3. Exactly two distinct solutions for x
4. Exactly three distinct solutions for x

Directions for Questions 5 and 6: Answer the questions on the basis of the information given below.

$f_1(x)$ =	x	$0 \leq x \leq 1$
=	1	$x \geq 1$
=	0	Otherwise

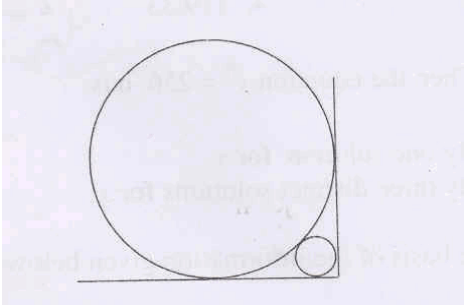
$f_2(x)$ =	$f_1(-x)$	for all x
$f_3(x)$ =	$-f_2(x)$	for all x
$f_4(x)$ =	$f_1(-x)$	for all x

Q.5 How many of the following products are necessarily zero for every x:
f 1(X) f 2(x), f 2 (X) f 3 (x), f 2 (x) f 4 (x).
1. 0
2. 1
3. 2
4. 3

Q.6 Which of the following is necessarily true?
1. f 4 (x) = f1 (x) for all x
2. f 1(X)= -f 3 (-x) for all x
3. f 2 (-x) = f 4 (x) for all x
4. f 1(X) +f 3 (x) =0 for all x

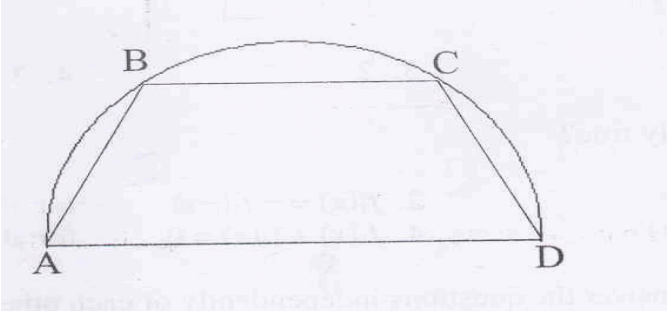
Q.7 A new flag is to be designed with six vertical stripes using some or all of the colours yellow, green, blue and red. Then, the number of ways this can be done such that no two adjacent stripes have the same colour is
1. 12x81
2. 16 x 192
3. 20x 125
4. 24x216

Q.8 A circle with radius 2 is placed against a right angle. Another smaller circle is also placed as shown in the adjoining figure. What is the radius of the smaller circle?



1. 3-2v2
2. 4-2v2
3. 7-4v2
4. 6-4v2

Q.9 On a semicircle with diameter AD, chord BC is parallel to the diameter. Further, each of the ch ords AB and CD has length 2, while AD has length 8. What is the length of BC?



1. 7.5
2. 7
3. 7.75
4. None of the above

Q.10 Karan and Arjun run a 100 -metre race, where Karan beats Arjun by 10 metres. To do a favour to Arjun, Karan starts 10 metres behind the starting line in a second 100-metre race. They both run at their earlier speeds. Which of the following is true in connection with the second race?

1. Karan and Arjun reach the finishing line simultaneously.
2. Arjun beats Karan by 1 metre.
3. Arjun beats Karan by 11metres.
4. Karan beats Arjun by 1 metre.

Q.11 Suppose n is an integer such that the sum of the digits of n is 2, and $10^{10} < n < 10^{11}$. The number of different values for n is

1.11
2. 10
3. 9
4. 8

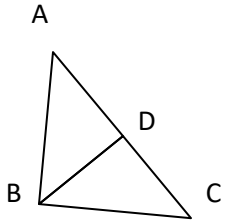
Q.12 Two boats, traveling at 5 and 10 kms per hour, head directly towards each other. They begin at a distance of 20 kms from each other. How far apart are they (in kms) one minute before they collide?

1.1/ 12
2.1/ 6
3.1/ 4
4.1/ 3

Q.13 Each family in a locality has at most two adults, and no family has fewer than 3 children. Considering all the families together, there are more adults than boys, more boys than girls, and more girls than families. Then the minimum possible number of families in the locality is

1.4
2. 5
3. 2
4. 3

Q.14 In triangle ABC, angle B is a right angle. If AC is 6 cm, and D is the mid -point of side AC, the length of BD is:



1. 4 cm
2. 6 cm
3. 3 cm
4. 3.5 cm

DIRECTIONS for Questions 15 and 16: Answer the questions based on the following information:- A, S, M and D are functions of x and y, and t hey are defined as follows:

A(x, y) + x + y
S(x, y) = x - y
M(x, y) = xy
D(x, y) = x/y, where y is not equal to 0.

Q.15 What is the value of M(M(A(M(x, y), S(y,x)), x), A(y, x)) for x = 2, y = 3
1. 50
2. 140
3. 25
4. 70

Q.16 What is the value of S(M(D(A(a, b), 2), D(A(a, b),2)), M(D(S(a, b), 2), D(S(a, b),2)))
1. $a^2 + b^2$
2. ab
3. $a^2 - b^2$
4. a/b

DIRECTIONS for Questions 17 to 18: Answer the questions based on the following data:
A salesman enters the quantity sold and the price into the computer. Both the numbers are two-digit numbers. Once, by mistake, both the numbers were entered with their digits interchanged. The total sales value remained the same, i.e. Rs. 1148, but the inventory reduced by 54.

Q.17 What is the actual price per piece?
1. 82
2. 41
3. 56
4. 28

Q.18 What is the actual quantity sold?
1. 28
2. 14
3. 82
4. 41

Q.19 A rectangular sheet of paper, when halved by folding it at the mid point of its longer side, results in a rectangle, whose longer and shorter sides are in the same proportion as the longer and shorter sides of the original rectangle. If the shorter side of the original rectangle is 2, what is the area of the smaller rectangle?

1. 4v 2
2. 2v 2
3. v 2
4. None of the above

Q.20 In a mile race Akshay can be given a start of 128 metres by Bhairav. If Bhairav can given Chinmay a start of 4 metres in a 100 metres dash, then who out of Akshay and Chinmay will win a race of one and half mile, and what will be the final lead given by the winner to the loser? (One mile is 1600 metres).

1. Akshay, 1/12 miles
2. Chinmay, 1/32 miles
3. Akshay, 1/24 miles
4. Chinmay, 1/16 miles

Q.21 In a watch, the minute hand crosses the hour hand for the third time exactly after every 3 hrs 18 min 15 seconds of watch time. What is the time gained or lost by this watch in one day?

1. 14 min 10 seconds lost
2. 13 min 50 seconds lost
3. 13 min 20 second gained
4. 14 min 40 second gained.

Q.22 A man travels form A to B at a speed of x kmph. He then rests at B or x hours. He then travels from B to C at a speed of 2x kmph and rests at C for 2x hours. He moves further to D at a speed twice as that between B and C. He thus reaches D in 16 hours. If distances A-B, B-C, C-D are all equal to 12 km, the time for which he rested at B could be:

1. 3 hours
2. 6 hours
3. 2 hours
4. 4 hours

Q.23 Instead of a metre scale, a cloth merchant uses a 120 cm scale while buying, but uses an 80 cm scale while selling the same cloth. If he offers a discount of 20 percent on cash payment, what is his overall percent profit?

1. 20%
2. 25%
3. 40%
4. 15%

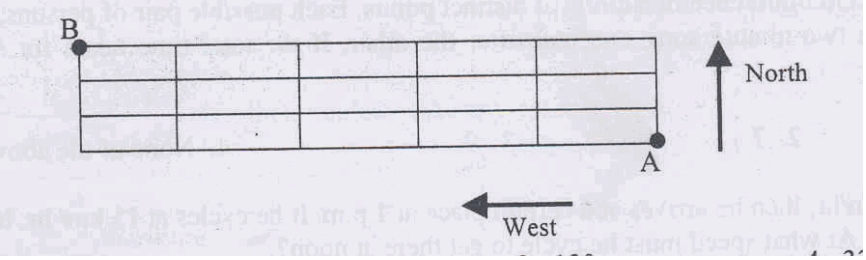
Q.24 A man has nine friends, four boys and five girls. In how many ways can he invite them, if there have to be exactly three girls in the invitees?

1. 320
2. 160
3. 80
4. 200

Q.25 In a locality, two -thirds of the people have cable-TV, one-fifth have VCR, and one -tenth have both, what is the fraction of people having either cable TV or VCR?

1. 19/30
2. 3/5
3. 17/30
4. 23/30

Q.26 In the adjoining figure, the lines represent one -way roads allowing travel only northwards or only westwards. Along how many distinct routes can a car reach point B from point A?



1. 15
2. 56
3. 120
4. 336

DIRECTIONS for Questions 27 and 28: Use the following information:

A watch dealer incurs an expense of Rs 150 for producing every watch. He also incurs an additional expenditure of Rs. 30,000, which is independent of the number of watches produced. If he is able to sell a watch during the season, he sells it for Rs. 250. If he fails to do so, he has to sell each watch for Rs. 100.

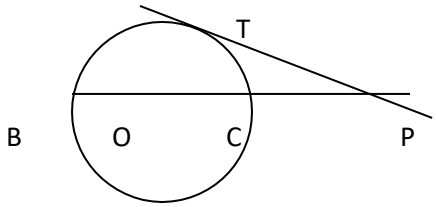
Q.27 If he is able to sell only 1200 out of the 1500 watches he has made in the season, then in the season he has made a profit of:

1. Rs. 90,000
2. Rs. 75,000
3. Rs. 45,000
4. Rs. 60,000

Q.28 If he produces 1500 watches, what is the number of watches that he must sell during the season in order to break even, given that he is able to sell all the watches produced?

1. 500
2. 700
3. 800
4. 1,000

Q.29 In the figure 'O' is the center of the circle and PT is the tangent to the circle at T. If PC = 4 cm and PT= 8 cm, find the radius of the circle.



1. 5.5 cm
2. 6.5 cm
3. 6 cm
4. 7 cm

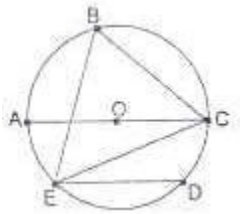
Q.30 The total number of integer pairs (x, y) satisfying the equation x + y = xy is
1. 0
2. 1
3. 2
4. None of the above

Q.31 A closed wooden box of thickness 0.5 cm and length 21 cm, width 11 cm, and height 6 cm, is panted on the inside. The cost of painting is Rs 70. What is the rate of painting in rupees per s**Q.** cm?
1. 0.7
2. 0.5
3. 0.1
4. 0.2

Q.32 The price of a Maruti car rises by 30% while the sales of the car came down by 20%. What is the percent change in the total revenue?
1. - 4
2. - 2
3. + 4
4. 0

Q. 33 From a circular sheet of paper with a radius of 20 cm, four circles of radius 5cm each are cut out. What is the ratio of the uncut to the cut portion?
1. 1 : 3
2. 4 : 1
3. 3 : 1
4. 4 : 3

Q.34 In the adjoining figure, chord ED is parallel to the diameter AC of the circle.
If Đ CBE = 65°, then what is the value of Đ DEC?

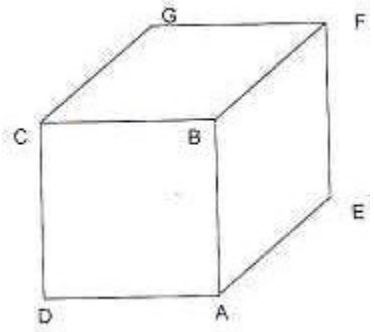


1. 35o
2. 55o
3. 45o
4. 25o

Q.35 I sold two watches for Rs. 300 each, one at a loss of 10% and the other at a profit of 10%. What is the percent loss (-) or the percent profit (+) that resulted from the transaction?
1. (+) 10
2. (-) 1
3. (+) 1
4. 0

Q.36 A sprinter starts running on a circular path of radius*r* metres. Her average speed (in metres/ minute) is ? r during the first 30 seconds, ? r / 2 during next one minute, ? r/ 4 during next 2 minutes, ? r / 8 during next 4 minutes, and so on. What is the ratio of the time taken for the *nth* round to that for the previous round?
1. 4
2. 8
3. 16
4. 32

Q.37 If the lengths of diagonals DF, AG and CE of the cube shown in the adjoining figure are equal to the three sides of a triangle, then the radius of the circle circumscribing t hat triangle will be



1. equal to the side of the cube
2. v 3 times the side of the cube
3. $1/\sqrt{3}$ times the side of the cube
4. impossible to find from the given information

Section 2 Reading Comprehension

Directions for Questions 38 to 73: Each of the six passages given below is followed by a set of question! Choose the best answer to each question.

PASSAGE I

Throughout human history the leading causes of death have been infection and trauma. 'Modem medicine has scored significant victories against both, and the
major causes of ill health and death are now the chronic degenerative diseases, such as coronary artery disease, arthritis, osteoporosis, Alzheimer's, macular degeneration, cataract and cancer. These have a long latency period before symptoms appear and a diagnosis is made. It follows that the majority of apparently healthy people are pre - ill.

But are these conditions inevitably degenerative? A truly preventive medicine that focused on the pre -ill, analysing the metabolic errors which lead to clinical illness, might be able to correct them before the first symptom. Genetic risk factors are

known for all the chronic degenerative diseases, and are important to the individuals who possess them. At the population level, however, migration studies confirm that these illnesses are linked for the most part to lifestyle factors exercise, smoking and nutrition. Nutrition is the easiest of these to change, and the most versatile tool for affecting the metabolic changes needed to tilt the balance away from disease. .
Many national surveys reveal that malnutrition is common in developed countries. This is not the calorie and/ or micro nutrient deficiency associated with developing nations (Type A malnutrition); but multiple micro nutrient depletion, usually combined with calorific balance or excess (Type B malnutrition). The incidence and severity of Type B malnutrition will be shown to be worse if newer micro nutrient groups such as the essential fatty acids, xanthophylls and flavonoids are included in the surveys. Commonly ingested levels of these micro nutrients seem to be far too low in many develop ed countries.

There is now considerable evidence that Type B malnutrition is a major cause of chronic degenerative diseases. If this is the case, then it is logical to treat such diseases not with drugs but with multiple micro nutrient repletion, or 'pharmaco-nutrition'. This can take the form of pills and capsules -'nutraceuticals', or food formats known as 'functional foods', This approach has been neglected hitherto because it is relatively unprofitable for drug companies-the products are hard to patent -and it is a strategy which does not sit easily with modem medical.

Interventionism. Over the last 100 years, the drug industry has invested huge sums in developing a range of subtle and powerful drugs to treat the many diseases we are subject to. Medical t raining is couched in pharmaceutical terms and this approach has provided us with an exceptional range of therapeutic tools in the treatment of disease and in acute medical emergencies. However, the pharmaceutical model has also created an unhealthy depend ency culture, in which relatively few of us accept responsibility for maintaining our own health. Instead, we have handed over this responsibility to health professionals who know very little about health maintenance, or disease prevention.

One problem for supporters of this argument is lack of the right kind of hard evidence. We have a wealth of epidemiological data linking dietary factors to health profiles / disease risks, and a great deal of information on mechanism: how food factors interact with our biochemistry. But almost all intervention studies with micro nutrients, with the notable exception of the omega 3 fatty acids, have so far produced conflicting or negative results. In other words, our science appears to have no predictive value. Does this invalidate the science? Or are we simply asking the wrong questions?

Based on pharmaceutical thinking, most intervention studies have attempted to measure the impact of a single

micro nutrient on the incidence of disease. The classical approach says that if you give a compound formula to test subjects and

obtain positive results, you cannot know which ingredient is exerting the benefit, so you must test each ingredient individually. But in the field of nutrition, this does not work. Each intervention on its own will hardly make enough difference to be measured. The best therapeutic response must therefore combine micro nutrients to normalise our internal physiology. So do we need to analyse each individual's nutritional status and then tailor a formula specifically for him or her? While we do not have the resources to analyse millions of individual cases, there is no need to do so. The vast majority of people are consuming sub optimal amounts of most
Micro nutrients, and most of the micro nutrients concerned are very safe. Accordingly, a comprehensive and universal program of micro nutrient support is probably the most cost -effective and safest way of improving the general health of the nation.

Q.38 Why are a large number of apparently healthy people deemed pre-ill?
1.They may have chronic degenerative diseases.
2.They do not know their own genetic risk factors which predispose them to diseases.
3.They suffer from Type -B malnutrition.
4.There is a lengthy latency period associated with chronically degenerative diseases

Q.39 Type -B malnutrition is a serious concern in developed countries because
1.developing countries mainly suffer from Type -A malnutrition.
2.it is a major contributor to illness and death.
3.pharmaceutical companies are not producing drugs to treat this condition.
4.national surveys on malnutrition do not include newer micro nutrient groups.

Q.40 Tailoring micro nutrient -based treatment plans to suit individual deficiency profiles is not necessary because
1.it very likely to give inconsiste nt or negative results.
2.it is a classic phannaceutical approach not suited to micro nutrients.
3.most people are consuming suboptimal amounts of safe-to-consume micro nutrients.
4.it is not cost effective to do so.

Q.41 The author recommends micronutrient-repletion for large -scale treatment of chronic degenerative diseases because
1.it is relatively easy to manage.
2.micronutrient deficiency is the cause of these diseases.
3.it can overcome genetic risk factors.
4.it can compensate for other lifestyle factors.

PASSAGE II

The membrane-bound nucleus is the most prominent feature of the eukaryotic cell. Schleiden and Schwann, when setting forth the cell doctrine in the 1830's, considered that it had a central role in growth and development. Their belief has been fully supported even though they had only vague notions as to what that role might be, and how the role was to be expressed in some cellular action. The membraneless nuclear area of the prokaryotic cell, with its tangle of fine threads, is now known to play a similar role.

Some cells, like the sieve tubes of vascular plants and the red blood cells of mammals, do not possess nuclei during the greater part of their existence, although they had nuclei when in a less differentiated state. Such cells can no longer divide and their life span is limited. Other cells are regularly multinucleate. Some, like the cells of striated muscles or the latex vessels of higher plants, become so through cell fusion. Some, like the unicellular protozoan Paramecium, are normally binucleate, one of the nuclei serving as a source of hereditary information for the next generation, the other governing the day-to-day metabolic activities of the cell. Still other organisms, such as some fungi, are multinucleate because cross walls, dividing the mycelium into specific cells, are absent or irregularly present. The uninucleate situation, however, is typical for the vast majority of cells, and it would appear that this is the most efficient and most economical manner of partitioning living substance into manageable units. This point of view is given credence not only by the prevalence of uninucleate cells, but because for each kind of cell there is a ratio maintained between the volume of the nucleus and that of the cytoplasm. If we think of the nucleus as the control centre of the cell, this would suggest that for a given kind of cell performing a given kind of work, one nucleus can "take care of" a specific volume of cytoplasm and keep it in functioning order. In terms of materials and energy, this must mean providing the kind of information needed to keep flow of materials and energy moving at the correct rate and in the proper channels. With the multitude of enzymes in the cell, materials and energy can of course be channelled in a multitude of ways; it is the function of some informational molecules to make channels of use more preferred than others at any given time. How this regulatory control is exercised is not entirely clear.

The nucleus is generally a rounded body. In plant cells, however, where the centre of the cell is often occupied by a large vacuole, the nucleus may be pushed against the cell wall, causing it to assume a lens shape. In some white blood cells, such as polymorphonucleated leukocytes, and in cells of the spinning gland of some insects and spiders, the nucleus is very much lobed. The reason for this is not clear, but it may relate to the fact that for a given volume of nucleus, a lobate form provides a much greater surface area nuclear - cytoplasmic exchanges, possibly affecting both the rate and the amount of metabolic reactions. The nucleus, whatever its shape, is segregated from the cytoplasm by a double membrane, the nuclear envelope, with the two membranes separated from each other by a perinuclear space of varying width. The envelope is absent only during the time of cell division, and then just for a brief period. The outer membrane is often continuous with the membranes of the endoplasmic reticulum, a possible retention of an earlier relationship, since the envelope , at least in part, is formed at the end of cell division by coalescing fragments of the endoplasmic reticulum. The cytoplasm side of the nucleus is frequently coated with ribosomes, another fact that stresses the similarity and relation of the nuclear envelope to the endoplasmic reticulum. The inner membrane seems to possess a crystalline layer where it abuts the nucleoplasm, but its function remains to be determined.

Everything that passes between the cytoplasm and the nucleus in the eukaryotic cell must transverse the nuclear envelope. This includes some fairly large molecules as well as bodies such as ribosomes, which measure about 25 mm in diameter. Some passageway is, therefore, obviously necessary since there is no indication of dissolution of the nuclear envelope in order to make such movement possible. The nuclear pores appear to be reasonable candidates for such passageways. In plant cells these are irregularly and rather sparsely distributed over the surface of the nucleus, but in the amphibian oo cyte, for example, the pores are numerous, regularly arranged, and octagonal and are formed by the fusion of the outer and inner membrane.

Q.42 According to the first paragraph, the contention of Schleiden and Schwann that the nucleus is the most important part of the cell has:
1. been proved to be true.
2. has been true so far but false in the case of the prokaryotic cell
3. is only partially true.
4. has been proved to be completely false.

Q.43 Which of the following kinds of cells do not have nuclei?
1. Sieve Tubes
2. Red bloods cells of mammals.
3. Prokaryotic cells
4. None of the above.

Q.44 What is definitely a function of the nuclei of the normally binucleate cell?
1. To arrange for the growth and nourishment if the cell.
2. To hold hereditary information for the next generation.
3. To make up the basic physical structure of the organism.
4. To fight the various foreign diseases attacking the body.

Q.45 It may be inferred from the passage that the vast majority of cells are:
1. Multinucleate
2. Binucleate
3. Uninucleate
4. Anucleate.

Q.46 Why, according to the passage, are fungi multinucleate?
1. Because they need more food to survive.
2. Because they frequently lack walls dividing the mycelium.
3. Because the mycelium is area-wise much bigger that other cells.
4. Cannot be determined from the passage.

Q.47 Why, according to the passage, is the polymorphonucleated leukocyte probably lobed?
1. Because it is quite convoluted in its functions.
2. Because it is a red blood cell which is the most important cell in the body.
3. Because it provides a greater area for metabolic reaction.
4. Because it previous greater strength to the spider web due to greater area.

Q.48 The function of the crystalline layer of the inner membrane of the nucleus is:
1. generation of nourishment of the cell.
2. holding together the disparate structure of the endoplasmic reticulum.
3. helping in transversal of the nuclear envelope.
4. cannot be determined from the passage.

PASSAGE III

The painter is now free to paint anything he chooses. There are scarcely any forbidden subjects, and today everybody is prepared to admit that a painting of some fruit can be as important as a painting of a hero dying. The Impressionists did as much as anybody to win this previously unheard-of freedom for the artist. Yet, by the next generation, painters began to abandon the subject altogether, and began to paint abstract picture s. Today the majority of pictures painted are abstract.

Is there a connection between these two developments? Has art gone abstract because the artist is embarrassed by his freedom? Is it that, because he is free to paint anything, he doesn't know what to paint? Apologists for abstract art often talk of it as the art of maximum freedom. But could this be the freedom of the desert island? It would take too long to answer these questions properly. I believe there is a connection. Many things have encouraged the development of abstract art. Among them has been the artists' wish to avoid the difficulties of finding subjects when all subjects are equally possible.
I raise the matter now because I want to draw attention to the fact that the painter's choice of a subject is a far more complicated question than it would at first seem. A subject does not start with what is put in front of the easel or with something which the painter happens to remember. A subject starts with the painter deciding he would like to pai nt such -and -such because for some reason or other he finds it meaningful. A subject begins when the artist selects something for special mention. (What makes it special or meaningful may seem to the artist to be purely visual -its colours or its form.) When the subject has been selected, the function of the painting itself is to communicate and justify the significance of that selection.

It is often said today that subject matter is unimportant. But this is only a reaction against the excessively literary a nd moralistic interpretation of subject matter in the nineteenth century. In truth the subject is literally the beginning and end of a painting. The painting begins with a selection (1 will paint this and not everything else in the world); it is finished w hen that selection is justified (now you can see all that 1 saw and felt in this and how it is more than merely itself).

Thus, for a painting to succeed it is essential that the painter and his public agree about what is significant. The subject may have a personal meaning for the painter or individual spectator; but there must also be the possibility of their agreement on its general meaning. It is at this point that the culture of the society and period in question precedes the artist and his art. Renais sance art would have meant nothing to the Aztecs -and vice versa. If, to some extent, a few intellectuals can appreciate them both today it is because their culture is an historical one: its inspiration is history and therefore it can include within itself, in principle if not in every particular, all known developments to date.

When a culture is secure and certain of its values, it presents its artists with subjects. The general agreement about what is significant is so well established that the significan ce of a particular subject accrues and becomes traditional. This is true, for instance, of reeds and water in China, ()f the nude body in Renaissance, of the animal in Africa. Furthermore, in such cultures the artist is unlikely to be a free agent: he will be employed for the sake of particular Subjects, and the problem, as we have just described it, will not occur to him.

When a culture is in a state of disintegration or transition the freedom of the artist increases -but the question of subject matter bec omes problematic for him: he, himself, has to choose for society. This was at the basis of all the increasing crises in European art during the nineteenth century. It is too often forgotten how many of the art scandals of that time were provoked by the choice of subject (Gericault, Courbet, Daumier, Degas, Lautrec, Van Gogh, etc.).

By the end of the nineteenth century there were, roughly speaking, two ways in which the painter

could meet this challenge of deciding what to paint and so choosing for society. Either he identified himself with the people and so allowed their lives to dictate his subjects to him; or he had to find his subjects within himself as painter. By people I mean everybody except the bourgeoisie. Many painters did of course work for the b ourgeoisie according to their copy -book of approved subjects, but all of them, filling the Salon and the Royal Academy year after year, are now forgotten, buried under the hypocrisy of those they served so sincerely.

Q.49 In the sentence, "I believe there is a connection" (second paragraph), what two developments is the author referring to?

1. Painters using a dying hero and using a fruit as a subject of painting.
2. Growing success of painters and an increase in abstract forms.
3. Artists gaining freedom to choose subjects and abandoning subjects altogether.
4. Rise of Impressionists and an increase in abstract forms.

Q.50 When a culture is insecure, the painter chooses his subject on the basis of:

1. The prevalent style in the society of his time.
2. Its meaningfulness to the painter.
3. What is put in front of the easel.
4. Past experience and memory of the painter.

Q.51 Which of the following views is taken by the author?

1. The more insecure a culture, the greater the freedom of the artist.
2. The more secure a culture, the greater the freedom of the artist.
3. The more secure a culture, more difficult the choice of subject.
4. The more insecure a culture, the less significant the choice of the subject.

Q.52 Which of the following is NOT necessarily among the attributes needed for a painter to succeed:

1. The painter and his public agree on what is significant.
2. The painting is able to communicate and justify the significance of its subject selection.
3. The subject has a personal meaning for the painter.
4. The painting of subjects is inspired by historical developments.

Q.53 In the context of the passage, which of the following statements would NOT be true?

1. Painters decided subjects based on what they remembered from their own lives.
2. Painter s of reeds and water in China faced no serious problem of choosing a subject.
3. The choice of subject was a source of scandals in nineteenth century European art.
4. Agreement on the general meaning of a painting is influenced by culture and historical co ntext.

PASSAGE IV

This is an issue-less election. There is no central personality of whom voters have to express approval or dislike; no central matter of concern that makes this a one-issue referendum like so many elections in the past; no central party around which everything else revolves the Congress has been displaced from its customary pole position, and no one else has been able to take its place. Indeed, given that all-seeing video cameras of the Election Commission, and the detailed pictures they are putting together on campaign expenditure, there isn't even much electioneering: no slogans on the walls, no loudspeakers blaring forth at all hours of the day and night, no cavalcades of cars heralding the arrival of a candidate at the local bazaar. Forget it being an issue-less election: is this an election at all?

Perhaps the "fun" of an election lies in its featuring someone who you can love or hate. But even the general election, involving nearly 600 million voters, has been reduced to a boring non -event. After all, the Nehru-Gandhi clan has disappeared from the political map, and the majority of voters will not even be able to name PV Narasimha Rao as India's Prime Minister. There could be as many as a dozen prime ministerial candidates ranging from Jyoti Basu to Ramakrishna Hegde, and from Chandra Shekar to (believe it or not) KR Narayanan. The sole personality who stands out, therefore, is none of the players, but the umpire: T.N. Seshan.

As for the parties, they are like the blind men of Hindustan, trying in vain to gauge the contours of the animal they have to confront. But it doesn't look as if it will be the mandir masjid, nor will it be Hindutva, or economic nationalism. The Congress would like it to be stability, but what does that mean for the majority? Economic reform is a non-issue for most people and with inflation down to barely 4%, prices are not top of the mind either. In a strange twist, after the hawala scandal, corruption has been pushed off the map too.

But ponder for a moment. Isn't this state of affairs astonishing given the context? Consider that so many ministers have had to resign over the hawala issue; that a governor who was a cabinet minister has also had to quit in the wake of judicial displeasure; that the prime minister himself is under investigation for his involvement in not one scandal but two; that the main prime ministerial candidate from the opposition has had to how out because he too has been charged in the hawala case; and that the head of the "third force" has his own little (or not so little) fodder scandal to face. Why then is corruption not an issue -- not as a matter of competitive politics, but as an issue on which the contenders for power feel they have to offer th e prospect of genuine change? If all his does not make the parties (almost all of whom have broken the law in not submitting their audited accounts every year to the income tax authorities) realise that the country both needs -- and is ready for -- change in fundamental ways, what will? Think also, for a moment, of the change in the functioning and attitude of the Supreme Court; the assertiveness of the Election Commission, giving new life to a model code of conduct that has been ignored for a quarter century; the independence that has been thrust upon the Central Bureau of Investigation; and the fresh zeal on the part of tax collectors out to nab corporate no -gooders. Think also that at no other point since the Emergency of 1975-77 have so many people in power been hounded by the system for their misdeeds.

In this just a case of a few individuals outside the political system doing their job, or is the country heading for a few era? The seventies saw the collapse of the national consensus that marked the Ne hruvian era, and ideology took over in the Indira Gandhi years. That too was buried by Rajiv Gandhi and his technocratic friends. And now, we have these issue -less elections. One possibility is that the country is heading for a period of constitutionlism, as the other arms of the state reclaim some of the powers they lost, or yielded, to the political establishment. Economic reform freed one part of Indian society from the clutches of the political class. Now, this could spread to other parts of the system. Against such a dramatic backdrop, it should be obvious that people (voters) are looking for accountability, for ways in which to make a corrupted system work again. And the astonishing thing is that no party has sought to ride this particular wave; instead, all are on the defensive, desperately evading the real issues. No wonder this is an "issue-less" election.

Q.54 A suitable title to the passage would be:
1. Elections: A preview
2. The country's issue -less elections
3. T.N. Seshan - the real hero.
4. Love or hate them, but vote for them.

Q.55 Which of the following are not under scrutiny for alleged corruption, according to the passage?
1. The opposition prime ministerial candidate.
2. P.V. Narasimha Rao.
3. The leader of the 'third force'.
4. Ramakrishna Hegde.

Q.56 Why does the author say that the sole personality who stands out in the elections is T. N. Seshan?
1. Because all the other candidates are very boring.
2. Because all the other candidates do not have his charisma.
3. Because the shadow of his strictures are looming large over the elections.
4. None of the above.

Q.57 According to the passage, which of the following is not mentioned as even having the potential to be an issue in the elections?
1. The mandir/mas jid issue.
2. The empowerment of women
3. Economic Nationalism
4. Hindutva

Q.58 Why does the author say that almost all parties have broken the law?
1. Because they all indulge in corrupt electoral practices.
2. Because they all have more income that recorded sources.
3. Because they are all indicted on various charges.
4. Because they have failed to submit audited accounts to tax authorities.

Q.59 Which of the following has not been responsible for the winds of change blowing through the country, according to the passage?
1. Greater awareness of the part of the general public
2. Enforcement of a model code of conduct by the Election Commission
3. Greater independence to the Central Bureau of Investigation.
4. Fresh zeal on the part of tax collectors.

PASSAGE V

Fifty feet away three male lions lay by the road. They didn't appear to have a hair on their heads. Noting the color of their noses (leonine noses darken as they age, from pink to black), Craig estimated that they were six years old -young adults. "This is wonderful!" he said, after staring at them for several moments."This is what we came to see. They really are maneless." Craig, a professor at the University of Minnesota, is arguably the leading expert on the majestic Serengeti lion, whose head is mantled in long, thick hair. He and Peyton West, a doctoral student who has been working with him in Tanzania, had never seen the Tsavo lions that live some 200miles east of the Serengeti. The scientists had partly suspected that the maneless males were adolescents mistaken for adults by amateur observers. Now they knew better.

The Tsavo research expedition was mostly Peyton's show. She had spent several years in Tanzania, compiling the data she needed to answer a question that ought to have been answered long ago: Why do lions have manes? It's the only cat, wild or domestic, that displays such ornamentation. In Tsavo she was attacking the riddle from the opposite angle. Why do its lions not have manes? (Some "maneless" lions in Tsavo East do have partial manes, but they rarely attain the regal glory of the Serengeti lions'.) Does environmental adaptation account for the trait? Are. the lions of Tsavo, as some people believe, a distinct subspecies of their Serengeti cousins?

The Serenge ti lions have been under continuous observation for more than 35 years, beginning with George Schaller's pioneering work in the 1960s. But the lions in Tsavo, Kenya's oldest and largest protected ecosystem, have hardly been studied. Consequently, legends h ave grown up around them. Not only do they look different, according to the myths, they behave differently, displaying greater cunning and aggressiveness. "Remember too," Kenya: The Rough Guide warns,"Tsavo's lions have a reputation of ferocity." Their fe arsome image became well - known in 1898, when two males stalled construction of what is now Kenya Railways by allegedly killing and eating 135 Indian and African laborers. A British Army officer in charge of building a railroad bridge over the Tsavo River, Lt. Col. J. H. Patterson, spent nine months pursuing the pair before he brought them to bay and killed them. Stuffed and mounted, they now glare at visitors to the Field Museum in Chicago. Patterson's account of the leonine reign of terror, The Man-Eaters of Tsavo, was an international best seller when published in 1907. Still in print, the book has made Tsavo's lions notorious. That annoys some scientists. "People don't want to give up on mythology," Dennis King told me one day. The zoologist has been working in Tsavo off and on for four years. "I am so sick of this man-eater business. Patterson made a helluva lot of money off that story, but Tsavo's lions are no more likely to turn man -eater than lions from elsewhere.

But tales of their savagery and wili ness don't all come from sensationalist authors looking to make a buck. Tsavo lions are generally larger than lions elsewhere, enabling them to take down the predominant prey animal in Tsavo, the Cape buffalo, one of the strongest, most aggressive animals of Earth. The buffalo don't give up easily: They often kill or severely injure an attacking lion, and a wounded lion might be more likely to turn to cattle and humans for food. And other prey is less abundant in Tsavo than in other traditional lion haunts. A hungry lion is more likely to attack humans. Safari guides and Kenya Wildlife Service rangers tell of lions attacking Land Rovers, raiding camps, stalking tourists. Tsavo is a tough neighborhood, they say, and it breeds tougher lions.

But are they really tougher? And if so, is there any connection between their manelessness and their ferocity? An intriguing hypothesis was advanced two years ago by Gnoske and Peterhans: Tsavo lions may be similar to the unmaned cave lions of the Pleistocene. The Serenge ti variety is among the most evolved of the species - the latest model, so to speak-while certain morphological differences in Tsavo lions (bigger bodies, smaller skulls, and maybe even lack of a mane) suggest that they are closer to the primitive ancestor o f all lions. Craig and Peyton had serious doubts

about this idea, but admitted that Tsavo lions pose a mystery to science.

Q.60 The book Man-Eaters of Tsavo annoys some scientists because

1. it revealed that Tsavo lions are ferocious.
2. Patterson made a helluva lot of money from the book by sensationalism.
3. it perpetuated the bad name Tsavo lions had.
4. it narrated how two male Tsavo lions were killed.

Q.61 The sentence which concludes the first paragraph, "Now they knew better", implies that:

1. The two scientists were struck by wonder on seeing maneless lions for the first time.
2. Though Craig was an expert on the Serengeti lion, now he also knew about the Tsavo lions.
3. Earlier, Craig and West thought that amateur observers had been mistaken.
4. Craig was now able to confirm that darkening of the noses as lions aged applied to Tsavo lions as well.

Q.62 Which of the following, if true, would weaken the hypothesis advanced by Gnoske and Peterhans most?

1. Craig and Peyton develop even more serious doubts about the idea that Tsavo lions are primitive.
2. The maneless Tsavo East lions are shown to be closer to the cave lions.
3. Pleistocene cave lions are shown to be far less violent than believed.
4. The morphological variations in body and skull si ze between the cave and Tsavo lions are found to be insignificant.

Q.63 According to the passage, which of the following has NOT contributed to the popular image of Tsavo lions as savage creatures?

1. Tsavo lions have been observed to bring down one of the strongest and most aggressive animals -the Cape buffalo.
2. In contrast to the situation in traditional lion haunts, scarcity of non-buffalo prey in the Tsavo makes the Tsavo lions more aggressive.
3. The Tsavo lion is considered to be less evolved than t he Serengeti variety.
4. Tsavo lions have been observed to attack vehicles as well as humans.

PASSAGE VI

I want to stress this personal helplessness we are all stricken with in the face of a system that has passed beyond our knowledge and control. To bring it nearer home, I propose that we switch off from the big things like empires and their wars to little familiar things. Take pins for example! I do not know why it is that I so seldom use a pin when my wife cannot get on without boxes of them at hand; but it is so, and I will therefore take pins as being for some reason specially important to women.

There was a time when pinmakers could buy the material, shape it, make the head and the point, ornament it, and take it to market or to your door and sell it to you. They had to know three trades: buying, making, and selling; and the making required skill in several operations. They not only knew how the thing was done from beginning to end, but could do it. But they could not afford to sell you a box of pins for a farthing. Pins cost so much that a woman's dress allowance wa s calling pin money.

By the end of the eighteenth century Adam Smith boasted that it took eighteen men to make a pin, each man doing a little bit of the job and passing the pin on to the next, and none of them being able to make a whole pin or to buy the materials or to sell it when it was made. The most you could say for them was that at least they had some idea of how it was made, though they could not make it. Now as this meant that they were clearly less capable and knowledgeable men than the old pin makers, you may ask why Adam Smith boasted of it as a triumph of civilisation when its effect was so clearly a degrading effect. The reason was that by setting each man to do just one little bit of the work and nothing but that, over and over again, he became very quick at it. The men, it is said, could turn out nearly five thousand pins a day each; and thus pins became plentiful and cheap. The country was supposed to be richer because it had more pins, though it had turned capable men into mere machines doin g their work without intelligence and being fed by the spare food of the capitalist as an engine is fed with coals and oil. That was why the poet Goldsmith, who was a farsighted economist as well as a poet, complained that 'wealth accumulates, and men decay'.

Nowadays Adam Smith's eighteen men are as extinct as the diplodocus. The eighteen flesh-and -blood machines are replaced by machines of steel, which spout out pins by the hundred million. Even sticking them into pink papers is done by machinery. The result is that with the exception of a few people who design the machines, nobody knows how to make a pin or how a pin is made: that is to say, the modern worker in pin manufacture need not be one -tenth so intelligent and skilful and accomplished as the old pinmaker; and the only compensation we have for this deterioration is that pins are so cheap that a single pin has no expressible value at all. Even with a big profit stuck on to the cost-price you can buy dozens for a farthing; and pins are so recklessly thrown away and wasted that verses have to be written to persuade children (without success) that it is a sin to steal a pin.

Many serious thinkers, like John Ruskin and William Morris, have been greatly troubled by this, just as Goldsmith was, and have asked whether we really believe that it is an advance in wealth to lose our skill and degrade our workers for the sake of being able to waste pins by the ton. We shall see later on, when we come to consider the Distribution of Leisure, that the cure for this is not to go back to the old ways; for if the saving of time by modern machinery was equally divided among us, it would set us all free for higher work than pinmaking or the like. But in the meantime the fact remains that pins are now made by men and women who cannot make anything by themselves, and could not arrange between themselves to make anything even in little bits. They are ignorant and helpless, and cannot lift their finger to begin their day's work until it has all been arranged for them by their employers who themselves do not understand the machines that buy, and simply pay other people to set them going by carrying out the machine

maker's directions.

The same is true of clothes. Formerly the whole work of making clothes, from the shearing of the sheep to the turning out of the finished and washed garment ready to put on, had to be done in the country by the men and women of the household, especially the women; so that to this day an unmarried woman is called a spinster. Nowadays nothing is left of all this but the sheep shearing; and even that, like the milking of cows, is being done by machinery, as the sewing is. Give a woman a sheep today and ask her to produce a woollen dress for you; and not only will she be quite unable to do it, but you are as likely as not to find that she is not even aware of any connection between sheep and clothes. When she gets her clothes, which she does by buying them at a shop, she knows that there is a difference between wool and cotton and silk, between flannel and merino, perhaps even between stockinet and together wefts; but as to how they are made, or what they are made of, or how they came to be in the shop ready for her to buy, she knows hardly anything. And the shop assistant from whom she buys is no wiser. The people engaged in the making of them know even less; for many of them are too poor to have much choice of materials when they buy their own clothes.

Thus the capitalist system has produced an almost universal ignorance of how things are made and done, whilst at the same time it has caused them to be made and done on a gigantic scale. We have to buy books and encyclopaedias to find out what it is we are doing all day; and as the books are written by people who are not doing it, and who get their information from other books, what they tell us is from twenty to fifty years out of date, and impractical at that. And of course most of us are too tired of our work when we come home to want to read about it; what we need is a cinema to take our minds off it a nd feed our imagination.

It is a funny place, this word of Capitalism, with its astonishing spread of ignorance and helplessness, boasting all the time of its spread of education and enlightenment. There stand the thousands of property owners and the millions of wage workers; none of them able to make anything, none of them knowing what to do until somebody tells them, none of them having the least notion of how it is that they find people paying them money, and things in the shops to buy with it. And when they travel they are surprised to find that savages and Esquimaux and villagers who have to make everything for themselves are more intelligent and resourceful! The wonder would be if they were anything else. We should die of idiocy through disuse of our mental faculties if we did not fill our heads with romantic nonsense out of illustrated newspapers and novels and plays and films. Such stuff keeps us alive; but it falsifies everything for us so absurdly that it leaves us more or less dangerous lunatics in the real world.

Excuse my going on like this; but as I am a writer of books and plays myself; I know the folly and peril of it better than you do. And when I see that this moment of our utmost ignorance and helplessness, delusion and folly, has been stumbled on by the blind forces of Capitalism as the moment for giving votes to everybody, so that the few wise women are hopelessly overruled by the thousands whose political minds, as far as they can be said to have any political minds at all, have been formed in the cinema, I realise that I had better stop writing plays for a while to discuss political and social realities in this book with those who are intelligent enough to listen to me.

Q.64 A suitable title to the passage would be…

1. You can't hear a pin drop nowadays.
2. Capitalism and labour disintegration: pinning the blame.
3. The saga of the non -safety pins.
4. Reaching the pinnacle of capitalistic success.

Q.65 Which of the following is true as far as pins are concerned?
1. The cost o f pins is more nowadays to produce.
2. Earlier, workmen made pins with a lot of love and care.
3. Pinball machines are the standard pin producing gadgets nowadays.
4. It took far longer to make a pin earlier.

Q.67 Why do you think that the author g ives the example of Adam Smith?
1. Because he thinks that Adam Smith was a boaster without any facts to back his utterance.
2. Because he wants to give us an example of something undesirable that Adam Smith was proud of.
3. Because he is proud to be a believer in a tenet of production that even a great man like Adam Smith boasted about.
4. Because he feels that Adam Smith was right when he said that it took eighteen men to make a pin.

Q.68 It may be inferred from the passage that the author…
1. is a supporter of craftsmanship over bulk mechanised production.
2. is a supporter of assembly line production over socialistic systems of the same.
3. is a defender of the faith in capitalistic production.
4. None of the above.

Q.69 The reason that children have to be taught that stealing a pin is wrong is that:
1. they have an amazing proclivity to steal them right from childhood.
2. pins are so common and cheap that taking one would not even be considered stealing by them.
3. stealing a pin would lead to stealing bigger things in the future.
4. stealing an insignificant thing like a pin smacks of kleptomania.

Q.70 Which of the following is not against the modern capitalistic system of mass production?
1. John Ruskin
2. Goldsmith
3. Adam S mith
4. William Morris

Q.71 Which of the following can be a suitable first line to introduce the hypothetical next paragraph at the end of the passage?
1. The distribution of leisure is not a term that can be explained in a few words.
2. If people wear clothes they hardly seem to think about the method of production.
3. Machines are the gods of our age and there seems to be no atheists.
4. Cannot be determined from the passage.

Q.72 When the author says that a woman now is not likely to know about any connection between sheep and clothes, he is probably being:
1. vindictive
2. chauvinistic
3. satirical
4. demeaning

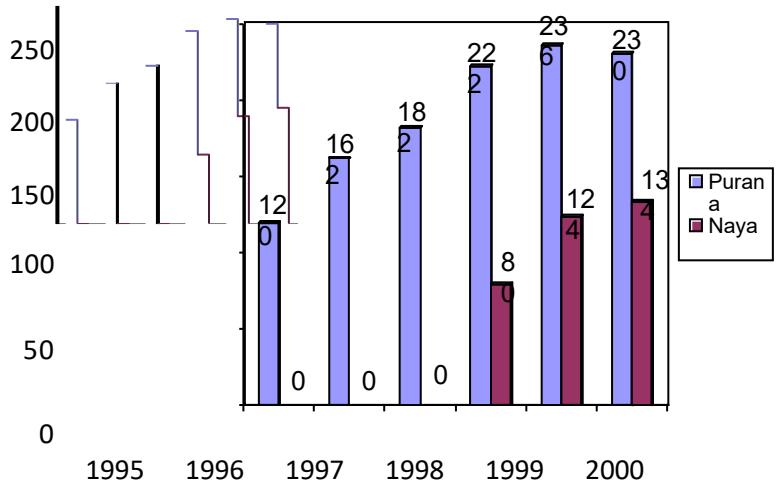
Q.73 Goldsmith's dictum, "wealth accumulates, and men decay," in the context of the passage, probably means:

1. the more wealthy people get, they become more and more corrupt.
2. the more rich people get, they forget the nuances of individual ability.
3. people may have a lot of money, but they have to die and decay someday.
4. the more a company gets wealthy the less they take care of people.

Section 3 Data Interpretation and Logical Reasoning

Directions for Questions 74 to 77: Answer the questions on the basis of the information given below.

Purana and Naya are two brands of kitchen mixer- grinders available in the local market. Purana is an old brand that was introduced in 1990, while Naya was introduced in 1997. For both these brands, 20% of the mixer- grinders bought in a particular year are disposed off as junk exactly two years later. It is known that 10 Purana mixer -grinders were disposed off in 1997. The following figures show the number of Purana and Naya mixer- grinders in operation from 1995 to 2000, as at the end of the year.



Q.74 How many Naya mixer -grinders were purchased in 1999?

1. 44
2. 50
3. 55
4. 64

Q.75 How many Naya mixer -grinders were disposed off by the end of 2000?

1. 10
2. 16
3. 22
4. Cannot be determined from the data

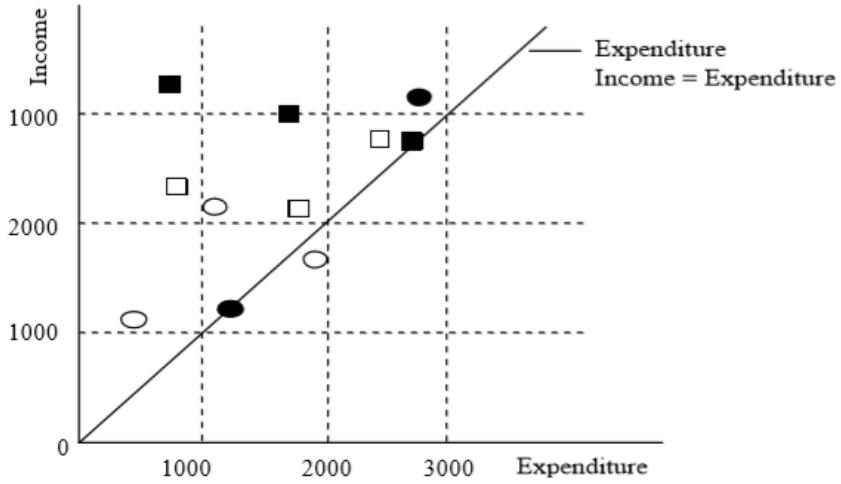
Q.76 How many Purana mixer-grinders were purchased in 1999?

1. 20
2. 23
3. 50
4. Cannot be determined from the data

Q.77 How many Purana mixer -grinders were disposed off in 2000?

1. 0
2. 5
3. 6
4. Cannot be determined from the data

Directions for Questions 78 to 81: Answer the questions on the basis of the information given below.
The data points in the figure below represent mo nthly income and expenditure data of individual members of the Ahuja family (n), the Bose family (?), the Coomar family --(O), and the Dubey family (l).
For these questions, savings is defined as
Savings = Income – Expenditure



Q.78 Which family has the lowest average income?
1. Ahuja
2. Bose
3. Coomar
4. Dubey

Q.79 Which family has the highest average expenditure?
1. Ahuja
2. Bose
3. Coomar
4. Dubey

Q.80 The highest amount of savings accrues to a member of which family?
1. Ahuja
2. Bose
3. Coomar
4. Dubey

Q.81 Which family has the lowest average savings?
1. Ahuja
2. Bose
3. Coomar
4. Dubey

DIRECTIONS for Questions 82 to 86: Answer the questions based on the following table, which gives data about certain coffee producers in India:

	Production ('000 tones)	Capacity Utilisation (%)	Sales ('000 tonnes)	Total Sales Value (Rs. Cr.)
Brooke Bond	2.97	76.50	2.55	31.15
Nestle	2.48	71.20	2.03	26.75
Lipton	1.64	64.80	1.26	15.25
MAC	1.54	59.35	1.47	17.45
Total (incl. Others)	11.60	61.30	10.67	132.80

Q.82 What is the maximum production capacity (in '000 tonnes) of Lipton for coffee?
1. 2.53
2. 2.85
3. 2.24
4. 2.07

Q.83 The highest price of coffee per kg is for
1. Nestle
2. MAC
3. Lipton
4. Insufficient data

Q.84 What percent of the total market share (by Sales Value) is controlled by "Others"?
1. 60%
2. 32%
3. 67%
4. Insufficient data.

Q.85 What approximately is the total production capacity (in tonnes) for coffee in India?
1. 18, 100
2. 20, 300
3. 18,900
4. Insufficient data.

Q.86 Which company out of the four companies mentioned above has the maximum unutilised capacity (in '000 tonnes)?
1. Lipton
2. Nestle
3. Brooke Bond
4. MAC

In each question, you are given certain data followed by two statements. For answering the questions:
Mark [1], if both the statements together are insufficient to answer the question.
Mark [2], if any one of the two statements is sufficient to answer the question.
Mark [3], if each statement alone is sufficient to answer the question.
Mark [4], if both the statements together are sufficient to answer the question, but neither statement alone is sufficient.

Q.87 What is the Cost Price of the article?

I. After selling the article, a loss of 25% on Cost Price incurred.

II. The Selling Price is three-fourths of the Cost Price.

Q.88 If a, b, c are integers, is (a - b + c) > (a + b - c) ?

I. b is negative II. c is positive.

Q.89 What is the Selling Price of the article?

I. The profit on Sales is 20%.

II. The profit on each unit is 25% and the Cost Price is Rs. 250.

Q.90 A tractor travelled a distance of 5 m. What is the radius of the rear wheel?

I. The front wheel rotates "N" times more than the rear wheel over this distance.

II. The circumference of the rear wheel is "t" times that of the front wheel.

Q.91 What is the ratio of the two liquids A and B in the mixture finally, if these two liquids kept in three vessels are mixed together? (The containers are of equal volume)

I. The ratio of liquid A to liquid B in the first and second vessel is, respectively, 3 : 5, 2 : 3.

II. The ratio liquid A to liquid B in vessel 3 is 4 : 3.

Q.92 What is the number of type 2 widgets produced, if the total number of widgets produced is 20,000?

I. If the production of type - 1 widgets increases by 10% and that of type-2 decreases by 6%, the total production remains the same.

II. The ratio in which type - 1 and type - 2 widgets are produced is 2 : 1.

Q.93 How old is Sachin in 1997?

I. Sachin is 11 years younger than Anil whose age will be prime number in 1998.

II. Anil's age was a prime number in 1996.

Q.94 What is the total worth of Lakhiram's assets?

I. Compound interest at 10% on his assets, followed by a tax of 4% on the interest, fetches him Rs . 15000 this year.

II. The interest is compounded once every four months.

Q.95 How many different triangles can be formed?

I. There are 16 coplanar, straight lines in all.

II. No two lines are parallel.

Directions for Questions 96 to 104: Answer the questions on the basis of the information given below.

The Dean's office recently scanned student results into the central computer system. When their character reading software cannot read something, it leaves that space blank. The scanner output reads as follows:

Name	Finance	Marketing	Statistics	Strategy	Operations	GPA
Aparna		B	F			1.4
Bikas	D	D	F	F		
Chandra		D	A	F	F	2.4
Deepak	A	B		D	D	3.2
Fazal	D	F	B		D	2.4
Gowri	C	C	A		B	3.8
Hari		B	A		D	2.8
Ismet			B		A	
Jagdeep	A	A	B		C	3.8
Kunal	F		A	F	F	1.8
Leena	B	A		B	F	3.2
Manab			A	B	B	
Nisha	A	D	B	A	F	3.6
Osman	C		B	B	A	4.6
Preeti	F	D		D		3.2
Rahul	A	C	A		F	4.2
Sameer		C	F	B		
Tara	B					2.4
Urkarsh			F	C	A	3.0
Vipul	A		C	C	F	2.4

In the grading system, A, B, C, D, and F grades fetch 6, 4,3,2, and 0 grade points respectively. The Grade Point Average (GPA) is the arithmetic mean of the grade points obtained in the five subjects. For example Nisha's GPA is (6 + 2 + 4 + 6 + 0) / 5 = 3.6.

Some additional facts are also known about the students' grades. These are

a. Vipul obtained the same grade in Marketing as Aparna obtained in Finance and Strategy.
b. Fazal obtained the same grade in Strategy as Utkarsh did in Marketing.
c. Tara received the same grade in exactly three courses.

Q.96 What grade did Preeti obtain in Statistics?

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

Q.97 In Operations, Tara could have received the same grade as

1. Ismet
2. Hari
3. Jagdeep
4. Manab

Q.98 What grade did Utkar sh obtain in Finance?

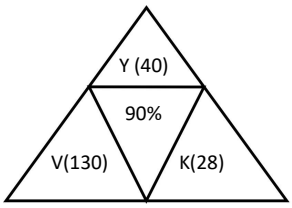
1. B
2. C
3. D
4. F

Q.99 In Strategy, Gowri' s grade point was higher than that obtained by

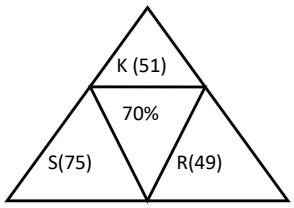
1. Fazal
2. Hari
3. Nisha
4. Rahul

Directions for Questions 104 to 108: Answer the questions on the basis of the information given below.

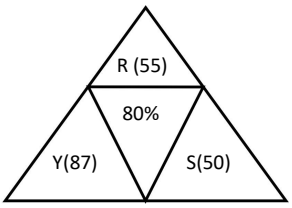
Coach John sat with the score cards of Indian players from the 3 games in a one-day cricket tournament where the same set of batsmen got out. John summarized the batting performance through three diagrams, one for each game. In each diagram, the three outer triangles communicate the number of runs scored by the three top scorers from India, where K, R, S, V, and Y represent Kaif, Rahul, Saurav, Virender, and Yuvraj respectively. The middle triangle in each diagram denotes the percentage of total score that was scored by the top three Indian scorers in that game. No two players score the same number of runs in the same game. John also calculated two batting indices for each player based on his scores in the tournament; the R -index of a batsman is the difference between his highest and lowest scores in the 3 games while the M -index is the middle number, if his scores are arranged in a non -increasing order.



Pakistan



South Africa



Australia

Q.100 How many players among those listed definitely scored less than Yuvraj in the tournament?

1. 0
2. 1
3. 2
4. More than 2