SECTION – I
Number of Questions = 25

DIRECTIONS *for questions 1 to 5:* Answer the questions on the basis of the information given below.

Seeing the windfall gains made by people who invested in the stock market, Mr. Anand decided to invest a part of his money in the stock markets. On the advice of his broker, he invested in five companies – A, B, C, D and E. Each of the five companies belonged to one sector from among Pharma, IT, Real estate, Infrastructure and Power. According to his broker, the returns (i.e., percentage change in the value of the stock in one year) expected from A, B, C, D and E were 20%, 10%, 30%, 25% and 40% respectively. After his own assessment of the companies he decided to invest Rs.2 lakh, Rs.6 lakh, Rs.10 lakh, Rs.8 lakh and Rs.4 lakh in A, B, C, D and E respectively.

At the end of one year, the returns from exactly one company, which belonged to either the Pharma or the IT sector, were twice of that expected. Also, among the companies belonging to the other three sectors, one gave half the expected returns and another gave –20% returns (i.e., a loss). It is also known that two of the five companies gave exactly the same returns as expected.

1. The returns that Anand earned on his investment are at most

(1) 30% (2) $30\frac{1}{2}\%$ (3) $31\frac{2}{3}\%$ (4) $32\frac{1}{2}\%$ (5) $33\frac{1}{3}\%$

2. If the returns earned by Anand on his investment were $28\frac{2}{3}\%$, then the company which gave half the expected returns was

(1) A (2) B (3) C (4) D (5) E

3. The returns that Anand earned on his investment are at least

(1) $7\frac{1}{2}\%$ (2) $6\frac{2}{3}\%$ (3) 6%
(4) 5% (5) None of these

4. If the value of the loss incurred (in Rs.) by Anand on one of the companies is exactly equal to the value of the returns earned (in Rs.) from another company, then which of the following statements is true?

(1) Company A gave double the expected returns.
(2) Company C belonged to either the IT or the Pharma sector.
(3) The returns on company E were exactly as expected.
(4) Company B belonged to either the IT or the Pharma sector.
(5) None of the above.

5. If the value (in Rs.) of the returns earned by Anand from two of the five companies are the same, then the returns earned by Anand on his investment are at most

(1) 15% (2) 16% (3) $16\frac{2}{3}\%$ (4) 18% (5) $18\frac{2}{3}\%$

DIRECTIONS *for questions 6 to 10:* Answer the questions on the basis of the information given below.

As part of evaluating the performance of the players of the school basketball team, Sekhar, the newly appointed coach, asked all the six players – A, B, C, D, E and F – of the team to submit details of their performance in all the six matches played by the team in the inter-school tournament the previous month. Only these six players had played for the school in the tournament and each of the players had played in all the six matches. Player C, without knowing that the coach had the total scores of the team in each of the six matches with him, showed a higher number of points in his name in match III. After going through the scores of the players, the coach found that the scores of the individual players were not adding upto the total score of the team for match III. On further enquiry, he found that player C had exaggerated his score and hence decided to exclude him from the team selection. For ease of comparison, he then decided to make a table (Table – I) representing the share of the points scored by each of the remaining five players, as a percentage of the total points scored by only the five of them put together in the tournament and another table (Table – II) representing the share of the total points scored by the team in each of the five matches, after excluding match III, as a percentage of the total points scored by the team in only the five matches put together.

Table – I

Share of points of each player

Player	Share (%)
A	25
B	15
D	20
E	15
F	25

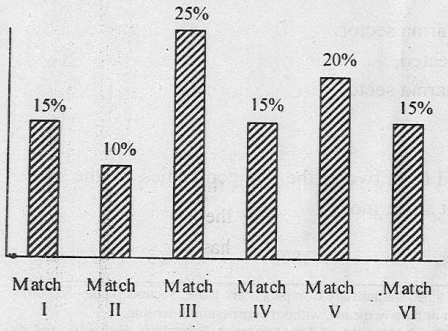
Table – II

Match wise distribution of points scored

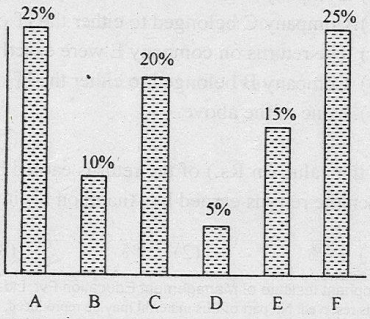
Match	Share (%)
I	10
II	18
IV	36
V	24
VI	12

When Sekhar realised that player C was a vital part of the team and since he presently did not have anybody to replace him with, he decided to include player C also in his team. After player C had provided the correct information about the points he scored in different matches, two more graphs were drawn to compare the performance of the players.

Match wise break up of the total points scored by player C in the tournament



Player wise break up of the total points scored by the team in match III



6. The total points scored by the team in all the six matches put together, is at least

(1) 200 (2) 240 (3) 300 (4) 400 (5) 500

7. The number of points scored by the player who scored the highest number of points for the team in the tournament, is at least

(1) 55 (2) 80 (3) 10 (4) 120 (5) 150

8. If 8% of the total points scored by the team in the tournament were scored in match I, then what is the ratio of the total points scored by player D in the tournament and the total points scored by the team in match II?

(1) 10 : 9 (2) 4 : 5 (3) 6 : 7
(4) 7 : 6 (5) Cannot be determined

9. If the points scored by player C in match IV are 3% of the total points scored by the team in the tournament, then what percentage of the total points scored by the team in the tournament were scored in match II?

(1) 8% (2) 13.5% (3) 12%
(4) 10% (5) Cannot be determined

10. If in match IV, 25% of the points scored by the team were scored by player F and $16^2/_3\%$ by player C, then what is the ratio of the total points scored in the tournament by F and that by C?

(1) 1 : 1 (2) 7 : 8 (3) 11 : 16
(4) 21 : 16 (5) Cannot be determined

DIRECTIONS *for questions 11 to 15:* Answer the questions on the basis of the information given below.

A TV channel conducted a programme to find 'India's next superstar' and the final round had ten contestants, from among whom the winner was to be selected. The contestants were rated on ten events, involving five skills – Dancing, Acting, Action, Physical Appearance and Dialogue Delivery. The maximum possible rating of any contestant in any event was 100. The final rating of a contestant is calculated in the following manner. First the skill ratings are obtained for each skill by averaging the ratings in the events within that skill. The final rating of each contestant is the simple average of his/her skill ratings. The table below represents the information regarding the ratings of the ten contestants in the final round (The rating of Chandu in 'Voice Modulation' has been intentionally removed from the table).

Name	Dance			Acting	Action		Physical Appearance		Dialogue Delivery		Final rating
	Indian	Classical	Western		Movements	Timing	Face	Body	Sound	Voice Modulation	
Arun (B)	86	84	85	86	83	81	82	84	84	86	84.2
Bala (G)	85	87	83	85	83	84	82	82	84	86	84.1
Chandu (B)	86	86	86	83	84	83	84	82	82	–	84.0
Divya (G)	85	86	87	84	84	86	82	85	80	82	83.9
Eswar (B)	83	84	85	86	85	84	80	81	83	84	83.7
Fana (G)	84	77	73	88	85	86	82	83	84	83	83.5
Govind (B)	78	82	86	88	82	85	78	80	82	83	83.0
Hema (G)	84	87	84	87	83	84	70	81	80	81	82.3
Inder (B)	86	86	83	86	71	83	78	81	82	82	81.9
Jacob (B)	84	86	85	87	73	82	80	79	75	84	81.7

Note: B or G against the name of a contestant represents whether the contestant is a boy or a girl.

11. What was the rating of Chandu in 'Voice Modulation'?

(1) 89 (2) 88 (3) 87.5 (4) 87 (5) 86.5

12. Among the ten contestants, how many boys were rated at least 83 in at least one event in each of the five skills tested?

(1) 0 (2) 1 (3) 2 (4) 3 (5) 4

13. Of the ten contestants, all those who obtained a skill rating of at least 81 in each of the five skills were offered acting contracts with the channel. Among those contestants who were offered a contract, the male contestant who had the highest skill rating in 'Action' was selected as the villain. The person who was selected as the villain was

(1) Arun (2) Bala (3) Divya
(4) Chandu (5) None of the above

14. Each of the ten contestants was allowed to give another performance in exactly one event of their choice, with the objective of maximising his/her final rating. If every contestant managed a rating of 90 in the event that he or she intelligently chose to improve in, then who among the ten has the highest final rating?

(1) Arun (2) Bala (3) Chandu (4) Divya (5) Fana

15. Had each of Govind, Hema, Indar and Jacob had a skill rating of 92 in the skill 'Action', then their standing, in the decreasing order of final ratings, would be

(1) Govind, Indar, Hema, Jacob (2) Indar, Govind, Jacob, Hema
(3) Govind, Hema, Indar, Jacob (4) Indar, Govind, Hema, Jacob
(5) Govind, Indar, Jacob, Hema

DIRECTIONS *for questions 16 to 20:* Answer the questions on the basis of the information given below.

The following table gives the details of the students in all the classes of The New International School. Students join the school only in class V and do not leave until they pass out of class X. In any year, the students who pass the annual exams are promoted to the next higher class the next year, while the students who fail have to study in the same class the next year also. No student fails in the same class more than once and the school had a 100% pass percentage in class X in all the years.

Year / Class	2006	2007	2008
V	56	57	62
VI	43	52	53
VII	56	50	56
VIII	55	52	50
IX	48	51	48
X	40	45	42

16. How many students in the school failed in the annual exams in the year 2006?

(1) 30 (2) 33 (3) 35
(4) 38 (5) Cannot be determined

17. Which class in the school had the lowest pass percentage in the year 2006?

(1) Class V (2) Class VI (3) Class VII (4) Class VIII (5) Class IX

18. What is the difference in the number of students who joined the school in the year 2007 and those who joined the school in the year 2008?

(1) 0 (2) 1 (3) 2 (4) 3 (5) 5

19. What was the overall pass percentage of the students in the school in the year 2007?

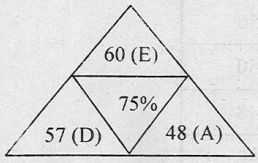
(1) 76.2% (2) 78.5% (3) 80.5% (4) 81.4% (5) 82.8%

20. In how many of the given classes was the number of students who failed in that class in 2007, more than the corresponding value in 2006?

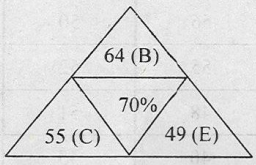
(1) 2 (2) 3 (3) 4 (4) 5 (5) 1

DIRECTIONS *for questions 21 to 25:* Answer the questions on the basis of the information given below.

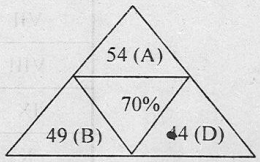
Five players – A, B, C, D and E – participated in a tournament which had three matches – match I, match II and match III. Each of the five players played all the three matches. In the three figures below (one for each match, match I, match II and match III), the points scored by the three highest scoring players in each match are mentioned, along with the names of the players (given in brackets) and the central triangle in each figure represents total points scored by the three highest scoring players as a percentage of the total points scored by all the five players put together. No two players had the same number of points in a match and no player scored the same number of points in any two matches. At the end of the three matches, the performance of the players is evaluated using two indices along with the points they scored in the tournament. The Consistency index (K) of a player is the difference between the lowest and the highest points scored by him in the three matches and the Reliability index (R) of a player is the middle value when the scores of the player are arranged in an increasing order.



Match I



Match II



Match III

Note : The number of points scored by any player in any match is a non-negative integer.

21. What is the minimum number of points scored by D in the tournament?

(1) 122 (2) 126 (3) 129
(4) 132 (5) None of these

22. For how many of the given players, is it possible to calculate the exact R index?

(1) 4 (2) 1 (3) 3 (4) 2 (5) 5

23. At least how many players scored less than 135 points in all the three matches together?

(1) 0 (2) 1 (3) 2 (4) 3 (5) 4

24. Which of the following could be the best value of K index (i.e., the least numerical value) for any player in the tournament?

(1) 12 (2) 10 (3) 8 (4) 7 (5) 6

25. Among the given players, who are the players who can have the worst (highest numerical value) K index for the tournament?

(1) Only B and C (2) Only C, D and E
(3) Only B, C and E (4) Only B, C, D and E
(5) All of A, B, C, D and E

SECTION – II
Number of Questions = 25

DIRECTIONS *for questions 26 to 30:* Read the following passage carefully and then answer the questions that follow it.

'At fifty', wrote Orwell, 'everyone has the face he deserves'. I believe this and repeat it with confidence, being myself forty-six and hopeful that for me there is still time. I hope, that is, that within the next four years I shall be able to develop a noble brow, a strong chin, a deep and penetrating gaze, a nose that doesn't disappoint. This may take some doing, for I have been told by different people at different times that I resemble the following odd cast of characters: the actors Sal Minoe, Russ Tamblyn, and Ken Berry, the scholar Walter Kaufmann, the assassin Lee Harvey Oswald, and a now-deceased Yorkshire terrier named Max. Despite this, and even though no one has ever noted a resemblance in me to Alexander, the Great or Lord Byron, I tend to think of myself, as I expect most men do, as a nice-enough looking chap. Beyond that I am not prepared to go, for I have long appreciated the fact that the limits of self-knowledge begin at one's own kisser. To have stared at the damned thing so long and yet still not to know what it reveals is a true tribute to the difficulties of self-analysis. So while I tend to believe, with Orwell, that everyone has the face he deserves, I gaze into the mirror and cannot tell whether justice has been done.

The notion that the face is a text to be read for clues to human character is one with a long history. It goes back at least as far as Aristotle, among whose works is that entitled 'History of Animals and A Treatise on Physiognomy'. Almost all work in physiognomy, the putative science dealing with the connection between facial features and psychological characteristics, has been disqualified, and the 'Encyclopaedia Britannica', in a brief article on the subject, notes: 'since many efforts to specify such relationships [between facial features and personal character] have been discredited, the term physiognomy commonly connotes pseudoscience or charlatury (see Fortunetelling; Palmistry)'. Which makes very good sense, except that I cannot bring myself altogether to believe it. On the subject of physiognomy, I find myself in the condition of the man I once heard about who, at the end of a career of thirty-odd years working for the Anti-Defamation League, remarked that, after fighting all that time against every racial and religious stereotype, he had come to believe that perhaps there was more to these stereotypes than he had thought when he had started on the job. Rather like that man, I fear that, while I believe physiognomy to have been largely discredited, there may be more to it than an intelligent person is supposed to allow.

But let me take a paragraph to hedge, qualify, and tone down what I have just written. I do not, for example, believe that a large head implies great intelligence, or even that a high forehead implies ample intellectual capacity, though apparently Shakespeare, himself well-endowed in this respect, did. Nor do I believe that a strong jaw inevitably translates into a character of great determination. I do believe, with the poet, that the eyes are the windows of the soul: yet I do not go so far as to say that Elizabeth Taylor, who has the most beautiful public eyes of our day, therefore has the most beautiful soul. I do not believe bad teeth or bad skin symbolic of a grave flaw in character. The mystery of personality is written in the human face – this I do believe. But, as with all truly intricate mysteries, this one must be read subtly, patiently, penetratingly.

The given in the human face is, of course, heredity. Yet I wonder if heredity – providing skin and eye and hair colour, bone structure, etcetera – really furnishes anything more than the broad canvas on which the more delicate and interesting strokes are painted by time and personal fate. What usually makes a face interesting – a priggish nose, quizzical eyebrows, sarcastic lip lines and wrinkles oddly placed – is that they are a result not of heredity but of experience. What time does to a face is most fascinating of all, and I sometimes think that no face, unless it be one of rare beauty or especial hideousness, is of great interest – rather like wine that hasn't had time to age properly – much before thirty.

One serious question about faces is whether one can find beautiful or even agreeable-looking someone whom one despises. Moral judgements, as Santayana noted, take precedence over aesthetic ones, or at least do so for most of us. So when confronted with a person one detests, perhaps the best one can say is that he or she is very good looking – yet one is likely to add, 'at least to the superficial observer'. What makes this observer superficial, of course, is that he is not privy to the real lowdown about the despicable character in question. Yet how much easier it is to read backward, through hindsight, from behaviour to evidence of behaviour in the face. As John Brophy reminds us, during Hitler's rise and early years in power, no one detected the insanity we now see so clearly in his face. The aged, puffy, baby face of Winston Churchill, a cigar clamped in its mouth, might appear, to someone who has no knowledge of what Churchill accomplished, as a perfect subject for an antismoking poster. The genius of the unknown sculptor is to have created what sometimes seems a rather limited number of human facial types yet, within this limited number of types, an infinite variety.

26. When the author says, 'I gaze---- and cannot tell whether justice has been done,' he means that

(1) he does not believe in face reading since he can't read his own face.
(2) self-analysis is difficult because we like to believe only good about ourselves.
(3) he is a reasonably good looking person, as most of us like to think of ourselves.
(4) his face will be moulded in the next four years to reflect his true worth.
(5) he doesn't believe that his face reflects his character as he believes it to be.

27. The author refers to Hitler and Churchill to demonstrate that

(1) we can't admire a person's face if we despise his character.
(2) you can't predict anything adverse about a leader till you have proof of it in his behaviour.
(3) our observations remain superficial till we know the character of the person.
(4) our knowledge of a person helps us to find signs of it in his face.
(5) moral judgement takes precedence over aesthetic ones.

28. Pick the statement that is NOT true.

(1) The finer details of a face are etched by time and experience.
(2) Heredity determines what a person's look will be through his life.
(3) The face helps us to evaluate the other person roughly.
(4) The eye–more than any other feature of the face – reveals the person.
(5) God has created an infinite variety of looks within the limited framework of the face.

29. Regarding physiognomy, the author feels that

(1) there is more to it than meets the eye.
(2) it must be authentic since its origin goes at least as far back as Aristotle.
(3) it is valid since so eminent a person as Shakespeare believed it to be true.
(4) it is foolish not to expect a one to one co-relation between features and characteristics.
(5) it is sheer nonsense as expressed by the Encyclopaedia Britannica.

30. The manner in which the passage is presented may best be described as:

(1) Argument and counter argument.
(2) Tracing the history of a subject from the Greek to present times.
(3) Causal and nebulous.
(4) Presenting a case in a lighter vein.
(5) Cognate viewpoints supported by examples.

DIRECTIONS *for questions 31 to 35*: Each question has a set of sequentially ordered statements. Each statement can be classified as one of the following:

- Facts, which deal with pieces of information that one has heard, seen or read, and which are open to discovery or verification (the answer option indicates such a statement with an 'F').
- Inferences, which are conclusions drawn about the unknown, on the basis of the known (the answer option indicates such a statement with an 'I').
- Judgements, which are opinions that imply approval or disapproval of persons, objects, situations and occurrences in the past, the present or the future (the answer option indicates such a statement with a 'J').

Select the answer option that best describes the set of statements.

31. (1) Sustained lobbying by the West Bengal Left Front MPs has paid off.
(2) The government will soon make it mandatory for government agencies to use jute products for packaging and other purposes.
(3) The government's move is aimed at boosting the jute industry, which is one of the mainstays of the West Bengal economy.
(4) In the past few decades, the jute industry had come under tremendous pressure from the synthetic sector, as their products were seen as being not only cheaper but also safer.

(1) IFIF (2) JFJF (3) JJFJ (4) FFJJ (5) IFJI

32. (1) You could well draw the ire of feminists if you call them a whiff of fresh breeze in the dusty environs of fuel stations.
(2) But Ashok Kumar Naredy, a Bharat Petroleum dealer, in Autonagar, swears they are.
(3) In another instance of broken gender barriers, a few petrol pumps in the city are employing women in jobs so far considered to be male bastions.
(4) There is business interest involved too – men are given to wayward behaviour, women are more committed, particularly in dealing with large amounts of cash.

(1) IFFI (2) JFFI (3) IFFJ (4) JFJI (5) IFIJ

33. (1) Of all the magical powers wielded by Harry Potter, perhaps none has cast a stronger spell than his supposed ability to transform the reading habits of young people.
(2) In what has become near mythology about the wildly popular series, many parents, teachers, librarians and book sellers have credited it with inspiring a generation of kids to read for pleasure in a world dominated by instant messaging and music downloads.
(3) The series has been an inspiration for many children but in keeping with the intricately plotted novels themselves, the truth about Harry Potter and reading is not quite so straightforward a success story.
(4) As the series draws to a much lamented close, federal statistics in the United States show that the percentage of youngsters who read for fun continues to drop significantly as children get older, at almost exactly the same rate as before Harry Potter came along.
(5) There is no doubt that the Potter books have been a publishing sensation – the series has sold 325 million copies worldwide.

(1) IFJFJ (2) IJFJJ (3) JIFIJ (4) JFJFI (5) FJIFJ

34. (1) Storing pulse grains after their harvest has always been a problem for farmers, as the stored grains are found to be often infested with pulse beetles.
(2) Small and marginal farmers who grow pulses are unable to store their produce and are forced to sell the grains for a lower price.
(3) Infestation of pulses commences in the field itself even before the crop is harvested.
(4) Freshly threshed pulse grains should be dried in the sun for 3 – 5 days which will effectively kill all the life stages of bruchids.

(1) IFFI (2) FJFI (3) FJFJ (4) JIFJ (5) FIFJ

35. (1) Scientists at the heart of one of the greatest scandals in modern science made a dramatic leap forward in stem cell research without realising it.
(2) Hwang Woo suk, a leading stem cell scientist, fell from grace when an official inquest found he had faked data on human cloning.
(3) The fraud severely dented hopes for treatments based on embryonic stem cells, which in principle can grow into any tissue in the body.
(4) But it appears he had inadvertently achieved a world first by successfully forcing human eggs to undergo parthenogenesis.

(1) IJFJ (2) JFIF (3) JFFF (4) FIFI (5) JFII

DIRECTIONS *for questions 36 to 40:* Read the following passage carefully and choose the best answers for each of the questions that follow it.

Reason can kill. Burdian's ass perished of hunger because reason kept him poised midway between two equal hay stacks, when an unreasoning impulse in favour of either would have saved him. The ass had human counterparts who struck with reason, through obstinacy, into error. Everyone knows the joke which opens Stephen Hawking's A Brief History of Time – about the old woman who told a lecturer that the world rested on "turtles, turtles all the way down". Anaximander, whose reasoning on this problem is the earliest recorded, argued that our planet was unsupported because there was no reason for it to move. He concluded that it was in equilibrium, at the centre of symmetrical universe, like a fulcrum at the mid-point of a seesaw.

Yet we keep returning to reason precisely because it occupies the middle place; it is the revisited point on the swing of the pendulum between skepticism and enthusiasm. When we distrust passion because it is too subjective, or reject authority because it has no input of our own, we flee to reason. When we abandon sense-perception as delusive and insight as imaginary, we curve back to the centre. As a way of telling the truth from falsehood, reason combines apparently incompatible virtues: it relies on our own resources but can be subjected to an outside test. It can be checked by comparison with others' opinions or by reference to rules. It is subjectively satisfying but externally approved.

Now the middle is often a secure and comfortable place to be in. Here the fulcrum is at rest, however violent the oscillations at either end of the system. We are attracted by the glint of the golden mean. This suggests a disarming question: "Is reason reasonable?" Do we like it because of a psychological disposition, an instinct, a comfort seeking craving, an inclination which is itself irrational or beyond reason? We are led to reason, perhaps, not because we trust its confidences but because we can tweak its conclusions to suit us.

The shaman in primitive societies is distinguished by his intimacy with spirits, the sage by his superior powers of thought. Truths felt or told, as well as being mediated in any of the forms already described, can be apprehended first by the reason of the superior individual and communicated to others later. Reason can be a way of getting in touch with the truth-world. Practitioners who really love it or believe in it also endow it with creative power, as if it could make truths as well as detect them, or at least disclose truths without pre-supposing the existence of a truth-world. It is worthwhile to try to set its rise to prominence and dominance in an historical framework.

At one level, this is a problem of social history, connected, with the formation of elites who specialized in and, in some degree, appropriated certain styles of thinking which rely on reason, and assigned them a high rank among truth-finding techniques. Where reason rules, truth-keepers do not have to be priest or shamans. Reason favours a middle-class distinguished by education and mental prowess, not exceptional sensibility, visionanary clairvoyance, riches or physical might.

These occur according to a sort of pattern. Although the use of reason is as old as the history of mankind, its spells of preponderance succeed those of the truth you feel and the truth you are told. Reason provides a means of escaping from the constraints of belief-systems backed by authority and from the resentment which clever people feel at the power of their own passions.

Because reason – in admittedly varying degrees – is available to everybody, it has a potential advantage over the truth you feel and the truth you are told. It can proceed by persuasion from individual discovery to universal or general acceptance. It is therefore a kind of truth claimed by revolutionaries throughout history, and has indelibly subversive streaks. On the other hand, because it is supposed, in principle, to yield truths which can command universal assent, it tempts those who use it into totalitarian ambitions. Fortunately, it is feeble or flexible enough to encourage practical disagreement.

36. When the author says "yet we keep returning to reason," he implies that

(1) reason attracts us even though there is no reason for being reasonable.
(2) it is the fulcrum of the human thought, and therefore a safe place to be in.
(3) reason can be dangerous despite the fact that many people subscribe to it.
(4) reason induces obstinacy and leads one to commit error.
(5) it is foolish to embrace reason since history is replete with examples of the failures of reason.

37. The question 'Is reason reasonable'? arises out of

(1) our belief that reason can never err.
(2) our desire to justify our inclination with a cloak of rationality.
(3) our indubitable belief in its superiority.
(4) our craving for adhering to the golden mean.
(5) our belief of a logical basis for our love of reason.

38. The main theme of the passage is to

(1) substantiate that reason has always been pursued by mankind.
(2) discredit reason because it is a factor that prevents one from acquiring survival skills.
(3) emphasise that reason has throughout been useful to one or the other section of the society.
(4) trace the backing given to reason through history.
(5) weigh the pros and cons of being reasonable.

39. Reason strikes a balance between
(A) Truth and Falsehood.
(B) Emotion and Control
(C) Illusions and Intuition.
(D) Tradition and Modernity

(1) Only D (2) Only C (3) B and C (4) A and C (5) C and D

40. Pick the statement that is NOT true about reason.

(1) Everyone has some amount of it.
(2) It can be used to convince others of your point of view.
(3) It tempts it users to seek absolute power.
(4) Being firm and unyielding, it prevents dissent.
(5) It is used by rebels to serve their purpose.

DIRECTIONS *for questions 41 to 45:* The following question has a paragraph from which the last sentence has been deleted. From the given options, choose the one that completes the paragraph in the most appropriate way.

41. Global cooling was a real phenomenon – and it changed global history. In the winter of 1941, it stopped the German army's advance on Moscow : grease froze in German guns and thousands of soldiers died from cold. Without the freezing cold of the 1940s, Hitler might have triumphed. Hitler's failure to take Moscow marked a turning point in the Second World War. _____

(1) But for the weather Hitler might have won and the world would have been entirely different.
(2) But by the 1970, with the rising temperatures, this had become a largely forgotten episode.
(3) There was a chill across the world, and it wasn't just the cold war.
(4) There was panic in the German army prompted by the predictions of a probability of further cooling.
(5) Hitler could not restrain his army as the unruly soldiers fled due to the freezing cold.

42. In 1930, biochemist Otto Warburg proposed that cells turn cancerous by changing the way they generate energy. Normally, cells rely on mitochondria to supply their energy. But cancer cells switch to a process called glycolysis – an efficient process used by many bacteria when oxygen is in short supply. Curiously, Warburg found that these cells continue to use glycolysis even when oxygen is plentiful. He argued that this fact, now called the Warburg effect, was a defining property of cancer cells. _____

(1) However, the idea did not catch on because the same process happened in the humans, especially the marathon runners.
(2) Warburg discovered that the cells switched to glycolysis when their mitochondria failed.
(3) Warburg felt that the switch to glycolysis damaged the process of mitochondria in all cells.
(4) However, the idea did not catch on, not least because another famous biochemist, Hans Kerbs, said the Warburg effect was only a symptom of cancer, not its primary cause.
(5) However, the idea did not catch on because cells do not turn cancerous only when oxygen is in short supply.

43. A common misconception about terrorism is that it is 'mindless' – to use the word favoured by many senior political figures in the wake of an attack. Infact terrorism is deliberate, often systematic and sometimes even precisely calibrated. Terrorist dramas, known for ending with causalities, very often succeed in winning foreign supporters or in destroying a state's foreign policy or end up in driving a wedge between two close international allies. _____

(1) It is thus a dangerous underestimation of terrorism to call it mindlessness or insane.
(2) Infact the brutality of their actions sometimes makes us think that they are totally insane.
(3) The political leaders are often mistaken and they try to defend the terrorists just after an attack.
(4) The terrorist is often a genius with a mind gone awry.
(5) Terrorists are not psychologically astute or politically strong in general.

44. You don't have to be a top-notch entomologist to attract butterflies to your garden. A bit of planning and patience will do the trick. Butterflies look for two things before they enter a garden – nectar, the food that adult butterflies need, and host plants, the place where the female would lay eggs. Both are vital for a good butterfly garden. _____

(1) A carefully tended garden with exotic flowers is not really necessary.
(2) Butterfly gardens do not need attention or care as wild flowers will do the trick.
(3) You can coax butterflies to your garden if you have plants that can provide them with both.
(4) It is a known fact that plants with a wide variety of flower colours attract butterflies.
(5) A few plants and a strip of muddy or marshy land can make a good butterfly garden.

45. Indonesia's refusal to share its bird flu virus samples with the WHO may have invited, understandably, the ire of the scientific community. But it did help to turn the spotlight on the iniquitous sharing mechanism. With the drug industry having access to samples with the WHO, there is a definite prospect of pharmaceutical companies in the developed countries using them to produce an efficacious vaccine and stockpiling it. On the other hand, countries that had supplied the strain from which the vaccine had been developed will have no right of access to the vaccine when struck by a pandemic. _____

(1) The iniquities in the system must be set right if any sharing is to take place.
(2) It agreed to share the samples on condition that the WHO used them only for research purposes.
(3) But Indonesia is not ready to budge as a study of these samples is essential for its scientists.
(4) The scientists are angry as the largest number of human deaths from bird flu has been reported from that country.
(5) Now WHO has devised a system by which the countries that provide the samples are not unfairly denied the right of sharing the benefits.

DIRECTIONS *for questions 46 to 50:* Read the following passage carefully and then answer the questions that follow it.

What is meant by women's empowerment is built on two different perspectives – women's empowerment as increased self-reliance within the present social system and women's empowerment as being essentially concerned with transformation of the present social system.

A woman is empowered when she is able to make the best of her own life. A woman is empowered when she has literacy, education, productive skills, access to capital, confidence in herself, and so on. Then she can 'get ahead' on the basis of her own qualifications and ability. Such a woman has been 'empowered'. Examples of empowered women are those individual female entrepreneurs and professional women who have gone ahead of their sisters by improving their access to resources, and utilisation of these resources. Other women need to follow their example. Treating empowerment as self-reliance entails a fatally limited view of what is needed for women's empowerment. It is a perspective based on the advancement of the individual, without any societal perspective of the problem. It is concerned with enabling women to advance within society, rather than through structural transformation. It ignores the extent to which the 'empowered' woman remains restricted by

gender discrimination. It fails to address the gender dimension, since it does not address the question of whether a man, with the same access to resources as the 'empowered' woman, actually occupies a more privileged position in terms of control over income, social status and political position in society.

This limited view of empowerment, as individual self-reliance, has no potential for recognising or addressing the question of how a woman can gain increased access to resources if the hurdles of gender discrimination remain in place. If proponents of the 'self-reliance model' admit that gender discrimination needs to be removed, this model of empowerment provides no understanding of the problem of structural inequality, and no understanding of the development process by which such structural inequality can be dismantled. There seems to be an implicit assumption, within the 'self-reliance model', that women's increased access to resources is going to be 'given' by the men presently in control. Empowerment involves the process of taking. Or, more precisely, empowerment means generating enough political mobilisation and organisation so that we are in a position to take. Perhaps most fundamentally, the 'self-reliance model' ignores the extent to which the 'empowered' woman has gone ahead at the expense of her sisters, for example by exploiting their cheap labour, or by being adopted as an 'honorary male' or a 'token female' within the patriarchal system. If 'self-reliance' is used interchangeably with 'empowerment', this entails a watering down – even corruption – of the vocabulary for women's advancement. The perspective of 'self-reliance' has no theoretical power for exploring the political and ideological dimensions of women's empowerment. It should be understood as part of a watered down vocabulary for getting the awkward question of women's empowerment off the political agenda. It is part of the vocabulary of a shallow discourse which has considerable potential for sidetracking and betraying the women's struggle.

In most countries now, women have considerable equality of opportunity under the law. Governments are committed to the Beijing Platform for Action, and things are changing. It there are still discriminatory practices, they are remnants from the past. They will fall away as we demand our rights, and make our own space. Therefore, all this political talk about needing more power is unhelpful, and only causes male resistance. Once we have the knowledge and skills, then we shall automatically be able to take our equal place in government and ensure that women's needs are addressed in national policies, and that there is gender equality in the allocation of resources. Therefore the project of women's empowerment merely entails taking the space which is now available to us, by taking advantage of equality of opportunity. For this, we need better education and training. Men have the advantage because of the imbalances of the past, where they had better access to education and training. If we can get level with them in knowledge and skills, we shall be able to fill the equal space in society which is now available to us.

You may think there is equality of opportunity. Perhaps in the North this is largely true. To a large extent you now have gender equality written in the Constitution, and in the law of land. You also have equal opportunity legislation, where discrimination against women in many areas of public life, including education and employment, has become illegal. In many countries the government ideology is overtly patriarchal. There are many discriminatory laws on the statute book, which largely restrict women to the domestic sphere, and to domination and exploitation by men. In these countries the government does not claim that these laws are outdated and will be repealed. On the contrary, these laws are defended, and women are told to keep their place. In some countries discriminatory laws and practices are being extended, and women are being increasingly pushed back into the kitchen. Therefore, empowerment doesn't mean finding your space within the present system. Empowerment

means transforming the social system, so that you can find some space. Women's empowerment means the process by which women collectively come to recognise and address the gender issues which stand in way of their advancement. In a patriarchal society, these gender issues are the practices of gender discrimination which are entrenched in custom, law and ideological belief.

46. What does the author mean when he says that an 'empowered woman' is accepted as an 'honorary male'?

(1) A woman is considered to have acquired masculine status when she becomes empowered.
(2) A woman is considered to have stormed the male bastions when she becomes empowered.
(3) A woman is condescendingly accorded an exceptional equal status with male when she becomes empowered.
(4) A woman is treated with honour when she becomes empowered.
(5) A woman is still considered to be inferior in status to a male even when she becomes empowered.

47. The author dismisses the contention that women need more power to become really empowered by asserting that

(1) it will result in male resistance.
(2) the present state of women is not due to non-availability but due to non-availment of power.
(3) it will end up in a chaotic condition with women vying with men for the scarce resources.
(4) without proper education, more powers will only result in their being misused.
(5) women have not been able to exercise even the power that they already have as they are in fact tools in the hands of men.

48. The author views empowerment through self reliance as a/an

(1) self-centred perspective.
(2) holistic view.
(3) societal view point.
(4) enabling objective.
(5) a parochial tendency.

49. According to the passage, the patriarchal society allows a man with the same empowerment as a woman to

(1) discriminate against a woman.
(2) have an easier access to resources.
(3) have better access to education and training.
(4) give powers to women condescendingly.
(5) occupy a more privileged position in society.

50. What is the course prescribed by the author through the passage for women to become really empowered?

(1) To strive for better education and training
(2) To strive for the upliftment of all the women in society
(3) To take the space now available and then to strive for changing the society
(4) To agitate for changing laws in many countries
(5) To come together and fight for the rights rather than allowing men to confer the rights on them guidgingly

SECTION – III
Number of Questions = 25

DIRECTIONS *for questions 51 to 60:* Answer the questions independently of each other.

51. If $N_1, N_2, N_3, \ldots\ldots N_{100}$ are all natural numbers, not necessarily distinct, such that $N_1^2 = N_2^2 + N_3^2 + N_4^2 + \ldots + N_{100}^2$, then at least how many of them are divisible by 3?

(1) 2 (2) 3 (3) 1 (4) 4 (5) 0

52. Two sisters, Preethi and Savitha have a habit of reading one book each, immediately before going to bed every night. Last night, Preethi took three hours to read a book of 150 pages, where the lines were spaced 3 per inch and the left and the right margins comprised 20% of the page width, while Savitha took five hours to read a book of 250 pages, where the lines were spaced 4 per inch and the left and the right margins comprised 25% of the page width. If today the sisters exchange the books and start reading at 8:00 pm, then find the earliest time by which both sisters would have finished reading their respective books. Assume that both books have pages of the same size and the same top and bottom margins on each page.

(1) 10:24 p.m. the same day
(2) 11:36 p.m. the same day
(3) 12:48 a.m. the next day
(4) 2:15 a.m. the next day
(5) 3:00 a.m. the next day

53. If $\log_5(3^x - 17)$, $\log_5(3^x - 65)$ and $\log_5 4$ are in arithmetic progression, x can be

(1) the square of an integer.
(2) an integer but neither the square nor the cube of an integer.
(3) a rational number but not an integer.
(4) an irrational number.
(5) Either (1) or (4)

54. The sum of the present ages of Minna, Sony and Rohan is 90 years. When Sony will be as old as Rohan is, the ratio of Rohan's age and the excess of Minna's age over one-fourth her present age would be 2 : 1. When Rohan was as old as Sony is, the ratio of Sony's age and Minna's age was 2 : 1. Find the present age of Sony.

(1) 50 years (2) 54 years (3) 36 years (4) 30 years (5) 48 years

55. If a corner of a three dimensional solid, which is bounded by flat surfaces, were to be cut off with a plane and removed, there would be changes in the number of faces (F), edges (E) and vertices (V) of the remaining solid when compared to the original solid. If the changes in F, E and V are denoted by ΔF, ΔE and ΔV respectively, then which of the following represents the correct relation between these changes?

(1) $\Delta F = \Delta E + \Delta V$
(2) $\Delta E = \Delta F + \Delta V$
(3) $\Delta V = \Delta F + \Delta E$
(4) $\Delta E + \Delta V + \Delta F = 0$
(5) $\Delta E = 2\Delta F + \Delta V$

56. M and N are two stations on a railway line. A single rail track is present between these stations. X, Y and Z are three trains that run between M and N. X runs half as fast as Y, which, in turn, runs at a speed $33\frac{1}{3}\%$ less than that of Z. Each day, X leaves M, at 7:00 a.m., for N and as soon as it reaches N, Z starts from N and reaches M at 9:00 a.m. One day, X started 24 minutes behind schedule but increased its speed by $11\frac{1}{9}\%$ to try to catch up on the schedule. If Z also increased its speed and reached M at the usual time, find the ratio of the speeds of Z and X, on that day.

(1) 23 : 5 (2) 31 : 5 (3) 27 : 5 (4) 29 : 5 (5) 21 : 5

57. Praful went to the market and bought apples, bananas and oranges. He purchased at least 25 fruits of each variety and calculated that if the cost of each orange was Re.1 more and the cost of each banana was Rs.4 more, then his total expenditure on the fruits would have gone up by Rs.136. If he bought a total of 80 fruits, find the number of bananas he purchased.

(1) 26
(2) 27
(3) 28
(4) 29
(5) Cannot be determined

58. For which of the following ranges of x, is it not possible to find any value of x that satisfies the inequality $\frac{(x-1)(x-3)}{(x-2)(x-4)} > 0$?

(1) $(-1, 1)$ (2) $\left(\frac{3}{2}, \frac{5}{2}\right)$ (3) $\left(\frac{7}{2}, \frac{9}{2}\right)$ (4) $\left(\frac{5}{4}, \frac{5}{3}\right)$ (5) $\left(\frac{5}{3}, \frac{5}{2}\right)$

59. If a, b, c and d are positive real numbers, where $a = 2b$ and $3c = 4d$, then find the ratio of $(abc^2 + 2b^2d^2)$ and $(a^2cd + 2bc^2d)$.

(1) 41 : 96
(2) 41 : 48
(3) 25 : 72
(4) 25 : 144
(5) Cannot be determined

60. There are $n + 1$ workers in a group. The first worker started a job. The i^{th} worker, where $2 \le i \le (n + 1)$, joined the previous worker/workers after exactly $2^{i-2}x$ days of the previous worker joining it. The job was completed just before the last worker was supposed to join. If the total wage paid to the group for completing the job was Rs.40962, of which the first worker got Rs.4094, find n.

(1) 12 (2) 9 (3) 10 (4) 11 (5) 13

DIRECTIONS *for questions 61 and 62:* Answer the questions on the basis of the information given below.

Rohit drew two perpendicular lines, representing the co-ordinate axes, on a square sheet of cardboard, of size 10 cm × 10 cm, thereby dividing it into four equal squares. He then considered the cardboard as a co-ordinate plane and cut out the entire area enclosed by the curve defined in it as below:

$x = y^2 - 4$, when $x \leq 0$;
$x = 4 - y^2$, when $x > 0$, where all units are in cm.

61. What is the length of the longest possible line segment that can be drawn on the piece that Rohit cut out?

(1) 4 cm (2) 5.12 cm (3) 6.24 cm (4) 8 cm (5) 10 cm

62. If Rohit had started with a cardboard sheet of size 6 cm × 6 cm, instead of 10 cm × 10 cm, and cut out only that part of the curve that could be drawn on the cardboard, then what is the maximum possible length of a line segment drawn on the piece that he cut out?

(1) $\sqrt{37}$ cm (2) $\sqrt{40}$ cm (3) $\sqrt{30}$ cm (4) $\sqrt{50}$ cm (5) 6 cm

DIRECTIONS *for questions 63 to 75:* Answer the questions independently of each other.

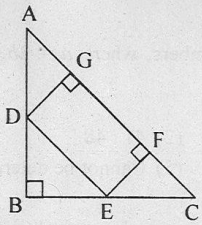
63. Amar has nine friends. He wants to invite them to his birthday party. In how many ways can he invite at least two of his friends for his birthday party?

(1) 45 (2) 1074 (3) 511 (4) 1023 (5) 502

64. Given N = 98765432109876543210 ..... upto 1000 digits, find the smallest natural number n such that N + n is exactly divisible by 11.

(1) 6 (2) 5 (3) 1 (4) 10 (5) 3

65.



In the above figure (not drawn to scale), the length of the hypotenuse, AC, of the right-angled triangle ABC is 12 cm. DEFG is a rectangle, with DE = 4 cm. If the area of triangle ABC is not less than that of any right-angled triangle whose hypotenuse is 12 cm, find the area (in sq.cm) of DEFG.

(1) 12 (2) 8 (3) 6 (4) 9 (5) 16

66. A coach has to form a team by selecting eight players from among three distinct groups, A, B and C, which consist of six, four and three players respectively. In how many ways can he form the team, if he has to select at least two players from each group?

(1) 735 (2) 690 (3) 825 (4) 792 (5) 757

67. If $2^y + 2(3^y) > 3(4^y)$ and $y = 3x^2 + 2x - 2$, which of the following is a possible value of x?

(1) –1.5 (2) –2.5 (3) –0.5 (4) 0.7 (5) 1.2

68. A total of 768 balls are arranged in a pile in 9 layers. The n^{th} layer from the top, where $3 \le n \le 9$ has as many balls as the sum of the number of balls in all the layers above it. Find the total number of balls in the 6^{th} and 7^{th} layers from the top put together.

(1) 72 (2) 144 (3) 288
(4) 216 (5) Cannot be determined

69. A student of Statistics calculated the average height of all the students of his class as A. He also calculated the average of the average heights of all the possible pairs of students (two students taken at a time) as B. Further, he calculated the average of the average heights of all the possible triplets of students (three students taken at a time) as C. Which of the following is always true of the relationship among A, B and C?

(1) A + 2B = 3C (2) A + B = C
(3) A = 2B = 3C (4) 3A = 2B = C
(5) None of these

70. There are two flagpoles, A and B, of heights $15\sqrt{3}$ m and $30\sqrt{3}$ m respectively. If there is only one point on the ground from where both the flagpoles subtend an angle of 60° each, find the maximum possible distance between the tops of the two flagpoles.

(1) $30\sqrt{3}$ m (2) 15 m (3) $15\sqrt{3}$ m (4) 45 m (5) 60 m

71. In a clock, the length of the minute hand is 12 cm and the length of the hour hand is one-third less than that of the minute hand. What would be the distance (in cm) between the tips of the two hands at 8:00 a.m.?

(1) $4\sqrt{17}$ (2) $5\sqrt{19}$ (3) $4\sqrt{19}$ (4) $5\sqrt{23}$ (5) $5\sqrt{17}$

72. Mohan and Sohan rented a truck each from Rajesh Transport Company. The charges at which the company rented the trucks depended on the time for which they were hired and the distance they had covered. For any truck hired for 8 hours or less, there was an hourly charge of Rs.60 and a per km charge of Rs.9. The actual amount charged was the greater of these two amounts. For any truck hired for more than 8 hours, the company charged its customers in the same manner but its

hourly charge was Rs.16 less and the per km charge was Re.1 less. Both Mohan and Sohan drove their trucks for 36 km. If Mohan paid Rs.330, how many of the following statements are necessarily true?

(A) Mohan must have rented the truck for 8 hours or less.
(B) Sohan must have paid more than Rs.352 for the truck, if he rented it for more than 8 hours.
(C) Sohan must have rented the truck for at least 5.4 hours.
(D) If Mohan rented the truck for more time than Sohan, he must have paid more than Sohan.

(1) 0 (2) 1 (3) 2 (4) 3 (5) 4

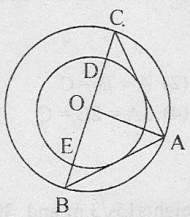
73. A is a 12-digit number consisting of all 2s and B is a six-digit number consisting of all 5s. If $C = \frac{8}{9}(A + B) + 1$, find the sum of the digits of $\sqrt{C}$.

(1) 24 (2) 25 (3) 30 (4) 33 (5) 36

74. If for N values of p, where $p \leq 250$, the highest power of p in $p!$ is p^5, which of the following is true?

(1) $N \leq 4$ (2) $N = 6$ (3) $N = 8$ (4) $N = 10$ (5) $N \geq 12$

75.



In the figure above, there are two concentric circles, centred at O, with diameters as ED and BC. OA is the bisector of $\angle BAC$ while AB is tangent to the inner circle. If OD = 8 cm, what is the area of the triangle OAB?

(1) $32\sqrt{2}$ sq.cm (2) $132\sqrt{2}$ sq.cm
(3) $64\sqrt{2}$ sq.cm (4) 128 sq.cm
(5) 64 sq.cm