MOCK CAT

SECTION – I

1. If $\frac{a}{3} = \frac{b}{4} = \frac{c}{6} = \frac{3a+4b-5c}{k}$, then k is

   (1) 5 (2) 15 (3) – 10 (4) 7 (5) – 5

2. The value of diamond is directly proportional to the square of its weight. If a diamond weighing 8 kg breaks into 2 pieces, its total value decreases by $\frac{3}{8}$ times. Find the weights of the two pieces.

   (1) 4 kg, 4 kg (2) 5 kg, 3 kg (3) 6 kg, 2 kg (4) 4.5 kg, 3.5 kg (5) None of these

3. What is the last digit of $7^{27^{16^{13}}}$?

   (1) 7 (2) 9 (3) 1 (4) 3 (5) 2

4. In a mixture of 80 L, milk and water are in the ratio 5: 3. If 20% of this mixture is replaced by 16 L of milk, the ratio of milk and water becomes.

   (1) 2 : 1 (2) 5 : 3 (3) 7 : 3 (4) 8 : 3 (5) 1 : 3

5. Coke and Pepsi are two competitors racing on a circular track with the speed of 72 kmph and 90 kmph respectively. Find the length of the track if they meet 20 sec after the start of race.

   (1) 100 m (2) 200 m (3) 300 m (4) 400 m (5) 500 m

6. A and B can do a piece of work in 10 and 15 days respectively. If with the help of C, they can finish twice the work in 8 days. What percent of work is done by C?

   (1) 40% (2) 20% (3) $33\frac{1}{3}\%$ (4) 25% (5) $66\frac{2}{3}\%$

7. A leak in the bottom of a cylindrical tank can empty it in 6 hrs. A pipe fills the tank at 6 litre/min. When the tank is full, the inlet is opened, but due to the leak the cylindrical tank is emptied in 8 hr. What is the capacity of the tank?

   (1) 8840 litres (2) 6480 litres (3) 6840 litres (4) 8640 litres (5) 8460 litres

8. A cube named P whose side is equal to the diagonal of the cube named Q of side 2 cm is taken. What is the ratio of the volume of the largest sphere S, inside the cube R of side equal to the diagonal of cube P and volume of cube Q?

   (1) $2\pi : 9$ (2) $8\pi : 9$ (3) $9\pi : 8$ (4) $9\pi : 2$ (5) $\pi : 2$

9. If x% of y is z, y% of z is x and z% of x is 100, then which among the following is not true?

   (1) x = 100 (2) x = z (3) y = 100 (4) x + z = y (5) z = y

10. If $\frac{\log a}{\log 10} - \frac{10\sqrt{a}}{\log 16} = \frac{2 \log 10}{\log a}$, then what possible value can a have

(1) 100 (2) $\frac{1}{100}$ (3) $\frac{1}{1000}$ (4) (1) and (2) (5) (2) and (3)

11. What is the unit digit of m – n, if
$m = 2^{99} + 4^{99} + 6^{99} + 8^{99} + \ldots\ldots\ldots + 100^{99}$
and $n = 1^{99} + 3^{99} + 5^{99} + 7^{99} + \ldots\ldots\ldots + 99^{99}$?
(1) 0 (2) 1 (3) 2 (4) 3 (5) 7

12. Sachin and Anjali Tendulkar have a son. When their son will be as old as Anjali, the ratio of Sachin's and Anjali's age will be 18: 17. When Anjali will be as old as Sachin, the ratio of age of Sachin and his son will be 3: 1. Find the ratio of age of Anjali and her son.
(1) 11 : 3 (2) 10 : 3 (3) 8 : 1 (4) 12 : 5 (5) can't be determined

13. If $x - \frac{1}{x} = 2$, what is the remainder when $x^8 + \frac{1}{x^8}$ is divided by 2^8?
(1) 0 (2) 126 (3) 2 (4) 254 (5) 130

14. The total market price of 10 items is equal to the cost price of 14 items. If a shopkeeper allows a discount, equal to the selling price of 2 items. What will be the percentage profit/loss a shopkeeper will make?
(1) 25% (2) 20% (3) 16.67% (4) 12.5% (5) Data insufficient

Directions for questions 15 – 17: Answer the following questions based on the given information.
10 coins have to be distributed among four friends namely Humpa, Mampa, Champa and Sampa such that each one has different number of coins. It is given that Mampa gets more coins than Humpa and Sampa gets fewer coins than Champa.

15. If the number of coins given to Mampa is twice the number given to Humpa, then which one of the following statement is necessarily true?
(1) Champa gets an even number of coins
(2) Champa gets an odd number of coins
(3) Sampa gets an odd number of coins
(4) Sampa gets an even number of coins
(5) Both (2) and (4) true.

16. If Champa gets at least two more coins than Sampa, then which one of the following statement is necessarily true?
(1) Mampa gets at least two more coins than Sampa
(2) Mampa gets move coins than Sampa
(3) Humpa gets more coins than Sampa
(4) Humpa or Mampa together get at least five coins
(5) Humpa and Mampa together get 40% of the total coins.

17. If these ten coins contain equal number of 25 paisa, 50 paisa, Rs 1, Rs 2 and Rs 5 coins. What will be minimum difference between Humpa's and Sampa's total amount, if Mampa gets fewer numbers of coins than Champa?

(1) Rs. 1.00 (2) Rs. 0.75 (3) Rs. 0.50 (4) Rs. 0.25 (5) Rs. 0

18. If A, B and C are distinct digits forming three different 3-digit numbers; m, n and p having all the three digits same, and m + n + p = BAAC. Then, what is the value of A + B + C?

(1) 15 (2) 18 (3) 16 (4) 12 (5) 14

19. If f(a, b, c) = max {min(a, b), min(b, c), min(c, a)}
g(a, b, c) = min{max(a, b), max(b, c), max(c, a)}
Find f(a, b, c) – g(a, b, c), if a, b, c are in an arithmetic progression and common difference is 2?

(1) – 4 (2) 4 (3) 0 (4) – 4 or 4 (5) data insufficient

20. A spherical ball has a diameter of 1 unit. How many balls are required to form an equilateral triangle of edge n units?

(1) $\frac{n(n+1)}{2}$ (2) $n^2 - 1$ (3) $n(n-1)$ (4) $n!$ (5) None of these $\frac{n^2}{4}$

21. An engine runs at a speed of 50 kmph without any bogie. For every bogie attached to it, the speed of engine reduces by 10% of the earlier speed. At most how many bogies can be attached so that the train can cover a distance of 225 km in a maximum of 10 hr?

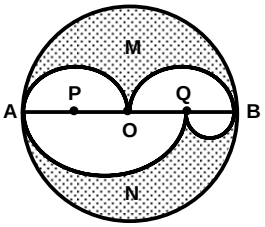
(1) 5 (2) 6 (3) 7 (4) 8 (5) 9

22. A bridge has to be completed in 25 weeks with the help of 120 men. After 10 days, 60 men leave. How many more weeks over and above the schedule time will be required to complete the bridge if the remaining men increase their working rate by 50% of initial rate?

(1) 15 (2) 30 (3) 20 (4) 5 (5) 25

23. In the figure, O is the centre of circle with diameter AB and P, Q are the midpoints of AO and BO. What is the ratio of the area of shaded region M to shaded region N?

(1) 8 : 27 (2) 4 : 3 (3) 1 : 1
(4) 11 : 3 (5) Data insufficient



Directions for questions 24 – 25: Answer the following questions based on the following information.

In a party of 150 Guests, 50 people did not eat Shahi Paneer, 90 ate Dal fry and 20 neither had Shahi paneer nor Dal fry.

24. How many guests ate both, Shahi paneer and Dal fry?

(1) 40 (2) 50 (3) 60 (4) 20 (5) Can't say

25. How many guests had only Shahi paneer?

(1) 40 (2) 50 (3) 60 (4) 70 (5) Can't say

SECTION – II

Directions for questions 26 – 29: Five alternative summaries are given below each text. Choose the option that best completes the essence of the text.

26. India and America are not always likely to share strategic interests. Nevertheless, we must remain friends in the sense of a higher commitment to certain values. Alliances based on interests are but transient. We should support America if it seeks to export the ideal of genuine liberal democracy around the world and warn it of the fate which befell earlier hegemons that chose to pursue narrow selfish interests. This position, as their friend in freedom, is what we owe them. Frankness, in other words, must be the primary virtue of our often strained but nevertheless true friendship.

(1) India and America share common values of democracy and freedom. Therefore, it is in India's own interest to support America if the latter supports democracy worldwide, and caution it if it doesn't.

(2) International relations ought to be based on common interests. Since, India and America do not share strategic interests, their friendship can only be based on frankness.

(3) Selfless friendships are more enduring. India and America may not always have commonality of interests, but they must share ideological common ground and be mutually supportive on such shared values.

(4) Friendships based on mutual interest are longer-lasting. India and America do not share common interests. Yet India should support America, where the latter is in the right.

(5) True friendship, based on mutual support and frankness, should define India's relations with America.

27. In the philosophy of the Vedanta, matter is not an entity isolated from the realm of eternity but is merely an appearance of the Eternal through space, time and causation. The activities of the material world are all consciously directed towards the fulfillment of the cosmic purpose of Self-realisation. Matter is not an unwilling self but a willing cooperator in the grand scheme of the cosmos. Matter appears to be an impediment when the Spirit is forgotten, but when one consciously and deliberately puts forth efforts towards the realisation of the Spirit in one's own self, one would discover that the material universe becomes a stepping stone in the process of this grand ascent.

(1) The material pursuits are a stepping stone to the ultimate realization of self.

(2) There is but a thin line of demarcation between the inert and the alert, and ultimately both are a pre-requisite to the fulfillment of the real purpose in life.

(3) Though material universe is not eternal, the spirit and the cosmic purpose are.

(4) In the realm of Vedanta, material world is part of the grand scheme of things in which self-realisation is the ultimate purpose.

(5) Vedanta defines matter as the expression of the spirit through space, time and causation.

28. A group of strict vegetarians have formed an association called Proveg. They protested recently against a famous and popular manufacturer on the issues of a chemical additive that goes into his toothpaste. The additive is dicalcium phosphate, and apparently the company obtains it from animal bones. Let me hasten to point out that I respect the right of this group to adopt and to propagate vegetarianism. I can also understand their sensibilities regarding animal bones. But, I am afraid, their concern may be misplaced. What they need to be reassured about is that the dicalcium phosphate is free of any organic contaminant from animal tissues. If the manufacturer proves that this phosphate is pure, the matter should rest there. If, on the other hand, tests reveal that the material is contaminated with any organic material from the animal, Proveg would be justified in their worries and protests.

(1) Appearances are often deceptive.
(2) What can't be cured must be endured.
(3) Empty vessels create more noise.
(4) You can't throw the baby out with the bathwater.
(5) Let's not get hold of the wrong end of the stick.

29. The "best and the brightest" in the IMF and the World Bank were aghast at the sudden collapse in South East Asia. They thought they had been managing the world economy wonderfully well, following what came to be known as "the Washington Consensus". The Washington Consensus was a set of aphorisms shared by the IMF, the World Bank, the U.S. Treasury, Washington think-tanks and their friends around the world. The Washington Consensus called for an implicit faith in the efficacy of market economy, free movement of international capital and an unrestricted and free trade of goods throughout the world. Unable to place their finger on the precise reason for the collapse, they blamed short term capital managed by financial intermediaries - commonly referred to as "hot money". In a globalised economy, they discovered with feigned wonderment, billions of dollars can be moved at the stroke of a computer key and this fact makes it almost impossible to manage or control its movement. At the same time, they said, imposing any restrictions on the movement of this "hot money" is just not permissible, since it went against the basic credo of globalisation, namely, the free movement of capital. When Malaysia imposed a few restrictions, there was a howl of protest from all over the West. They said the imposition of such restrictions scared away capital from such countries and would prove counter-productive in the long run.

(1) The collapse of the economies in South East Asia was the result of the faulty policies pursued by the governments of these countries.
(2) South East Asian crisis presented a dilemma to the champions of Free Market economy.
(3) South East Asian crisis was caused by the unrestrained entry and exit of "hot money".
(4) The Washington consensus presented a conflicting view on the reasons for the financial crisis in South East Asia.
(5) When the bubble burst, there were no explanations.

Directions for question 30: Which of the following statements **cannot** be inferred from the passage?

30. If the human mind, which is capable of such astonishing energy, is not seeking reality or God, every expression of its energy becomes a means of destruction and misery. To seek reality requires immense energy, and, if man is not doing that he dissipates his energy in ways which create mischief, and therefore society has to control him. Now, is it possible to liberate energy in seeking God or truth in the process of discovering what is true, to be a citizen who understands the fundamental issues of life and whom society cannot destroy? You see, man is energy, and if man does not seek truth, this energy becomes destructive. Therefore society controls and shapes the individual, which smothers this energy.
    (1) In the search for reality, energy creates its own discipline.
    (2) The man who is seeking reality spontaneously becomes the right kind of citizen.
    (3) Reality does not have to follow the pattern of any particular society or government.
    (4) Time not spent in spiritual pursuits is time wasted in dissipating energy.
    (5) Energy of human mind also needs a vent.

Directions for questions 31 – 35: Given below are sets of three sentences. One, two or all the sentences may have error(s) of grammar or syntax or Standard English usage. Identify only the sentences that are **incorrect**.

31. (A) None except her and her father arrived at the venue in time.
    (B) Either you, or your brother or sister ought to have informed me.
    (C) Neither the students nor their teacher or the school came forward to tender an apology.
    (1) Only (A) (2) Only (B) (3) Only (C) (4) Both (A) & (B) (5) Both (B) & (C)

32. (A) Everybody spoke up in unison for their rights.
    (B) One has to reckon with the fact that he is ultimately responsible for his own deeds.
    (C) Let me tell you this is not simply possible.
    (1) Only (A) (2) Only (B) (3) Both (A) & (B) (4) Both (B) & (C) (5) All of these

33. (A) What I have been able to imply from this article is that mathematics is at the root of most physical sciences.
    (B) Many of the most energetic students end up as under-achievers in life because of the lack of focus on their goals.
    (C) None of those little naughty boys have turned up today.
    (1) Only (A) (2) Only (B) (3) Only (C) (4) Both (A) & (B) (5) Both (A) & (C)

34. (A) There are lesser students in the class today than there were yesterday.
    (B) Before I could move a limb, the reckless driver had run over the poor little pup.
    (C) The higher your aspirations, greater the effort you need to put in.
    (1) Only A (2) Only (B) (3) Only (C) (4) Both (A) & (C) (5) Both (B) & (C)

35. (A) He found out to his utter dismay that his son failed in the examination.
(B) He did not, and never intended to, return the book.
(C) The councilor has not and will not file his nomination for re-election.
(1) Only A (2) Only (B) (3) Only (C) (4) Both (A) & (C) (5) Both (B) & (C)

Directions for questions 36 – 40: In each question below a set of four statements is given, followed by five answer options to categorise these statements as facts, inferences, and judgments. Consider the statements and decide which of the choices out of the four given is true.

F: Fact: If it relates to a known matter of direct observation, or an existing reality or something known to be true.
J: Judgment: If it is an opinion or estimate or anticipation of common sense or intention.
I: Inference: If it is a logical conclusion or deduction about something, based on the knowledge of facts.

36. 1. From the statement of the Finance Minister, it seems that the Central government may introduce a separate market regulator to check the growing inflation.
2. With interest rates escalating over the past months, small firms are finding it difficult to cut cost inputs.
3. The consumer index has increased substantially and the Central government is under obligation to raise the D.A slab of the Central employees.
4. The inflationary pressure is likely to dampen the spirit of the domestic and foreign investors as the volatility in the stock market increases.
(1) IFIJ (2) JIIJ (3) IIIJ (4) JIJI (5) IIII

37. 1. Global production of wheat is declining every year and grim days for India are imminent as there are more mouths to feed.
2. The potential problem is that even if Australia and USA remain favorable and the harvest is good, these two exporters may not have enough to hawk in the world market.
3. According to the latest USDA estimates, world production of wheat has dropped from 629 million tonnes in 2004-05 to 593 million of tonnes in 2006-07.
4. The escalation of food-grain prices is likely to create problems for the farmers who thrive on animal farming.
(1) JFFI (2) JIFI (3) IIFJ (4) IJFJ (5) JIFJ

38. 1. Caste based vote bank politics in India is striking at the very roots of Indian democracy, and in the elections of Punjab and UP, caste politics might aggravate violence.
2. The Supreme Court, in its interim order, has stayed the 27% reservation for OBC's in educational institutions to the chagrin of the ruling UPA government.
3. Industry Chamber FICCI has welcomed the SC Judgment indicating the need for further debate on the reservation issue.

4. In its interim order, the honorable Supreme Court held that the government has no detailed data on OBCs other than that of the 1931 census, which put OBC's at 52% of the population.

(1) IFJJ (2) JFIJ (3) JFFF (4) IFIJ (5) JFJF

39. 1. The gruesome episode of Nandigram has compelled the Central government to review its SEZ policy and to scrap the ceiling; the states have been directed to buy land from the farmers at the floor rate.
2. In specifying the floor rate, the state government will be a mere facilitator in the land acquisition process.
3. Over the years, corporates and industrialists have been paying low rates for the land that commands greater market value, and this has resulted into the Nandigram catastrophe.
4. Floor rate in the eastern region is just Rs. 5 lakh per acre, whereas it is Rs. 20 lakh in Haryana.

(1) IFIF (2) FIIF (3) JIJF (4) FIJF (5) JFJF

40. 1. The Commerce Ministry constituted many expert committees to find an alternative to the duty entitlement passbook scheme (DEPB) but no workable replacement for the scheme was suggested.
2. The DEPB scheme is designed by the Commerce Ministry to reimburse basic and special customs duty paid by an exporter on imported goods.
3. The DEPB scheme is full of anomalies as there is a plethora of taxes existing at the state level and the Central government may not have the authority to reimburse state taxes.
4. Hooda committee has recommended extending the DEPB scheme by three years but this is no tangible solution.

(1) JFIJ (2) FFIJ (3) IIJF (4) FIJF (5) JFJF

Directions for questions 41 – 50: Read through the following passages and answer the questions that follow.

PASSAGE – I

Paranoia neurosis is fast growing in modern utilitarian society where money is the be all and end all of all moral and spiritual values. In extreme cases, it drives people to murder, and even in mild ones, it nods them into a states of agitation. Paranoia is said to be the morbid and neurotic fear of being duped or abused. It is most prevalent in people who have been taken advantage of repeatedly, or belong to a group that has been discriminated against. People are often very sensitive and vulnerable; they lose their temper and become crazy on petty matters. For them it is a short step from taking warranted precautions to taking unwarranted ones, and it is believed that this syndrome consists essentially of overprotecting ourselves.

This syndrome is also prevalent among people seldom exploited in actuality, whose fear of being taken advantage of has been generated by warnings from friends and parents. It is common among women, living and working in the big cities late hours. Their domestic life is often paralyzed .Those that have been

repeatedly mistreated and abandoned become the victims of paranoia. The diagnosis of this neurosis is applied only in extreme condition, in state mental hospitals; it is made when there are delusions of grandeur or delusions of persecution. When either of these two syndromes becomes strong, it is nearly always accompanied by the other. If you think mistakenly that one person does not like you, you may become the victim of persecution. In case a man thinks he is a genius, and people are indifferent, he suffers the neglect of others; it would seem to him that other people are persecuting him. To be great without being celebrated is to be discriminated against and this creates a situation of being a paranoid.

The common symptoms of this neurosis are feelings of transparency and delusions of reference. The sufferer from severe paranoia sometimes believes he is so transparent that people can read his mind. The victim often jumps to the conclusion that there is no way escaping his tormenters except killing them. A large number of crimes are committed every day because of the neurotic situations when people become crazy killers. Thoughts of reference are unrealistic presumptions that other people are talking about us. This consciousness makes us anxious. Even in mild cases of paranoia, we may observe all the symptoms together. No wonder, mild cases often flare up into acute cases of anxiety and restlessness. Whenever you have given a friend slight reason to he piqued, if there seems to you a major chance that he will want to end the relationship, you are suffering from a mild case of paranoia. Jealousy in love affairs is another major variant of paranoia and often the young students particularly the teenagers who are rash and impulsive and who cannot tolerate their rivals in love and sex, become the victims of neurosis, and commit unimaginable crimes in a fit of paranoia.

Paranoid fears may be extensions of warranted concerns. In the beginning, unless it reaches psychotic proportions, the sufferer from paranoia senses that his conclusions about other people may be wrong. He may not voice his doubts, knowing that if they are not right he'll appear foolish. He tries his best to be cautious, is well advised in his worry but little displeases him more than having his kindness called into question by someone. It is needless to contend that when he becomes certain of other's malevolence, he gets irritated and becomes a victim of the neurosis. It is pertinent to note that not all suspicious people are victim of neurosis. Whether we become paranoid or not depends largely on how we handle a certain kind of situation. Often the victims of this syndrome make the wrong choices and handle the situation impulsively and not rationally; thus we produce paranoia and often intensify it, convincing ourselves that people are conspiring against us. Once the victims have embarked on the paranoid path, they do not listen to the rational arguments of others and tend to believe that what others are saying is wrong and misleading. The farther they move along this path, the more reasonable their paranoid acts appear. It follows that the decisions which would save them from becoming paranoid require only slight courage in the beginning and become increasingly more difficult to make. Psychologists such as Dr Karen Horney firmly believe that by the time the disease is severe, the course of getting out of the paranoid situation is lost forever. Hence, a clear and rational handling of the situation is required in the pre-paranoid situation. How the victims handle the situation is the best defense against paranoia.

41. What can be best concluded from the passage about paranoia neurosis?
    (1) The author's study brings into focus an irrefutable link between temperament and paranoia.
    (2) Paranoia can be an expression of a state of fear as mind is prejudiced against the judgment of others.
    (3) Paranoia is a type of pathological dread of being ill-treated and neglected by others.
    (4) Paranoia is abnormal psychotic feeling of being unsafe for an individual, the outcome of a psychological obsession.
    (5) Paranoia is essentially the growth of a mental neurosis when an individual takes unwarranted precautions against his fellow beings and avoids a situation.

42. What best describes the organization of the passage?
    (1) The author highlights the features of a psychological study and discusses the future of his research.
    (2) The passage is a convergence of varying opinions on the different aspects of a phenomenon, with suggestive measures for guarding against it.
    (3) The author suggests the possible cures of paranoia and the ways to treat it.
    (4) The author gives the findings of his research on paranoia, highlights its causes, but does not reach a concrete conclusion.
    (5) The author gives his observations on the origin of a disease, highlights the symptoms, and emphasizes its psychological aspects.

43. Which of the following are factors mentioned by the author that lead to the growth of paranoia in human beings?
    (1) The belief that not all human beings become the victims of paranoia, only weak individuals are prone to this neurosis.
    (2) The belief, that the intensity of paranoia in women cannot be accurately measured.
    (3) The belief that the symptoms of paranoia are initially unobservable, and only in exigent circumstances is the diagnosis possible.
    (4) The belief that hypertension and anxiety cause paranoia.
    (5) The belief that neglect and megalomania cause paranoia.

44. The author's argument about paranoia is presented primarily by
    (1) treating the disease as a mental aberration.
    (2) providing experimental evidence against a conclusion.
    (3) presenting new findings about a malady and showing its defects
    (4) presenting the diagnosis and suggesting means for protection.
    (5) treating the disease as a common misunderstanding, lacking in true substance

45. The primary purpose of the passage is to

(1) discuss paranoia as a neurosis and propose that prevention is the better part of valour.

(2) analyze the symptoms of the disease from a general point of view.

(3) present all possible causes of the disease and allow readers to draw a conclusion.

(4) outline a new idea about the disease in the context of latest research.

(5) raise several pertinent questions about the disease and offer personal tips.

PASSAGE – II

The traditional view of language was that it creates perceptions of reality. The modern thinkers opine that all language constructs rather than reflects reality. For instance, time passes in all cultures and still different communities perceive 'past' 'present' and 'future' differently. There is no conceptual framework to make theory about the passage of time. Again, the measurement systems based on diurnal and sidereal observation may give scientific universality, but certainly different communities will take time measurement in different manner.

In the Chinese language, the verbs are not inflected and do not conjugate, hence, time is marked adverbially and through suffixes. In Latin verb formation there is a substantial range of temporal differentiation. Chinese language is the growth of two aspects, i.e. each individual must preserve and maintain morality, and integrity in the community. The individual loss of face can incapacitate a Chinese individual as a member of his community. No wonder the conflict theories and the dispute-settlement strategies are widely different from the Western equivalents. Thus, in Chinese language, the relationship between signifiers and their signified are ontologically irrelevant. The growth of a language is the cognitive processes and establishes the levels of connotation that constitute the social reality in each culture. People who speak with different phonological, syntactical, and semantic systems construct different worldviews. The modern linguists have evolved particular sign system expressing the understanding of reality of a particular culture. The fact remains that reality is constructed by interaction between mind, perception, and meanings. Language is the mechanism through which common experiences of human beings are encoded and decoded. If the experiences change with the passage of time the lexical words of the past are deconstructed and reconstructed to reflect new experiences. This historical process may be called narrativisation. Briefly stated, the community is constructing a narrative about its own knowledge and experience that marks some areas of knowledge as more important than others. In this evolutionary process, the symbolical function of the lexical words differentiates their value and this system leads to the certainty of net discourses or Meta realities in which a community reflects its knowledge. Language thus becomes functional. Most lexical words refer to classes of things i.e. animals and insects or to concepts which are non-human.

The term "biosemiotic" was first used by F.S. Rothschild in 1962. In biology it is interpreted as sign systems study but in broader perspective it is a study of the signification. Interestingly, life is considered not just from the perspectives of molecules and chemistry, but as signs conveyed and interpreted by other living signs – it is a process from molecular biology to brain science and behavioral studies. Biosemiotics provides new concepts, theories, and case studies of biology with a view to throw light on the study of sign processes

highlighting the origin of signification in the universe. Signification does not mean the transfer of information from one place to another, but the generation of new content in human sign producers and sign receivers.

Living system is highly organized in physical and chemical processes. Ernest Mayor has observed the informational aspect as one of the emergent features of life. It is this process, which distinguishes life from anything else in the physical world except man made computers. The information teleology is a unique feature of organisms and this intrinsic Biosemiotics, thus is a modern study of signs, a study of the signification, communication and habit formation of living processes. It studies the production, action and interpretation of signs in the physical world and is the basis of all signs and sign interpretations. Then Semiotics and Biosemiotics are two important fields of modern structural language patterns dealing with teleology and evolutionary linguistics.

46. What can be best inferred from the passage about semiotics system of language formation?
    (1) Semiotics provides an irrefutable link between cultural patterns of a community and the process of language construction and deconstruction.
    (2) Semiotics involves an evolutionary psychological process and not a revolutionary process.
    (3) The semiotic approach provides the conceptual framework to create a language; thus the main thrust in Semiotics is the signification of the lexical words.
    (4) The growth of language in a semiotic process is natural in a community; a continuous process of achieving symbolisation.
    (5) Semiotics is a cognitive process to establish the connotation that constitutes the social reality for a community.

47. Which of the statements is the author most likely to disagree with?
    (1) Semiotics and Biosemiotics are fundamental in any cognitive process; the former deals with the theory of language construction; the latter is a study of sign interpretation.
    (2) The perceptions of language can be diachronic as the evolution of language is through cultural growth of a community.
    (3) The Chinese language does not lay much emphasis on the difference between the observer and the observed.
    (4) Semiotics investigate the construction and deconstruction of words, Biosemiotics explore the impact of perceptions on language patterns.
    (5) The extraneous methodology may lend a semblance of similarity; it is the detail that does not lend itself to uniform interpretation.

48. The passage answers all the given questions about Semiotics and Biosemiotics except.
    (1) Does Semiotics create a form of meta reality?
    (2) Is language an evolutionary process of construction and deconstruction in the context of cultural patterns of a community?
    (3) Is Biosemioitcs a study of generation and interpretation of signs in the biological life?
    (4) Is Biosemiotics a behavioral science to answer the general study of sign processes?
    (5) Do Semiotics and Biosemiotics define and investigate the role of cognitive psychology of individuals living in a community?

49. The passage is a

(1) treatise on the historical process of evolution of language from the structural and functional angle.

(2) a description of the various phases of cognitive processes and difficulties involved in assigning lexical words to symbolic, syntactic and semantic derivatives in the process of language formation.

(3) a statement of the problems of construction and deconstruction of language through semiotic and biosemiotic levitations

(4) an esoteric discussion on the methods of language formation, highlighting the problems encountered by modern linguists due to variety of interpretations

(5) a scientific study to investigate the evolution of language from deterministic point of view.

50. Why is 'the growth of language' termed as a 'cognitive process?

(1) The growth of language is cultural; it is a cognitive process as man's perceptions accumulate as he grows.

(2) The growth of language is interactive; it becomes cognitive as man accumulates his experiences in life.

(3) The growth of language is cognitive because it reflects the impact of environment on construction and deconstruction.

(4) The growth of language is spontaneous as the cognitive abilities of man are nurtured through the semiotic and biosemiotic processes.

(5) The growth of language is societal; it is cognitive because of his interaction with others.

SECTION – III

Directions for questions 51 – 55:

There are 8 major rivers flowing in India. The following information gives the number of states, in which each river flows (table 1) and the number of the rivers flowing in each state (table 2).

'k' in table 2 represents the number of rivers that flow in Uttar Pradesh.

Table 1

River	Number of states
Hasna	3
Badavari	2
Atluj	2
Binga	4
Andus	1
Seelum	1
Mavi	1
Laveri	3

Table 2

State	Number of rivers
Andhra Pradesh	2
Punjab	1
Karnataka	2
Jammu and Kashmir	3
Himachal Pradesh	1
Uttaranchal	1
Maharashtra	2
Uttar Pradesh	K
Tamil Nadu	1
Kerala	1
Bihar	1
West Bengal	1

Read the information given below and answer the questions that follow:

There is no other river flowing in the states where the river Binga flows.

- The three rivers namely, Andus, Seelum and Mavi flow through one common state.
- Hasna and Badavari flow through one common state and Hasna and Laveri also flow through one common state.
- The river flowing in Kerala also flows in Tamil Nadu.
- The river which flows in UP, also flows in Uttaranchal and Bihar.
- The river which flows in Punjab also flows in Himachal Pradesh and there is no other river in these states.

Answer the following questions.

51. How many rivers flow in UP?
(1) 1 (2) 2 (3) 3 (4) 0 (5) 4

52. Which river flows in Punjab?
(1) Badavari (2) Atluj (3) Seelum (4) Andus (5) Mavi

53. In which of the following state does the river Binga flows?
(1) Tamil Nadu (2) Kerala (3) West Bengal
(4) Jammu & Kashmir (5) Himachal Pradesh

54. If Badavari doesn't go to Karnataka, which rivers flow in Andhra Pradesh?
(1) Hasna and Laveri (2) Hasna and Badavari
(3) Badavari and Laveri (4) Badavari and Mavi (5) None of these

55. If 'river number' of a river is defined as the number of states in which the river flows and state value is the sum of river numbers of all the rivers which flow in that state. What are the possible maximum and minimum state values?
(1) 5 and 4 (2) 5 and 2 (3) 6 and 2 (4) 6 and 1 (5) 1 and 3

Directions for questions 56 – 60: An organization, TCY, has offices in six cities namely Ludhiana, Chandigrah, Jammu, Amritsar, Patiala and Jalandhar. The director of the organization Mr. Kamal decides to visit all the six branches, one each day in a week. His PA informs all the branches and according to the availability of branch heads, he prepares a schedule that is given below.

Ludhiana – Monday, Saturday (either of the day)
Chandigarh – Tuesday, Thursday, Saturday (either of the day)
Jammu – Wednesday, Friday, Saturday (either of the day)
Amritsar – Saturday, Wednesday (either of the day)
Patiala – Thursday, Monday, Friday (either of the day)
Jalandhar – Monday, Wednesday, Friday (either of the day)

56. On which day, Mr. Kamal has the maximum number of options to select a branch to visit?
(1) Monday (2) Wednesday (3) Friday (4) Saturday (5) None of these

57. If Mr. Kamal decides to go to Jammu on Wednesday, in how many different ways can he schedule his entire week?
(1) 0 (2) 1 (3) 2 (4) 3 (5) 4

58. How many different schedules can Mr. Kamal plan for his visit?

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

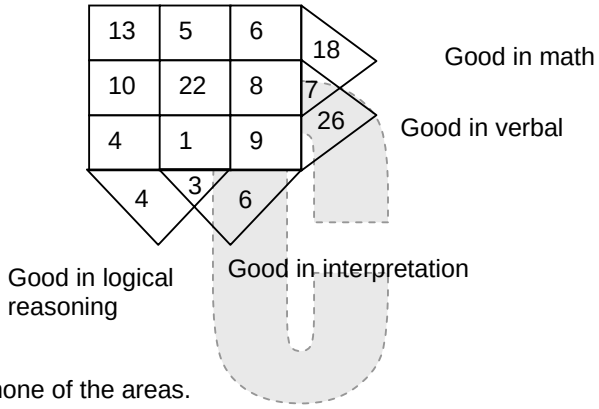
59. Whatever may be his plan, which of the following branches can Mr. Kamal visit on a particular day only?

(1) Ludhiana (2) Jalandhar (3) Chandigarh (4) Jammu (5) None of these

60. If the above plan of schedule is sent to all the branches, how many branch heads can expect Mr. Kamal to arrive on a particular day only?

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

Directions for questions 61 – 64: In a CAT Coaching Centre, some students are very strong in math, some are strong in verbal ability, some are strong in interpretation and some are strong in logical reasoning. Some students are strong in more than one area. The following diagram gives the details of this.



8 students are good in none of the areas.

Now, based on the above information, answer the following questions.

61. How many students are good in all the areas?

(1) 8 (2) 10 (3) 22 (4) 142 (5) None of these

62. How many students are good in both verbal and interpretation?

(1) 25 (2) 30 (3) 32 (4) 35 (5) 40

63. How many students are not good in math?

(1) 76 (2) 26 (3) 53 (4) 61 (5) 67

64. How many students are good in math and interpretation but not in verbal or logical reasoning?

(1) 6 (2) 18 (3) 24 (4) 48 (5) 52

Directions for questions 65 – 70: I asked five of my friends, Aman, Deepak, Isha, Priya, and Swetha to guess my debit card pin code, which is a 4 digit number. I gave them a clue that no digit is greater than 4 and there is no zero in my pin. I offered Rs. 100 for the persons, who guessed the first digit right, 200, 300 and 400 for the persons who correctly guessed 2nd, 3rd and 4th digits respectively. Actually all the 4 digits of my pin number are different, but my friends don't know that. After some time,, they told me their guesses which are depicted below.

	1st digit	2nd digit	3rd digit	4th digit
Aman	4	3		2
Deepak		3	1	2
Isha		3		
Priya			1	2
Swetha		3	1	2

It is also known that

- Priya guessed all the different digits and earned the lowest amount. Deepak earned less than Swetha.
- The guesses made by Isha and Swetha differ by at least two digits.
- Deepak did not guess "2" or "4" for the first two digits and he guessed two different digits.
- No two persons guessed the same number of correct digits.

Then answer the following questions.

65. Who will get the maximum money?
(1) Aman (2) Deepak (3) Isha (4) Swetha (5) Priya

66. What is my pin number?
(1) 1234 (2) 1324 (3) 4231 (4) 4321 (5) 3142

67. How much money did I loose to my friends?
(1) 800 (2) 1200 (3) 1000 (4) 1800 (5) 2100

68. How much money did Swetha earn?
(1) 100 (2) 200 (3) 300 (4) 400 (5) 500

69. Which digit was correctly guessed by the maximum number of persons?
(1) 1st (2) 2nd (3) 3rd
(4) 4th (5) Cannot be determined

70. How many people guessed all the 4 digits right?
(1) 1 (2) 2 (3) 3 (4) 4 (5) 0

Directions for questions 71 – 75: In an examination, there are 10 questions, each carries 1 mark. If a student gets two questions correct in continuation, he will be given a bonus mark. Similarly, if he gets four questions and six questions correct in continuation, he will be given 3 bonus points and 5 bonus points respectively. There is no negative marking for a wrong answer, but if a student gets two questions wrong in continuation, he will be awarded one negative mark. Similarly if he gets four questions and six questions wrong in continuation, he will be given 3 negative marks and 5 negative marks respectively. All questions were attempted by all the students.

Answer the following questions.

71. If a student gets 9 marks in total, what would be maximum number of wrong attempts made by him?
(1) 2 (2) 3 (3) 4 (4) 5 (5) None of these

72. If a student attempts 6 questions correctly, what will be the difference between the maximum possible and minimum possible marks?
(1) 2 (2) 3 (3) 4 (4) 5 (5) 6

73. What could be the maximum number of wrong attempts; a student can make, so that his marks should not be negative?
(1) 1 (2) 4 (3) 7 (4) 10 (5) None of these

74. If a student attempts four incorrect questions but not any two questions in a continuation, then which question he must have done wrong, if he gets the maximum possible marks?
(1) 1st (2) 3rd (3) 5th (4) 8th (5) None of these

75. If he gets 5 marks then what is the maximum possible number of correct questions he could have attempted?
(1) 4 (2) 5 (3) 6 (4) 7 (5) 9

MOCK CAT

ANSWERS

1.	(5)	2.	(3)	3.	(1)	4.	(3)	5.	(1)	6.	(3)	7.	(4)	8.	(4)
9.	(4)	10.	(4)	11.	(1)	12.	(2)	13.	(5)	14.	(3)	15.	(4)	16.	(2)
17.	(5)	18.	(2)	19.	(3)	20.	(1)	21.	(3)	22.	(4)	23.	(2)	24.	(3)
25.	(1)	26.	(3)	27.	(4)	28.	(5)	29.	(4)	30.	(4)	31.	(3)	32.	(5)
33.	(5)	34.	(4)	35.	(4)	36.	(5)	37.	(4)	38.	(3)	39.	(1)	40.	(2)
41.	(3)	42.	(5)	43.	(5)	44.	(4)	45.	(1)	46.	(1)	47.	(4)	48.	(5)
49.	(4)	50.	(1)	51.	(1)	52.	(2)	53.	(3)	54.	(2)	55.	(3)	56.	(4)
57.	(2)	58.	(3)	59.	(3)	60.	(2)	61.	(3)	62.	(5)	63.	(4)	64.	(1)
65.	(3)	66.	(4)	67.	(5)	68.	(3)	69.	(2)	70.	(3)	71.	(3)	72.	(2)
73.	(3)	74.	(1)	75.	(2)										

EXPLANATIONS

1. $\frac{3a+4b-5c}{k} = \frac{3a+4b-5c}{3\times3+4\times4-5\times6}$

$\Rightarrow k = 9 + 16 - 30 = 25 - 30 = -5.$ **Answer: (5)**

2. $V = \text{Value} = K(8)^2 = 64K$

Let weights are x kg and (8 – x) kg.

$V_1 = Kx^2$ and $V_2 = K(8-x)^2$

New value $= K[x^2 + (8-x)^2]$

Given $K[x^2 + (8-x)^2] = \frac{5}{8}(64K)$

$x^2 + 64 + x^2 - 16x = 40.$

$2x^2 - 16x + 24 = 0$

$x^2 - 8x + 12 = 0 \quad \Rightarrow (x-6)(x-2) = 0$

$x = 6, x = 2.$ **Answer: (3)**

3. $\frac{27^{16^{13}}}{4} = \frac{27^{\text{even}}}{4} = \frac{(28-1)^{\text{even}}}{4} = (-1)^{\text{even}}$

Remainder = 1

Unit digit $= y^1 = 7$ **Answer: (1)**

4. $\frac{\text{Milk}}{\text{Water}} = \frac{50 - \left(16\times\frac{5}{8}\right)+16}{30-16\times\frac{3}{8}} = \frac{56}{24} = \frac{7}{3}$

M: W = 7 : 3 **Answer: (3)**

5. Relative speed = 90 – 72 kmph = 18 kmph = $18 \times \frac{5}{18}$ m/s = 5 m/s.

They will meet when Pepsi have a lead of 1 round.

Length of track = time × speed = 20 × 5 = 100 m. **Answer: (1)**

6. Let work = LCM (10, 15) = 30 units.

1 day work A = 3 unit, B = 2 unit.

Time taken by them = $\frac{30}{5}$ = 6 days.

New work = 2 × 30 = 60 units.

Work of A + B of 8 days = 5 × 8 = 40 units.

Work done by C = 20 units.

Percentage done by C = $\frac{20}{60} \times 100 = 33\frac{1}{3}\%$. **Answer: (3)**

7. Here 2 hr out let work = 8 hr inlet work.

2 × x litre/min × 60 = 8 × 6 litre/min × 60

x = 24 litre/min

Volume of tank = 24 × 60 × 6 litre = 8640 litres. **Answer: (4)**

8. Side of Q = 2 cm

Volume of Q = $(2)^3 = 8\ cm^3$ ……..(1)

Diagonal of q = side of P = $2\sqrt{3}$ cm

Side of cube R = diagonal of P = $(2\sqrt{3})\sqrt{3}$ = 6 cm.

Diameter of sphere inside R = Length of edge = 6 cm.

R = $\frac{6}{2}$ = 3 cm

Volume of sphere S = $\frac{4}{3}\pi (3)^3 = 36\pi$ ……..(2)

Required ratio = S : q = 36π : 8 = 9π : 2 **Answer: (4)**

9. x% of y = z ⇒ xy = 100z ……. (1)

y% of z = x ⇒ yz = 100x ……(2)

and z% of x = 100 ⇒ zx = 10000 ……..(3)

(1) × (2) × (3)

$(xyz)^2 = 10^8\ xy$

$xy^2z = 10^8$ ……(4)

From (3) and (4)

$10^4.y^2 = 10^8$

$y^2 = 10^4 \quad \Rightarrow y = 100$

From (1)

$x \times 100 = 100z \quad \Rightarrow x = z$

From equation (3)

$x^2 = 100{,}00$

$x = 100.$ **Answer: (4)**

10. $\frac{\log a}{\log 10} - \frac{\log \sqrt{a}}{\log 10} = \frac{2 \log 10}{\log a}$

$\Rightarrow \log_{10} a - \frac{1}{2}\log_{10} a = 2\frac{1}{\log_{10} a}$

Put $\log_{10} a = x \quad x - \frac{1}{2}x = \frac{2}{x} \quad \Rightarrow x^2 = 4$

$x = 2 = \log_{10} a \quad$ or $\quad x = -2 = \log_{10} a$

$a = 100 \quad \Rightarrow a = \frac{1}{100}$ **Answer: (4)**

11. $m = 2^{99} + 4^{99} + 6^{99} + 8^{99} + \ldots\ldots\ldots + 100^{99}$

Unit digit $\equiv 2^3 + 4^3 + 6^3 + 8^3 + \ldots\ldots\ldots + 100^3 \equiv (8 + 4 + 6 + 2 + 0) \times 10 \equiv 0$ (since this repeats 10 times)

So, unit digit = 0

$n = 1^{99} + 3^{99} + 5^{99} + \ldots\ldots\ldots + 99^{99} \equiv (1^{99} + 3^{99} + 5^{99} + 7^{99} + 9^{99}) \times 10$

Unit digit $\equiv 0$

Hence unit digit of $m - n = 0 - 0 = 0$ **Answer: (1)**

12.

Sachin	Anjali	Son	
a	b	c	Present age
a + b – c	2b – c	b	When son age equal to Anjali's age
2a – b	a	c + a – b	When Anjali as old as Sachin is

According to the conditions,

$\frac{a+b-c}{2b-c} = \frac{18}{17}$

$\Rightarrow 17a + 17b - 17c = 36b - 18c$

$17a - 19b + c = 0 \quad \ldots\ldots\ldots(1)$

and $\frac{2a-b}{c+a-b} = \frac{3}{1}$

$\Rightarrow 2a - b = 3c + 3a - 3b$

$a - 2b + 3c = 0 \quad \ldots\ldots\ldots(2)$

or $\quad 17a - 34b + 51c = 0 \quad \ldots\ldots\ldots(3)$

(1) – (3)

$\Rightarrow$ 15b – 50c = 0

$\Rightarrow$ b : c = 50 : 15 = 10 : 3 **Answer: (2)**

13. We know $x^2 + \frac{1}{x^2} = \left(x - \frac{1}{x}\right)^2 + 2 = (2)^2 + 2 = 6$

So, $x^4 + \frac{1}{x^4} = (6)^2 - 2 = 34$

$x^8 + \frac{1}{x^8} = (34)^2 - 2 = 1156 - 2 = 1154.$

Required remainder = $\frac{1154}{2^8} = \frac{1154}{256} = 130$

Remainder = 130. **Answer: (5)**

14. Let CP of 1 item = Rs. 1, and SP of 1 article = Rs. x

CP	MP	SP	discount (Rs.)
10	14	10x	2x

Also, Discount = MP – SP

2x = 14 – 10x

12x = 14

$x = \frac{14}{12} = \frac{7}{6}$

$\frac{SP}{CP} = \frac{x}{1} = \frac{7/6}{1} = \frac{7}{6} = 1 + \frac{1}{6}$

Profit = $\frac{1}{6}$ = 16.67% **Answer: (3)**

Solutions 15 – 17:

15.

Humpa	Mampa	Champa	Sampa
1	2	4	3
2	4	3	1

Sampa always gets odd. **Answer: (4)**

16.

Humpa	Mampa	Champa	Sampa
2	4	3	1
2	3	4	1
1	3	4	2

Here Mampa always gets more than Sampa. **Answer: (2)**

17. Mampa get less than Champa and Sampa gets less than Champa and Humpa less than Mampa. Combining we have two cases

	H	M	S	C	OR	H	S	M	C
Number of coins	1	2	3	4		1	2	3	4
Value	1×5 = 5	$2 \times 2 +$ 1×1 = 5				1×2 = 2	1×2 = 2		

So difference in value for both = 0 (zero). **Answer: (5)**

18. Let m = AAA, n = BBB and p = CCC, then B has to be 1 since the digits after adding gives BAAC. Also all digits are multiple of 111. So check for those multiplies of 111 that satisfy given situation.

m + n + p = AAA + BBB + CCC = 111(A + B + C)

So, BAAC = $111 \times 18 = 1998$.

i.e. B = 1, A = 9, C = 8.

Sum A + B + C = 9 + 1 + 8 = 18. **Answer: (2)**

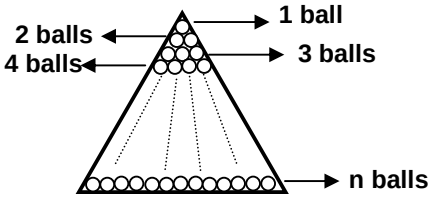
19. Let a = 1, b = 3, c = 5 satisfying the condition.

Then f(1, 3, 5) = max(1, 3, 1) = 3

g(1, 3, 5) = min(3, 5, 5) = 3

f(a, b, c) – g(a, b, c) = 3 – 3 = 0 **Answer: (3)**

20. A side will contain n balls and figure will look like



Total balls

= 1 + 2 + 3 + 4 + ……. + n

$= \frac{n(n+1)}{2}$ **Answer: (1)**

21. Minimum speed required = $\frac{225}{10}$ = 22.5 kmph.

Bogies attached	Speed (kmph)
1	50 – 5 = 45
2	45 – 4.50 = 40.5
3	36.45
4	32.81
5	29.52
6	26.57
7	23.91
8	21.52

i.e. if 8 bogies are attached the speed reduces less than minimum so maximum number of bogies = 7.

Answer: (3)

22. Le, 1 man 1 week work = 1 unit.

Total work = 120 × 25 units = 3000 units

10 week, 120 men work = 120 × 10 = 1200

Left work = 3000 – 1200 = 1800

Left men = 120 – 60 = 60

Work per week = 1.5 unit

Number of week = n

So, 60 ×1.5 × n = 1800

$n = \frac{1800}{60 \times 1.5}$

Require 20 weeks

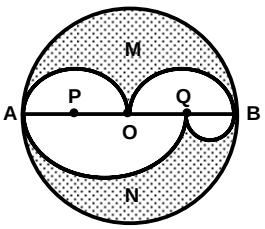
Extra weeks = 20 – 15 = 5 weeks **Answer: (4)**

23. Let diameter of 4 cm. Then

Area M = $\frac{1}{2}\pi\left(\frac{4}{2}\right)^2 - 2 \times \frac{1}{2}\pi\left(\frac{2}{2}\right)^2 = 2\pi - \pi = \pi$

Area N = $\frac{1}{2}\pi\left(\frac{4}{2}\right)^2 - \left[\frac{1}{2}\pi\left(\frac{3}{2}\right)^2 + \frac{1}{2}\pi\left(\frac{1}{2}\right)^2\right]$

$= 2\pi - \frac{10}{8}\pi = \frac{6}{8}\pi = \frac{3}{4}\pi$



So required ratio

Area M: Area N = $\pi : \frac{3}{4}\pi = 4 : 3$

Answer: (2)

Solution 24 – 25:

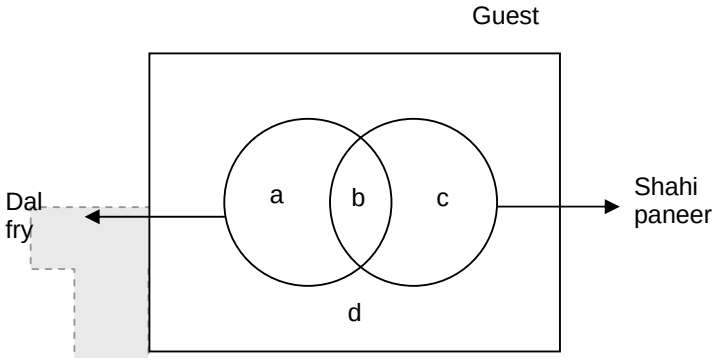
b + c = 150 – 50 = 100.

a + d = 50 (not eat Shahi paneer)

a + b = 90, d = 20

$\Rightarrow$ a + 20 = 50 $\Rightarrow$ a = 30

b = 90 – 30 = 60, c = 100 – 60 = 40.



24. **Answer: (3)**

25. **Answer: (1)**

26. The passage is concerned with the fact that friendship does not mean that the interests would be common, but ideologies do match. The idea has been expressed only in option (3). Options (2), (4) and (5) are contradicted in the passage as the only motive for friendship is values. **Answer: (3)**

27. The theme is clear in the opening lines of a passage. This passage talks about the philosophy of Vedanta with respect to matter. (5) is contradicted in the opening line, hence, eliminated. Similarly matter is an appearance of eternal, hence (3) is also eliminated (1) and (2) are not related to the passage, hence, eliminated. **Answer: (4)**

28. In this passage none of the options relate directly to the theme of the passage. The passage tries to justify the concern of both parties. Option (2), (3) and (4) can be eliminated directly as they do not relate to the concept. (1) would look good if the passage had stated that 'toothpastes' seem to vegetarian, but are 'not'; as nothing has been stated, hence, it is eliminated as well. **Answer: (5)**

29. The passage is describing various reasons for the collapse in South East Asian markets. Options (1) and (5) are not related to the passage, hence, eliminated option (2) and (3) talk about a single aspect of the passage and not the theme, hence they are eliminated as well. **Answer: (4)**

30. Options (1), (2) and (3) are not related to the passage as the passage is not concerned with the kind of citizen (or) government, we are (or) we have. Option (5) states that energy 'also' needs vent, what else does? This option is also not clear, hence, eliminate. **Answer: (4)**

31. The usage of neither is incorrect in this sentence. Neither can be followed by 'or' or 'nor', but as per as per the rules of parallelism nor cannot be substituted the next time by 'or'. **Answer: (3)**

32. All the sentences are incorrect. 'Everybody' should be followed by singular verb and not 'their', which is plural. Similarly, 'One' should be followed by the pronoun 'ones' and not 'he', (C) is awkward due to the incorrect usage of modifier 'not'. **Answer: (5)**

33. 'Imply' in (1) should be replaced by 'infer'. 'None of' should be followed by singular verb 'has' and not plural verb 'have'. Therefore, (A) and (C) are incorrect. **Answer: (5)**

34. 'Lesser' is used with uncountable nouns. Students are countable; 'fewer' should be used for the comparison. (3) is incorrect as the article 'the' should be added before 'greater' to have a correct and a complete comparison. **Answer: (4)**

35. 'Had' is missing before failed. Therefore, the sentence is not complete. (A) is incorrect. Similarly (C) is a dangling sentence as 'has not' is not complete. The correct sentence should be 'has not filed and....'. **Answer: (4)**

36. Statement I is an inference, based on the statement of the Finance Minister. Statements 2, 3, and 4 are all containing some conclusion from the basis of certain facts, hence all are inferences. **Answer: (5)**

37. Statement 1 is an inference as the author arrives at a conclusion from a stated premise. Statement 2 is a judgment since it is not based on a premise. Statement 3 is based on facts as the data given cannot be denied. Statement 4 is a judgment. **Answer: (4)**

38. Statement 1 is a judgment as the author refers to a conclusion not based on a premise. Statement 2 is based on facts. Statements 3 and 4, though indicate the judgment of FICCI and the Supreme Court, respectively, they are nevertheless facts for our purpose. **Answer: (3)**

39. Statement 1 refers to the scrapping of the previous SEZ policy of the Central government and shows inference based on a premise. Statement 2 is a fact based on the directive as mentioned in statement 1. Statement 3 refers to Nandigram catastrophe that occurred due to a premise and is, therefore, an inference. Statement 4 provides undeniable data, and thus is factual. **Answer: (1)**

40. Statement 1 refers to DEPB scheme of the Commerce Ministry, which could not be replaced for want of a suitable alternative. This has to be a fact. Statement 2 refers to the basic purpose of the scheme, which is again a fact. Statement 3 refers to an inference, based on a premise. Statement 4 is a judgment. **Answer: (2)**

41. (1) There is no talk of the stated link.
    (2) Paranoia is not necessarily a state of prejudice.
    (3) The statement can be directly concluded from lines 3 and 4.
    (4) Paranoia is obsessive fear, not obsessive sense of insecurity.
    (5) Ambiguous. **Answer: (3)**

42. (1) The passage is not about the author's study or research.
(2) There are no varying opinions and hence no convergence.
(3) The statement is repetitive and unrepresentative of the passage.
(4) 'Findings of his research' and 'not reach a concrete conclusion' render the statement incorrect.
(5) This statement aptly summarizes the organization of the passage. **Answer: (5)**

43. (1) It is not weakness per se that leads to paranoia.
(2) Nowhere stated or implied.
(3) It is incorrect as the symptoms of paranoia are observable.
(4) Nowhere stated or implied.
(5) Para 2, lines 6 and 7. **Answer: (5)**

44. (1) Lacks focus
(2) There is no experimental evidence.
(3) No defects shown.
(4) Correct as the statement describes the theme of the passage and its concluding lines
(5) Against the flow of the theme of the passage. **Answer: (4)**

45. (1) is the best answer as per the theme and the last couple of sentences of the passage. **Answer: (1)**

46. (1) Semiotics is a general theory of language construction that incorporates both semantics and syntatics, apart from experiences. So the semiotic system of language formation is all-encompassing, based on experiences, their symbolization and mechanics. The right answer is (1) that is not restrictive (like other options) and generally in line with the main focus of the passage.
(2) 'Psychological' renders it irrelevant.
(3) It is not 'signification of the lexical words but of the cultural entity.
(4) Restrictive, though not entirely incorrect.
(5) Lacks focus. **Answer: (1)**

47. (1) The statement is correct as per the concluding statement of the passage.
(2) Can be vaguely inferred from the passage.
(3) Can be derived from para 2, line 7.
(4) Part of the statement is correct, but the latter part is not. Biosemiotics is not a study of 'impact of perceptions', but the link between the producer and the receiver of perceptions expressed symbolically.
(5) Can be derived from the last sentence of the opening para. **Answer: (4)**

48. (1) can be found in para 2 (2nd and third last lines), (2) can be inferred from lines 11 to 17 (para 2), (3) can be derived from the last para and (4) from the second last para.
We cannot infer (5) from the passage. **Answer: (5)**

49. This is a main idea question and only (4) expresses the main focus of the passage. **Answer: (4)**

50. Language is the outcome of a cultural growth, it is cognitive as man's sense perceptions go on accumulating based on significations as he interacts with other people. **Answer: (1)**

51. It is clear that (by common sense), the sum of values in table 1 is equal to the sum of values in table 2.
So k = 1. **Answer: (1)**

52. It is given that, Andus, Seelum, and Mavi all flow through a common state, so that state should have 3 rivers, i.e. Jammu and Kashmir.
Hasna and Badavari and Hasna and Laveri flow through common state.
So Hasna should flow through 2 states among Andhra Pradesh, Karnataka and Maharashtra.
Where as Badavari and Laveri flows through at least one of these states.
So, the river which flows through only Punjab and Himachal Pradesh is Atluj. **Answer: (2)**

53. Binga should definitely flow through Uttar Pradesh, Bihar, Uttaranchal and West Bengal. Because, the river which flows in Kerala also flows in Tamil Nadu. **Answer: (3)**

54. Laveri should definitely flows through Tamil Nadu and Kerala. Hasna flows through Andhra Pradesh, Karnataka and Maharastra.
If Badavari doesn't go to Karnataka, it should flow in Andhra Pradesh and Maharastra.
So, the rivers in Andhra Pradesh are Hasna and Badavari. **Answer: (2)**

55. The minimum state value is 2 for Punjab or Himachal Pradesh.
Maximum value is 6, i.e. for the state in which both Hasna and Laveri flows. **Answer: (3)**

56. Monday
He can select 3 cities to visit
Wednesday, 3 choices
Friday, 3 choices
Saturday, 4 choices
Answer: (4)

57. If he goes to Jammu on Wednesday, he can go Amrtisar on Saturday.

Hence

Ludhiana on Monday

Jalandhar on Friday

Patiala on Thursday

So, Chandigarh on Tuesday.

There is only one way. **Answer: (2)**

58. **Case: 1**

If he visit Ludhiana on Saturday,

Then

Ludhiana – Saturday

Chandigarh – Tuesday

Jammu – Friday

Amritsar – Wednesday

Patiala – Thursday

Jalandhar – Monday

Case: 2

If he visits Ludhiana on Monday, we can get different ways.

So, by taking Ludhiana on Monday and Jalandhar on Wednesday.

Ludhiana – Monday

Jalandhar – Wednesday

Then,

Amritsar – Saturday

Jammu – Friday

Patiala – Thursday

And

Chandigarh – Tuesday

Case: 3

If he visits Ludhiana on Monday and Jalandhar on Friday.

Then

Ludhiana – Monday

Jalandhar – Friday

Patiala – Thursday

Chandigarh – Tuesday/Saturday

Jammu – Wednesday/Saturday

Amritsar – Wednesday/Saturday

If Mr. Kamal has to visit Jammu and Amritsar on Wednesday and Saturday respectively then Chandigarh can only be visited upon on Tuesday.

So, here two cases are possible. So, total ways = 4. **Answer: (3)**

59. From the above, it is clear that, in all the cases, Mr. Kamal has to visit Chandigarh on Tuesday and Patiala on Thursday. **Answer: (3)**

60. Total 2 (Chandigarh and Patiala) **Answer: (2)**

61. **Answer: (3)**

62. Number of students good in both verbal and interpretation is 22 + 8 + 1 + 9 = 40.
So answer is 40. **Answer: (5)**

63. Students not good in math
= 4 + 1 + 9 + 26 + 4 + 3 + 6 + 8 = 61. **Answer: (4)**

64. Answer is 6. **Answer: (1)**

65. Isha earned maximum money. **Answer: (3)**

66. Answer is 4321. **Answer: (4)**

67. 3 persons guessed first digit right, 4 guessed second right, 2 guessed third right and only Isha guessed the last digit right.
So, total money I lost = $3 \times 100 + 4 \times 200 + 2 \times 300 + 1 \times 400 = 2100$. **Answer: (5)**

68. Swetha earned 100 + 200 = 300. **Answer: (3)**

69. 2^{nd} digit. **Answer: (2)**

70. 3, Isha, Priya, Swetha **Answer: (3)**

71. If he attempts only 5 questions right, he can not get 9 marks at all.
If he attempts 6 questions right, 2 continuous wrong and 6 continuous right and again 2 continuous wrong, total marks will be
– 1 + 6 + 5 – 1 = 9 **Answer: (3)**

72. If he attempts 6 questions correctly, then the maximum marks he can get is 9 only.

Because if he do question as shown below.

W<u>RR</u> W<u>RR</u> W<u>RR</u> W → 6 + 1 + 1 + 1 = 9

OR W<u>RRRR</u> W <u>RR</u> WW → 4 + 3 + 2 + 1 – 1 = 9

OR WW <u>RRRRRR</u> WW → – 1 + 6 + 5 – 1 = 9

These are only the maximum possible cases, because to get maximum score, the right answers should be consecutive and wrong ones should not be consecutive.

To get minimum score, the wrong answers should be consecutive.

If we try

<u>RR</u> WWWW <u>RRRR</u> = 2 + 1 – 3 + 4 + 3 = 7.

OR <u>RR</u> <u>WW</u> <u>RR</u> <u>WW</u> <u>RR</u> = 2 + 1 – 1 + 2 + 1 – 1 + 2 + 1 = 7

OR R WR WR WRW RR = 6 + 1 = 7

R WWWW RRRR = 1 – 3 + 5 – 3 = 6

So, the minimum score he can get is 6.

So, answer = 9 – 6 = 3. **Answer: (2)**

73. 1 and 10 cannot be the answer.

Even 4 cannot be the answer, because, in the previous problem, if we take 4 wrongs, a student can get a minimum of 6 marks.

So try option (3) directly.

If anyone do 7 mistakes, as shown below

WWW RRR WWWW = – 1 + 3 + 1 – 3 = 0

So non-negative. **Answer: (3)**

74. With 4 wrongs, he can get a maximum of 9 marks as in the problem (75) and (76) such that no two continuous questions wrong.

The only possibility is W <u>RR</u> W <u>RR</u> W

So, the answer is 1st. **Answer: (1)**

75. If he do 6 rights, he will get a minimum of 7 marks and maximum of 9 marks (from the above problems).

So, option (3) and (4) can be eliminated.

If he do 5 questions right, as shown below.

WWWW RRRRR = 5

WWWW RRRR WR = 5

RR WW RR WW R W = 5

Answer: (2)