XAT-2009

Name _____ Test Booklet No.

XAT ID _____ Booklet Series: **A**

INSTRUCTIONS

1. **DO NOT OPEN THIS TEST BOOKLET UNTIL YOU ARE ASKED TO DO SO.**
2. Fill in the information required on the answer sheet. Your test may not be evaluated if the required details are not entered on the answer sheet.
3. **This booklet consists of three sections A, B and C with 35, 38, and 31 questions respectively, i.e. a total of 104 questions.** If there is a problem with your test booklet, immediately inform the invigilator/supervisor. You will be provided with a replacement.
4. Do not seek clarification on any item in the test booklet from the test invigilator or the centre supervisor. Use your best judgement.
5. You are required to answer questions from all three sections and expected to maximize scores in each section.
6. Each question has five alternatives. Answer each question by darkening the appropriate alternative letter against the question number on the answer sheet. For example if your answer to question number 1 is „B , darken fully the circle „B against question 1.
7. All answers are to be marked only on the (OMR) answer sheet. Use the margin in the test booklet for rough work. No other piece of paper is permitted to be used for rough work.
8. Use only HB pencil.
9. **NEGATIVE MARKS (one fourth of a mark) may be deducted for the first six incorrect answers in each section and 0.5 (half a mark) for each incorrect answer thereafter.**
10. Failure to follow instructions and examination norms will lead to disqualification.

To open the test booklet, insert a pencil beneath this page and tear open along the right side of the test booklet as indicated by the arrow at the bottom of the page.

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BEST OF LUCK!

Open from this side

SECTION A: VERBAL AND LOGICAL ABILITY

Analyse the following passage and provide an appropriate answer for the question nos. 1 through 2 that follow.

In Hume s eyes productive labour was the greatest asset of a country, and foreign trade was valuable because it enabled a nation to use more and more varied labour than would otherwise be possible. But commerce was of mutual advantage to the nations involved, not a benefit to one and injury to other. "The increase of riches and commerce in any one nation," added Hume, "instead of hurting, commonly, promotes the riches and commerce of all its neighbours." "The emulation in rival nations serves ... to keep industry alive in all of them."

1. The importance of foreign trade, in eyes of Hume, was due to that:

A. it allowed the employment of surplus labour in a nation.
B. it allowed the diversion of labour to export oriented industries.
C. it allowed the deeper specialisation of the same labour force.
D. it allowed varied application of labour force in a nation.
E. it allowed application of varied labour force in a nation.

Solution:

Hume does not talk about surplus labour. Therefore, we can rule out option A.
Similarly, the passage does not discuss diversion of labour either (option B).
The talk about "deeper specialization" (option C) goes out of scope.
Between options D and E, option E is the right option as it in sync with the idea expressed in the passage (…it enables the nation to use more and more varied labour…).
Hence, the correct answer is option E.

2. As per Hume, free trade between nations was made advantageous by the outcome of:

A. mutual increases in riches and commerce.
B. emulation of industrial activity by different nations.
C. affable promotion of industrial activity among nations.
D. productive employment of labour in different nations.
E. higher wages received by labour in exporting nations.

Solution:

The part of „affable (genial, friendly) promotion cannot be inferred from the passage (option C).
Hume eyes productive labour as the greatest asset but nowhere does the passage mention about „productive employment of labour in different nations. (Option D).
„Higher wages (Option E) may be perhaps a possible outcome but it is implicit and derived.
Option A though mentioned in the passage, does not answer the question asked.
„Emulation of industrial activity by different nations (Option B) has been explicitly mentioned in the concluding sentence of the passage.
Hence, the correct answer is option B.

Questions (3-5): Identify the correct sentences from the options given below.

3.

A. When kite flying you can always tell when you lose a kite because the string feels loose.
B. When kite flying you can always tell when you loose a kite because the string feels lose.
C. When kite flying you can always tell when you loose a kite because the string feels loose.
D. When flying a kite, you can, always tell when you lose a kite because the string feels lose.
E. While flying a kite, you can always tell if you lost a kite when the string felt lose.

Solution:

A string feels „loose (movable, slack or free) and not „lose (misplaced or lost). With that, we can eliminate options B, D and E.
Similarly, one would „lose a kite and not „loose it. With that, we can eliminate option C as well.
Hence, the correct answer is option A.

4.

A. If XAT aspirants had not taken so long checking each question before attempting the next question they might not have run out of time.
B. If XAT aspirants had taken so long checking each question before attempting the next question they might not have run out of time.
C. Had XAT aspirants not took so long checking every question before attempting the next question they might not have run out of time.
D. If XAT aspirants had took so long checking each and every question before attempting the next question they might not have run out of time.
E. Had XAT aspirants not taken so long checking all questions before attempting the next question they might not have run out of time.

Solution:

The question tests tense inconsistency.
Option B is logically inconsistent. It should be „had not taken so long in place of „had taken so long . This is because if the aspirants took so much of time, how can they not run out of time!
Options C and D are incorrect as it should be „had not taken and not „had took or „had not took .
Option E is incorrect as how can one check all questions before attempting the next question.
Hence, the correct answer is option A.

5.

A. The news channel agreed to report that next Sunday the couple had been married for 10 years.
B. The news channel agreed to report that next Sunday the couple will have been married for 10 years.
C. The news channel agreed to report that next Sunday the couple will be marr ied for 10 years.
D. The news channel agreed to report that next Sunday the couple could have been married for 10 years.
E. The news channel agreed to report that next Sunday the couple has been married since 10 years.

Solution:

The question tests tense inconsistency.
The news channel would be reporting about an event (married time period) which would be happening and it also has been happening since several (10) years. Here, we require future perfect continuous tense- something that has been going on from past and is likely to happen in future as well. Therefore, we require the verb phrase to be „will have been married .
Hence, the correct answer is option B.

For questions 6 & 7 go through the following passage.

The Yoga system is divided into two principal parts -- Hatha and Raja Yoga. Hatha Yoga deals principally with the physiological part of man with a view to establish his health and train his will. The processes prescribed to arrive at this end are so difficult that only a few resolute souls go through all the stages of its practice. Many have failed and some have died in the attempt. It is therefore strongly denounced by all the philosophers. The most illustrious Shankarachar ya has remarked in his treatise called Aparokshanubhuti that "the system of Hatha Yoga was intended for those whose worldly desires are not pacified or uprooted."

6. Which one of the following, if true, most substantially strengthens the idea given in the passage?

A. The percentage of people in a given ashram practicing Raja Yoga is more than the percentage of people practicing Hatha Yoga.
B. The number of people in a given ashr am practicing Raja Yoga is more that the number of people practicing Hatha Yoga.
C. The number of Yoga schools teaching Raja Yoga is more than the number of Yoga schools teaching Hatha Yoga.
D. The number of teachers teaching Raja Yoga is more than the number of teachers teaching Hatha Yoga.
E. The percentage of students who have successfully learnt Raja Yoga is more than the percentage of students who have successfully learnt Hatha Yoga.

Solution:

The difficulty level of Hatha Yoga has been explicitly mentioned in the passage- "The processes prescribed to arrive at this end are so difficult that only a few resolute souls go through all the stages of its practice. Many have failed and some have died in the attempt". This indicates that Hatha Yoga is extremely difficult to practice and master.
Since the main theme of the passage is the level of difficulty of Hatha Yoga and the passage is silent on the level of difficulty of Raja Yoga, Option E best strengthens the main argument of the passage by providing evidence that Raja Yoga is easier than Hatha Yoga.
Hence, the correct answer is option E.
Options A, B, C and D are eliminated as compared to the Option E since they discuss the number of people, percentage of people, number of teachers, and number of Yoga schools *practicing or teaching Raja Yoga, as compared to successfully learning it* .

7. Which of the following option best reflects Shankaracharya s comments on Hatha Yoga?

A. Hatha Yoga is for those whose worldly desires are not placated.
B. Hatha Yoga has disastrous consequences for Yoga practitioners.
C. Practiced under the guidance of experts, Hatha Yoga is better than Raja Yoga for some people.
D. Raja Yoga gives better results and in a shorter time period for most people, and therefore it should be encouraged.
E. Hatha Yoga is ill-suited for people with strong worldly desires.

Solution:

Option B may be partly true. The passage does mention „some have died in the attempt . However, the option is unrelated to the Shankaracharya s comment. Hence, option B is incorrect.
The Shankarachar ya s comments do not addres s Raja Yoga at all. Hence, options C and D are eliminated.
Option E contradicts the comment made by the Shankaracharya. The comment that Hatha Yoga is for suited for people whose worldly desires have not been "pacified or uprooted" means it is for those who possess strong worldly desires.
The Shankarachar ya s comment is that "the system of Hatha Yoga was intended for those whose worldly desires are *not pacified or uprooted.* " Looking at the last few words and comparing with „are not placated , option A is the correct option.
Hence, the correct answer is option A.

Analyse the following passage and provide and appropriate answer of the questions 8 through 10 that follow.

The greens success has clear policy implications, especially on issues of nuclear power, ecological tax reform, and citizenship rights. But success also has implications for parties themselves. Greens have always f aced a unique „strategic conundrum arising from their unique beliefs and movement roots. Put simply, how can they reconcile their radical alternative politics with participation in mainstream or „grey parliamentar y and government structures? Throughout the 1990s most parties shed their radical cloth in an attempt to capture votes, even at the expense of party unity and purity. Most were rewarded with electoral success well beyond what had been imaginable in the 1980s. The price to pay has been tortured internal debates about strategy, and new questions about gr een party identity and purpose. Today the key questions facing green parties revolve around not whether to embrace power, but what to do with it. More specifically, green parties face three new challenges in the new millennium: first, how to carve out a policy niche as established parties and governments become wiser to green demands, and as green concerns themselves appear more mainstream. Second, how to make green ideas beyond the confines of rich industrialised states into Eastern Europe and the developing world where green parties remain marginal and environmental problems acute. Third, how to ensure that the broader role of green parties- as consciousness raisers, agitators, conscience of parliament and politics- is not sacrificed on the altar of electoral success. Green parties have come a long way since their emergence and development in the 1970s and 1980s. They have become established players able to shape party competition, government formation, and government policy. But this very „establishment carries risk for a party whose core values and identities depend mightily on their ability to challenge the conventional order, to agitate and to annoy. For most green parties, the greatest fear is not electoral decline so much as the prospect of becoming a party with parliamentary platform, ministerial voice, but nothing to say.

8. Which out of the following is closest in meaning to the first three challenges mentioned in the paragraph?

A. Niche of green parties is being eroded by mainstream parties.
B. Green parties are finding it difficult to find new strategy.
C. Green parties have become stronger over a period of time.
D. Some green parties are becoming grey.
E. Non green parties are becoming less relevant than gr een parties.

Solution:

The first of three challenges is, "…how to carve out a policy niche as established parties and governments become wiser to green demands, and as green concerns themselves appear more mainstream". This means that established parties are espousing the same ideologies as the Green parties.
Option B is incorrect since the challenge is focus is on creating a niche, and not new strategy.
Option C, while true, is incorrect since it does not answer the question stem.
Option D mentions that „some green parties are becoming grey , which is not relevant in the context of the passage.
Option E is not relevant to the challenge.
The challenge refers to the fact that the green par ties need to create their own niche. From this it can be inferred that this need has arisen because their current niche is being eroded.
Hence, the correct answer is option A.

9. Which of the following is the most important point that author highlights?

A. Challenges before green parties to change their strategy from green activism to green governance.
B. How should green parties win confidence and support of governments?
C. Transformation of green parties in recent decades.
D. Green movement is not strong in developing countries.
E. Non green parties are becoming less relevant than gr een parties.

Solution:
The focus of the passage is on the success of the greens , and the resulting challenges that they face. Hence, we look for an option that comes closest to this.
The aim of green parties was never to win confidence and support of governments: "… carries risk for a party whose core values and identities depend mightily on their ability to challenge the conventional order, to agitate and to annoy". Hence, option B is an incorrect statement and is eliminated.
Option C is incorrect because it talks of „transformation . This is not the focus of the passage.
Option D, while true is not the most important point that the author highlights.
Option E is irrelevant in the context of this question.
Option A comes closest to the focus stated above. It highlights the point made by the author that success has brought new challenges to the greens .
Hence, the correct answer is option A.

10. How best can mainstream political parties, in India, keep green parties at bay?

A. By imposing a green tax.
B. By allowing carbon trading.
C. By including green agenda in their governance.

D. By hiring Al Gore, the Nobel prize winner, as an ambassador.
E. By not letting green parties fight elections.

Solution:

We are looking for an option that reduces the importance and the requirement of green parties in India. We get a clue from the passage, "how to carve out a policy niche as established parties and governments become wiser to green demands, and as green concerns themselves appear more mainstream."
Options A, B and D, while perhaps f easible steps, in themselves, are too specific in nature.
Option E is not feasible in a democratic set up and is eliminated.
Option C is a broad step, which takes away the platform that the green parties have or may rais e.
The passage also states that this is currently happening to green parties. Hence, this is the best alternative to combat green parties.
Hence, the correct answer is option C.

Analyse the following passage and provide an appropriate answer f or the questions 11 through 13 that follow.

The Sapir-Whorf hypothesis, also known as the linguistic relativity hypothesis, refers to the proposal that the particular language one speaks influences the way one thinks about reality. The linguistic relativity hypothesis focuses on structural differences among natural languages such as Hopi, Chinese, and English, and asks whether the classifications of reality implicit in such structures affect our thinking about reality. Analytically, linguistic relativity as an issue s tands between two others: a semiotic-level concerns with how speaking any natural language whatsoever might influence the general potential for human thinking (i.e., the general role of natural language in the evolution or development of human intellectual functioning), and a functional- or discourse-level concern with how using any given language code in a particular way might influence thinking (i.e., the impact of special discursive practices such as schooling and literacy on formal thought). Although analytically distinct, the three issues are intimately related in both theory and practice. For example, claims about linguistic relativity depend on understanding the general psychological mechanisms linking language to thinking, and on understanding the diverse uses of speech in discourse to accomplish acts of descriptive reference. Hence, the relation of particular linguistic structures to patterns of thinking forms only one part of the broader ray of questions about the significance of language for thought. Proposals of linguistic relativity necessarily develop two linked claims among the key terms of the hypothesis (i.e., language, thought, and reality). First, languages differ significantly in their interpretations of experienced reality- both what they select for representation and how they arrange it. Second, language interpretations have influences on thought about reality more generally- whether at the individual or cultural level. Claims for linguistic relativity thus require both articulating the contrasting interpretations of reality latent in the structures of different languages, and accessing their broader influences on, or relationships to, the cognitive interpretation of reality.

11. Which of the following conclusions can be derived based on Sapir -Whorf hypothesis?

A. Americans and Indians would have similar intelligence.
B. South Indians and North Indians would have similar intelligence.
C. Those with same intelligence would speak the same language.
D. Those with similar intelligence may speak the same language.
E. Structure of language does not affect cognition.

Solution:

The passage does not dwell upon „Americans and Indians (option A); nor does it dwell upon „South Indians and North Indians (option B). Even any of these two answers were correct, we would have to take both as answers (and that is not possible) and thus we eliminate options A and B.
According to the passage, the structure of a language does affect cognition (perception). From the passage, "…the particular language one speaks *influences the way one thinks about reality* ." That makes option E incorrect.
There is a certainty about option C (those with same intelligence would speak the same language) which is not explicit stated in the passage.
But the possibility exists, based on the fact that languages affect the way you think. That has been illustrated in option D.
Hence, the correct answer is option D.

12. If Sapir-Whorf hypothesis were to be true, which of the following conclusions would logically follow?

1. To develop vernacular languages, government should promote public debates and discourses.
2. Promote vernacular languages as medium of instruction in schools.
3. Cognitive and cultural realities are related.

A. 1 only
B. 2 only
C. 3 only
D. 1 and 2
E. 1, 2 and 3

Solution:

Firstly, the author speaks about natural languages which is any language used by humans. Secondly, nothing about promotion or development of vernacular languages can logically follow from the passage, as that idea has not been discussed by the author.
This rules out statements 1 and 2, thus eliminating options A, B, D and E.
It leaves us with only option C- 3 only. The third statement follows from, "Language interpretations have influences on thought about *reality (cognition)* … at *cultural level (cultural realities).*"
Hence, the correct answer is option C.

13. Which of the following proverbs may be false, if above passage were to be right?

1. If speech is silver, silence is gold.
2. When you have spoken a word, it reigns over you. When it is unspoken you reign over it.
3. Speech of yourself ought to be seldom and well chosen.

A. 1 and 2
B. 2 and 3
C. 3 only
D. 1 only
E. 1, 2 and 3

Solution:

The passage emphasizes that "the particular language one speaks influences the way one thinks about reality". That is, language can influence thinking.
The first proverb does not go with this idea. We tend to think also in the language we most use.
Silence also encompasses words and there is nothing silver (less important) and golden (more important) about how much it influences our thinking. Therefore, this proverb may be false if the passage is true.
The second proverb speaks about „spoken word reigns over you . In that sense, the spoken word has an influence on you. But the second half of the proverb may not be necessarily true, rendering the proverb false.
The third proverb advises to be choosy about what we speak, showing that speech has an influence and the choice of speech is important.
Thus statement 3 can be eliminated as it goes with the passage. This eliminates options B, C, D and E.
Hence, the correct answer is option A.

Analyse the following passage and provide an appropriate answer for the questions 14 through 17 that follow.

Demography of organisations, also called population ecology is an interesting field. It proposes that organisational mortality processes depend upon the age and size of the organisation, as well as on characteristics of populations and environments. Moreover, there is evidence of an imprinting process - meaning that environmental conditions at certain early phases in an organisation s development have long-term consequences. In particular, organisations subject to intense competition have elevated mortality hazards at all ages. A central theme is structural inertia, the tendency for organisations to respond slowly relative to the speed of environmental change. A central argument holds that the inertia derives from the ver y characteristics that make organisations favoured actors in modern society in terms of reliability and (formal) accountability. It follows that changes in an organisation s core features are disruptive and increase mortality hazards, at least in the short-run. Research on this subject tends to support this view. The concept of niche provides a framework of relative environmental variations and competition to population dynamics and segmentation. Much empirical work examines the niches of organisational populations in terms of dimensions of social, political, and economic environments. Most research in this field builds on theories of resource partition and of density dependence. Resource-partitioning theory concerns the r elationship between increasing market concentration and increasing proliferation of specialists in mature industries. The key implication of this theory concerns the effects of concentration on the viability of specialist organisations (those that seek to exploit a narrow range of resources). The theory of density-dependent organisational evolution synthesizes ecological and institutional processes. It holds that growth in the number of organisations in a population (density) drives processes of social legitimatization and competition that, in turn, shape the vital rates.

14. Most top-notch business consultants recommended changing the entire configuration of an organisation s strategy, structure and systems. If the ideas contained in the passage are agreed to, then such a recommendation:

A. tends to rejuvenate the organisation.
B. tends to make the organisation more aligned to the external environment.
C. tends to increase the competitiveness of the organisation by redefining its core competence.
D. tends to increase the vulnerability of the or ganisation.
E. tends to make the organisation industry leader by reformulating its niche.

Solution:

If one changes the entire configuration of an organization then that entails changes in the core features. The passage states that such changes are disruptive and increase mortality hazards, at least in the short run. The option which words these thoughts is option D (increase the vulnerability).
Options A, B, C and E are optimistic, a tone which the passage does not support in this light.
Hence, the correct answer is option D.

15. Consider the following: "Tata Steel, one of the biggest steel makers in the world, was born in Jamshedpur." If above passage is true, then it can be concluded that location of Tata Steel has been one of the reasons for its success.

1. The conclusion is false.
2. This is a farfetched conclusion.
3. This is valid conclusion.

A. 1 only
B. 2 only
C. 3 only
D. 1 and 2
E. 2 and 3

Solution:

The passage points out that environment may be one of the important mortality deciding factors for an organization.
An „environment may include „location . Therefore, we cannot say that the conclusion is false (statement 1).
The passage does state the location of a company is one of the deciding factors for determining the success of a company. "An environmental condition at certain early phases in an organization s development has long-term consequences .
Hence, the correct answer is option C.

16. "Tata Steel, one of the biggest steel makers in the world, was born in Jamshedpur. The very success of Tata Steel could lead to its failure in the future and hence the challenge for Tata Steel is to recognise its strengths that make it successful in initial conditions and stick to them."

1. This is a valid conclusion.
2. The conclusion is contrary to the ideas described in the passage.
3. The conclusion is an internally contradictory.

A. 1 only
B. 2 only
C. 3 only
D. 1 and 2
E. 2 and 3

Solution:

The conclusion that „Tata Steel s success could lead to its failure in future is internally contradictory, logically. This is because the prescription to avoid failure (stick to strengths) is the opposite of the potential problem (very success leads to failure).
Therefore, statement 3 is true and that makes statement 1 false (something contradictory cannot make the thing absolutely valid at the same time).
The passage states, "…structural inertia is the tendency of organizations to respond slowly relative to the speed of environmental change." It also states, "The inertia derives from the very characteristic that make organizations favoured actors in the modern society in terms of reliability and accountability." A contradiction is present in these two statements as well and can well support the contradiction in the question that success could lead to failure in the future. Also, sticking to the „initial success factors can be drawn from the passage („environmental imprinting and certain early phases in the organization s development have long term consequences). Therefore, what is stated in the question is not contradictory to what is stated in the passage. That rules out statement 2.
Hence, the correct answer is option C.

17. Recently it was reported that Indian textile sector was not doing well. If the ideas contained in the passage are agreed to, then which of the following could be possible reason(s)?

1. All Indian firms are as old as international firms.
2. Indian textile firms are dispersed all over the countr y, with most of them also having international presence.
3. Textile firms in India were subjected to tr ade union activity in the period from 1960s to 1980s.

A. 1
B. 2
C. 3
D. 1 and 2
E. 1, 2 and 3

Solution:

Statement 1 talks about Indian firms being as old as international firms. This relates to the amount of time the firm has been in existence, but does not provide a reason, or an initial condition because of which this could have happened. Therefore, we can eliminate statement 1.
How does being dispersed all over the country with international presence aid in success or failure? There is a need for further explanation which statement 2 lacks.
The passage states "certain early phases in the organization s development have long term consequences". That helps us derive statement 3 which talks about trade union activity in the period from 1960s to 1980s as a possible reason for the Textile sector not doing well.
Hence, the correct answer is option C.

Analyse the following passage and provide an appropriate answer for the questions 18 and 19.

Since power is itself a value, forms of influence which include power in their scope are usually themselves forms of power. The king's mistress, though she has only influence, not power, over the king, may have power over his subjects in the degree of that influence. Forms of influence based on power are themselves forms of power only if the scope of the influence is included within that of the power in question. The king may exercise influence over standards of morality, say, by virtue of his power position, but he does not necessarily exercise power over morality.

18. Which combination of following statements best summarises the idea expressed in the paragraph?

1. Strength of an influence determines its power.
2. Influence always contributes power to the welder of influence beyond the scope of influence.
3. Proximity to authority is itself a source of power.
4. Forms of influence are power only if they can influence behaviour.

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

Solution:

Statement 1 can be inferred from, "The king s mistress, though she has only influence, not power, over the king, may have power over his subjects *in the degree of that influence* ".
Statement 2 is incorrect because of, "Forms of influence based on power are themselves forms of power only if the scope of the influence is included within that of the power in question".
Statement 3 is incorrect. While the passage states, "The king s mistress, though she has only influence, not power, over the king, may have power over his subjects in the degree of that influence", it does not lead us to conclude Statement 3.
Statement 4 is a part of the summary of the passage. The passage states that 'it is the proximity of the king s mistress which may influence the king s behaviour *and in turn indirectly wield power*.
Therefore, statements 1 and 4 best summarize the idea expressed in the passage.
Hence, the correct answer is option C.

19. Which of the following is similar to ideas expressed in the paragraph?

A. A king can influence what dramas are enacted by artists.
B. A king can influence who acts in dramas in his kingdom.
C. A king can indicate the appropriateness of dramas enacted.
D. A king can influence the prices charged from drama groups by actors.
E. A king can influence on what drama audience spend their money.

Solution:

The passage states, "The king may exercise influence over standards of morality, say, by virtue of his power position, but he does not necessarily exercise power over morality".
This eliminates option A because the king cannot influence the kind of dramas that are enacted by artists. He can only impose a standard or template or morality in the dramas that are being enacted.
Similarly, options B, D, and E are eliminated because the king can only impose a standard of morality. He cannot decide as to who will act in dramas in his kingdom, nor decide on the prices charged or on which drama the audience should spend their money.
Option C is correct because the king can decide on the appropriateness of dramas enacted since he can impose a standard of morality which is akin to indicating the appropriateness of dramas.
Hence, the correct answer is option C.

Questions 20-33: Go through the questions below and answer them.

20. As man casts off worn-out garments and puts on others which are new, similarly the embodied soul, casting off worn-out bodies, enters into others which are new. Of the following, which one best typifies the argument?

A. Inductive generalization
B. Predictive argument
C. Argument from authority
D. Causal argument
E. Argument from analogy

Solution:

A comparison has been made; just as a man casts off old garments, the embodied soul casts off worn-out bodies. Just as man dons new clothes, the soul enters into other new bodies. The argument is clearly an analogy (option E).
It does not go from specific to general (hence not inductive, option A).
It does not predict anything and hence not option B. We do not know for sure if the argument is from authority (option C).
Similarly, option D does not hold good here because it is not a cause-effect statement.
Hence, the correct answer is option E.

21. All the parliamentarians whom the reporter interviewed told that they had voted as per their conscience. Therefore, probably all the parliamentarians voted as per their conscience. This argument is an example of:

A. Inductive generalization
B. Predictive argument
C. Generalization based on authority
D. Deduction generalization
E. Argument from analogy

Solution:

The reporter interviewed some parliamentarians who told they had voted as per their conscience.
This argument can be termed as the following: Since all the members of a data set that we known of have a particular value, all the members of the data set have a par ticular value.
In this argument, we do not have complete data. However, we are generalising based on specific information that we possess. Hence, the argument is inductive generalisation.
Hence, the correct answer is option A.

22. Nature lovers are attracted to forests and nature parks. Just look at the number of people visiting the Corbett national park. Which of the following exhibits a pattern of reasoning least dissimilar to the one exhibited in the argument above?

A. Defence personnel who are trained in extremely rigorous procedures often end up as dysfunctional members of the society. Hence if an officer is not trained rigorously, such an officer is more likely to be useful to the society.
B. This machinery has increased the work ef ficiency of the workers. As a result, some of these workers are surplus to the company.

C. Fleas must thrive in a warm environment. During warm weather my dog suffers from fleas more so than during cooler weather.
D. Cigarette smoking is known to cause lung cancer in some people. However, most victims of lung cancer live in regions where smoking is uncommon.
E. Alcoholics and teetotalers usually appear at the same restaurant at the same time of the day. Therefore, alcoholics are teetotalers must be hungry at the same time.

Solution:

We are looking for the option that exhibits the pattern of reasoning most similar to the reasoning exhibited in the main argument. The main argument is of the form: Nature lovers are attracted to forests and nature parks (General conclusion). The justification is in the form of the number of people visiting a specific park (Specific justification).
Option C is similar to the pattern of reasoning exhibited in the main argument. The justification for fleas thriving in a warm environment (general conclusion) is provided by "my dog suffers…" (specific justification)
The other options can be shown to have differences.
Options A, B and E consist of a statement followed by a conclusion.
The "however" in option D eliminates it.
Hence, the correct answer is option C.

23. In this era of global capital flows, so much money is now flowing throughout the world that no single country can fight the problem of inflation effectively by tightening its monetar y policy.

If above is true, which of the following could be most logically concluded?

A. Changes in cash reserve ratio by Reserve Bank of India will control the rate inflation in India.
B. Countries finance ministers have sufficient control over their respective economies.
C. Countries finance ministers have insufficient control over their respective economies.
D. Inflation does not matter as long as incomes increase.
E. Citizens should limit their consumption which will reduce the demand of products, thus reducing inflation.

Solution:

The question statement mentions that "*no single country*can fight the problem of inflation effectively".
Using this, we can eliminate options A and B. Option A is incorrect since it portrays that India has control over the economy. Option B is incorrect since it directly contradicts the statement above.
Options D and E introduce new elements (which are not stated or can be inferred from the passage) which eliminate that
Option C can be concluded from the statement above.
Hence, the correct answer is option C.

24. Many entrepreneurs try to control the composition of their boards of directors, but more experienced entr epreneurs tend to share control, inviting participation from institutional investors and outside directors.

Which option best summarizes the idea that might be guiding experienced entrepreneurs behaviour?

A. The experienced entr epreneurs expect experienced directors to monitor the performance of the enterprise and be a sounding board.
B. The experienced entrepreneurs expect the institutional investors to support the opinion of entrepreneurs on all major decisions.
C. The experienced entrepreneurs expect the institutional investors and outside directors to agree to higher remuneration for the board members.
D. Experienced entrepreneurs expect the experienced directors to engage in day-to-day management of the company.
E. More the number of influential people on board, the easier it is to raise finances.

Solution:

Experienced entrepreneurs invite participation from institutional investors because they want to "share control". Option B contradicts this.
Options C and D are irrelevant to the context.
Option E introduces a new element of reasoning- that of access to finances- which cannot be supported from the main data in the passage.
From the "share control" part, we deduce that option A is correct.
Hence, the correct answer is option A.

25. "There is nothing so stupid as an educated man, if you can get him off the thing he was educated in."

Which of the following, if true, most seriously undermines the author s contention?

A. True education implies a well-rounded exposure to major subjects.
B. An educated man will not discuss things which he does not understand.
C. The cost of a general education has led to the unfortunate fact that a person s education is confined to one field.
D. Stupidity, like intelligence, is relative and therefore depends on the intelligence of the persons peers.
E. Education is one of the main causes of people recognizing their capabilities and developing them further.

Solution:

The author of the argument contends that if your remove the thing a man is educated in, the man becomes stupid.
Removing that „well-rounded exposure can make him stupid, according to the argument. But a well-educated man would not get off the thing he was educated in as he would be well versed in several subjects.
Even if an educated man not discuss what he does not understand (option B), it can still render him stupid by taking away what he understands.
Option C supports the argument and is hence eliminated.
Option D discusses „intelligence and stupidity and not „education and stupidity .
Education develops individuals but only if they are not gotten off it in the first place. This makes (option E) incorrect
Hence, the correct answer is option A.

26. Ram, an economist, and Ramesh, an astrologer, had a debate. Ram said "Astrology does not work. It just cannot predict." "It can predict better than your subject" rebutted Ramesh.

The evidence that best resolves the above debate will be:

A. Conduct a survey among scientists asking which one of the two should be considered as a science.
B. Compare past performance of astrologers and economists in terms of number of predictions which have come true.
C. Conduct a survey among economists asking their opinion regarding the ability of economic theory to predict economic phenomena.
D. Conduct an experiment where both astrologers and economists would be asked to predict the future. Compare the number of predictions that come true.
E. Conduct an experiment where both astrologers and economists would be asked to predict the future. Compare the percentage of predictions that come true.

Solution:

The answer is best derived with the help of an example: An astrologer X gets 100 out of 1000 predictions right. An economist Y gets 90 out of 100 predictions right. Who would be better at predictions? Of course, the economist! That is because, although astrologer X got more number (100 > 90) of predictions right, he got less percentage (100/1000% is 10 % and 90/100 % is 90 %) of them correct. Therefore, only evaluating how many number of pr edictions got right will not do. We need to evaluate the percentage to figure out who out of economists and astrologers is better at predicting. That brings us to option E.
Options B and D talk about number and are hence eliminated.
A survey may not be as effective as predictions by the two groups. Therefore option A is incorrect
Option C is exclusively a solution for checking only economists and not astrologers and therefore is not effective.
Hence, the correct answer is option E.

27. Which of the following sentences draws a metaphor?

A. Karl Marx argued that the interests of two classes - the proletariat and the bourgeois - are always in conflict and irreconcilable.
B. Karl Marx labelled the capitalist a parasite on the back of labour because the whole value or produce created by the labouring man was expropriated by the capitalist.
C. Weber held that the protestant ethic was responsible for the rise of capitalism in medieval Europe.
D. Galbraith argued for a better balance between private affluence and public poverty, including measures to protect the environment against the excesses of private companies.
E. Schumpeter argued that changes in economy are brought about by creative destruction.

Solution:

A metaphor is a comparison between two entities without the use of the word like or as.
In option B, "*labeled*the capitalist *a parasite on the back of labour* " is a metaphor since two different entities, namely capitalism and parasite are being compared without the use of the word like or as.
The other options do not have metaphors.

Hence, the correct answer is option B.

28. Which sentence includes an example of personification?

A. *Banjaras* of Rajasthan are the human equivalent of an endanger ed species and have no defence against the encroachment of farmers onto their ancestral lands.
B. Take airline pilots for example; they do not need to be graduates to qualify for this job and most pilots are on a salary of Rs. 300,000 per month or more.
C. Recent research provided stark evidence that in education money still plays an important role; it was found that children from poor households could not perform as well as children from rich households.
D. Girls in the family should have a share in the ancestral property as a matter of right whether the will includes it explicitly or not.
E. Democracy does not help the common citizen and it ultimately degenerates into an oligarchy.

Solution:

A personification is the comparison of an inanimate object to that of a human being with the inanimate object being *'personified'* with human qualities.
Option A is not a personification because the Banjaras, a human tribe are human.
Options B, D and E have no personifications.
The word „plays in option C signifies a personification since only living beings can „play . Inanimate objects cannot. Here money is being personified as having the quality of being able to play.
Hence, the correct answer is option C.

29. Which sentence suffers most from hyperbole?

A. Most collectors of coins would give the Earth to own one of the copper coins issued by Mohammad Bin Tughlaq.
B. It is thought that eating raw tomatoes would greatly reduce the risk of cancer, but tomato sauce can have a greater effect since it is made from many raw tomatoes.
C. Cricket has a great following in India, but the twenty-twenty format took the game to nook and corner of the world.
D. We face an imminent drinking water crisis in India as the population growth is accompanied by a general decrease in rainfall.
E. Nuclear fusion has potential to solve the energy crisis of not only our country, but that of the entire world.

Solution:

"Hyperbole" means a wild exaggeration or an assertion that is completely off the mark.
It is a wild exaggeration to state that „collectors would *give the earth*(is it theirs?) in Option A.
Option C exaggerates but pales in comparison to option A.
Option B, D and E are factual in nature.
Hence, the correct answer is option A.

30. Which sentence includes a euphemism?

A. Cell phone network signals are weak in the hilly regions.

B. Bottled water is reputed to be safe for drinking under all circumstances.
C. A cemetery is a place where people are buried when they pass away.
D. It is stupid to cr y over split milk.
E. Criminal court arbitrates between the parties to the case.

Solution:

A euphemism is a term that softens the impact of a statement. *'pass away'* is an euphemism referring to death.
Hence, the correct answer is option C.

31. Which of the following contains a non-sequitur?

A. If statisticians are made judges, they will accept or reject arguments based on probability analyses.
B. Public trust in politicians is at an all time low and we can t insist that the politicians go back to school.
C. Before preparing the annual budget, the CEO of XYZ Steel Limited takes opinion of all the stakeholders.
D. In cricket, the batting average does not always reflect a batsman s ability because it does not reflect how many wins he was instrumental for.
E. Ordinar y citizens do not have sufficient grasp of economic indicators to validate published inflation data.

Solution:

A non-sequitur is a fallacy where whose conclusion does not follow from (or is unrelated to)the main statement. The conclusion may or may not be true.
Option A: The conclusion is related to the main statement because of the use of „probability analysis with respect to „statisticians .
Option C is only a statement, and does not contain a conclusion. Hence, it is eliminated.
Options D and E have logical conclusions and is hence eliminated.
The two parts in option E before and after the "and" are unrelated, and neither derives from the other. This makes it a non-sequitur
Hence, the correct answer is option B.

32. Recommence is to suspend as: nonchalant is to:

A. carefree
B. beleaguered
C. tirade
D. agreement
E. disagreement

Solution:

"Recommence" means to start again; "suspend" means to stop temporarily. The two words are antonymous. The meanings of the words in the options are as follows:
„Carefree : „someone who is without problems .
„Beleaguered means to be „very troubled .
„Tirade means „to release a volley of words in anger .
„Agreement means „to be in consonance with .

„Disagreement means „not to be in consonance with .
„Nonchalance means „to be carefree and „not to be affected by any problems.
The word antonymous to „nonchalance amongst the answer options is „beleaguered.
Hence, the correct answer is option B.

33. Which sentence includes an oxymoron?

A. On weekend we ate and drank a lot.
B. Meena corrected me by pointing out that she wanted pizza instead of burger.
C. Media reported the attack on media-persons.
D. He loved his aunt but found her kindness suffocating.
E. One should not compare apples and oranges.

Solution:

An oxymoron is a set of words that has a self-contradictory effect.
Options A, B and E do not have any contradictions and are eliminated.
In option C, it is possible for media people to report an attack on media persons and hence is not contradictory.
Option D has juxtaposes suffocating with kindness, which is the opposite of the meaning of kindness.
Hence, the correct answer is option D.

From questions 34 to 35, read the sentences and choose the option that best arranges them in a logical order.

34.

1. The *moral will* arises when, for the reasons we saw earlier, this negotiation has to be negated; the *individual moral will* understands that it is the existence of the universal will, which is therefore internal to it.
2. This constitutes a negation, because the *individual will* is understood not to be the existence of the *universal will* .
3. This says that in abstract right, as we have just seen, the *individual will* takes its freedom (the *universal will* that has being in itself) to exist independent of (that is, in opposition to) itself and its particular contents.
4. Rather, the *universal will* is thought to exist outside any *universal will* , in the contracts that bind a number of *property-owning wills* together, and in the punishments that enforce breaches of those contracts.

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

Solution:

There is a clear 2, 4, 1 link inherent in the paragraph.

Statement 2 mentions “a negation”, statement 4 explains the “negation”, that is “the universal will is thought to exist outside any individual will” and statement 1 explains that “this negation has to be negated”.
This means that statement 3 can only be the introductor y statement since it introduces the “individual will” in relation to the “universal will” which constitutes “a negation” carr ied forward by statement 2.
Hence, the correct answer is option B.

35.

1. In the concept, universality, particularity, and individuality are understood as bring immediately identical to each other.
2. As immediately identical, these “moments of the concept” cannot be separated.
3. This means that they must be thought of as a single unity, that none of three can be understood apart from the others, since in the concept their *identity* is *posted*, each of its moments can only be grasped immediately on the basis of and together with the others.
4. The interrelation of universality, particularity, and individuality is otherwise in judgment.

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

Solution:

There is a strong 1, 2, 3 link since statement 1 introduces „the concept , statement 2 takes it forward on the “identical theme” mentioned in statement 1 by stating that they “cannot be separated”.
Statement 3 explains the consequences of the three terms being “identical” and inseparable, that is they are a “single unity”.
Statement 4 can only be an introductory or concluding statement. The words “otherwise in judgement” would make it an effective concluding statement.
Hence, the correct answer is option A.

SECTION B: DATA INTERPRETATION AND QUANTITATIVE ABILITY

36. In an examination there are 30 questions. 1 mark is given for each correct answer and 0.25 is deducted for every incorrect answer. Ankur attempted all the questions and scored 13.75. How many incorrect answers did he have?

A. 10
B. 11
C. 12
D. 15
E. None of the above

Solution:

Let $x$be the number of questions attempted incorrectly and (30 x) be the number of questions attempted correctly.

(30 x) $x\times 0.25 = 13.75$

Solving this, we get, $x = 13$

Hence, option E.

37. A salesman sells two kinds of trousers: cotton and woollen. A pair of cotton trousers is sold at 30% profit and a pair of woollen trousers is sold at 50% profit. The salesman has calculated that if he sells 100% mor e woollen trousers than cotton trousers, his overall profit will be 45%. However he ends up selling 50% more cotton trousers than woollen trousers. What will be his overall profit?

A. 37.5%
B. 40%
C. 41%
D. 42.33%
E. None of the above

Solution:

Let $x$be the number of Cotton trousers and $y$be the number of Woollen trousers.

Cotton trousers are sold at 30% profit and woollen trousers are sold at 50% profit.

When 100% more woollen trousers are sold than cotton trousers, we have,

$30 \times x + 50 \times y = 45 \times (x + y)$ which gives $y : x = 3:1$

Assume $x = 100$, so $y$will be 300

But $y$is 100% more than the original one.

y= 150 and x= 100

In second case, 50% more cotton trousers are sold than woollen trousers, we have,

$30 \times 150 + 50 \times 150 = k \times (150 + 150)$ which gives k= 40% as overall profit

Hence, option B.

Question Nos. 38-39 are followed by two statements labelled as I and II. You have to decide if these statements are suf ficient to conclusively answer the question. Choose the appropriate answer f rom options given below:

A. If Statement I alone is sufficient to answer the question.
B. If Statement II alone is sufficient to answer the question.
C. If Statement I and Statement II together are sufficient but neither of the two alone is sufficient to answer the question.
D. If either Statement I or Statement II alone is sufficient to answer the question.
E. Both Statement I or Statement II ar e sufficient are insufficient to answer the question.

38. For each rupee in monthly advertising expenditure, KUMAR & Co. experiences a Rs. 6 increase in sales. How much KUMAR & Co. has to spend on advertising to attain Rs. 1000000 in sales revenue for the month?

I. Without advertising KUMAR & Co. earns Rs. 200000 sales revenue per month.
II. When KUMAR & Co. spends Rs. 15000 on advertising, it earns Rs. 290000 as sales revenue.

Solution:

Let basic sales revenue be ,, s_b ' and increase in sales revenue be ,, s_i '.

Total sales revenue = $s_b + s_i$

From Statement I:

$1000000 = 200000 + s_i$

s_i can be calculated easily.

So we can answer using statement I alone.

From Statement II:

$290000 = s_b + 15000 \times 6$

s_b can be calculated easily.

So we can answer using statement II alone.

Hence, option D.

9. Geetanjali Express, which is 250 metre long when moving form Howrah to Tatanagar crosses Subarnarekha bridge in 30 seconds. What is the speed of Geetanjali Express?

I. Bombay Mail, which runs at 60 km/hour crosses the Subarnarekha bridge in 30 seconds.
II. Bombay Mail when running at 90 km/hr crosses a lamp post in 10 seconds.

Solution:

From Statement I:

We cannot find the bridge length as length of the Bombay mail is not known.

So we cannot answer using statement I alone.

From Statement II:

We can find the train length of the Bombay mail as speed 90 km/hr and time of crossing of lamp post 10 seconds is given. However, the length of the bridge cannot be determined.

So we cannot answer using statement II alone.

Combining both the statements I and II:

We can find the bridge length from the speed of Bombay mail i.e. 60 km/hr and time of crossing the bridge i.e. 30 seconds along with the length of the Bombay mail calculated from statement II.

From this we can find the speed of the Geetanjali Express along with the other data provided in the question itself.

So we can answer using both the statements I and II together.

Hence, option D.

40. Rajesh walks to and fro to a shopping mall. He spends 30 minutes shopping. If he walks at speed of 10 km an hour, he returns to home at 19.00 hours. If he walks at 15 km an hour, he returns to home at 18.30 hours. How fast must he walk in order to return home at 18.15 hours?

A. 17 km/hour
B. 17.5 km/hour
C. 18 km/hour
D. 19 km/hour
E. None of the above.

Solution:

We know that Distance = Speed × Time

Speed and Time are inversely related.

If Rajesh walks at 10 km/hr, then he reach home at 19.00 hours and if he walks at 15 km/hr, then he returns home at 18.30 hours.

With this we can say that time required in the first case will be 15 $x$minutes and that in the second case will be 10 x minutes.

15 x 10 x= 30 minutes, x= 6

Total Distance = 10 km/hr × (15 × 6) minutes = 15 km

To reach home at 18.15 hours, he has to walk 15 km in 45 minutes.

Required speed = 15/0.75 = 20 km/hr

Hence, option E.

41. A shop sells two kinds of rolls- egg roll and mutton roll. Onion, tomato, carrot, chilli sauce and tomato sauce are the additional ingredients. You can have any combination of additional ingredients, or have standard rolls without any additional ingredients subject to the following constraints:

(a) You can have tomato sauce if you have an egg, but not if you have a mutton roll.
(b) If you have onion or tomato or both you can have chilli sauce, but not other wise.

How many different rolls can be ordered according to these rules?

A. 21
B. 33
C. 40
D. 42
E. None of the above.

Solution:

For Mutton Roll, we have following combinations.

With „0 additional ingredients, we have 1 combination.

With „1 additional ingredient, we have 3 combinations.

With „2 additional ingredients, we have 5 combinations.

With „3 additional ingredients, we have 4 combinations.

With „4 additional ingredients, we have 1 combination.

Total combinations for Mutton roll = 14

For Egg Roll, we have following combinations.

With „0 additional ingredients, we have 1 combination.

With „1 additional ingredient, we have 4 combinations.

With „2 additional ingredients, we have 8 combinations.

With „3 additional ingredients, we have 9 combinations.

With „4 additional ingredients, we have 5 combinations.

With „5 additional ingredients, we have 1 combination.

Total combinations for Egg roll = 28

Total combinations = 14 + 28 = 42

Hence, option D.

42. Given five points A = (7, 4), B = (- 10, 0), C = (- 10, 3), D = (0, 10) and E = (7, 7). Every second all the points move by halving their abscissas and by doubling their ordinates. This process continues for 500 years. After 500 years, which two points are closest?

A. A and B
B. B and C
C. A and E
D. D and E
E. A and C

Solution:

The points are A(7, 4), B(-10, 0), C(-10, 3), D(0, 10) and E(7, 7).

Every second, these points halve their abscissas and double their ordinates.

After 500 years, abscissas for all these points will be very much close to „0 .

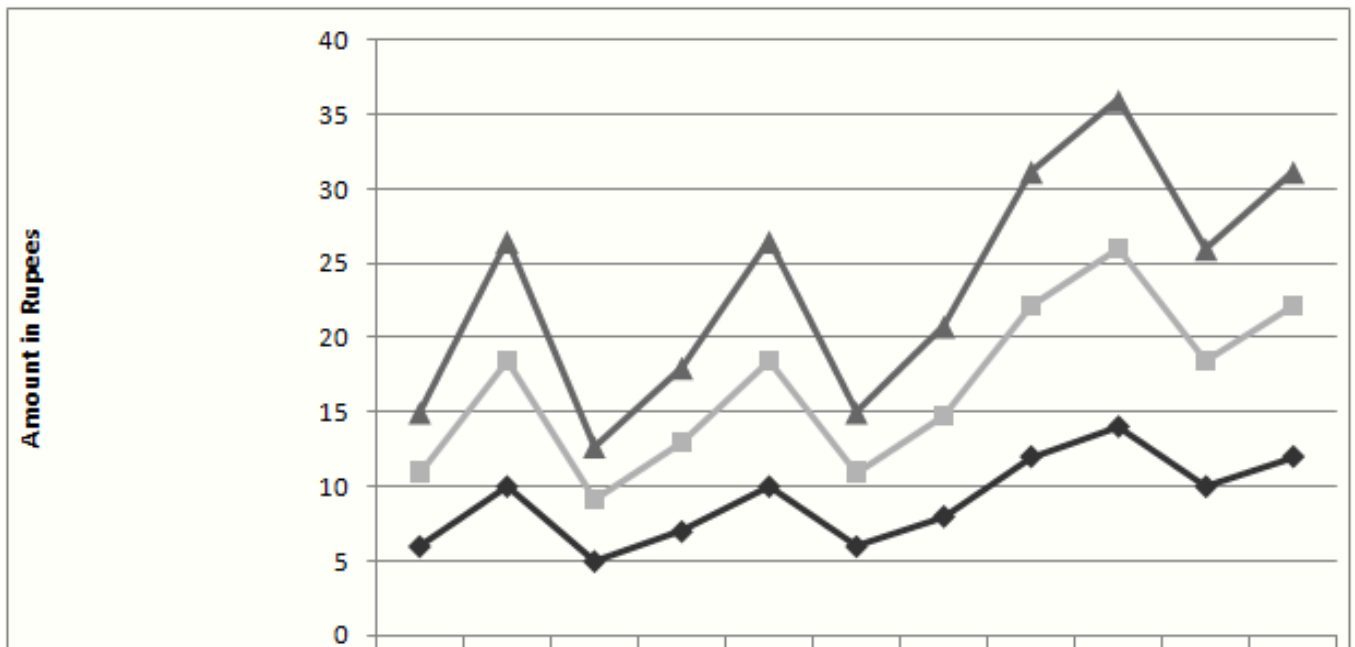
But ordinates for all these points, except B, will move to infinity.

Points will be closest to each other after 500 years which are initially close to each other with respect to ordinates only. Here points A and C are closest to each other by 1 ordinate.

Points A and C will be closest.

Hence, option E.

Instructions: Answer the question no. 43 and 44 on the basis of the data given in the chart



	Panir Kachouri	Fish Kachouri	Mistisukh	Veg. Pattie	Chicken Pattie	Chicken Titbit	Veg. Pizza	Chicken Pizza	Fish Spring Roll	Cream Roll	Chicken Spring Roll
Prodn. Cost	4	8	3.5	5	8	4	6	9	10	7.5	9
Producer's Selling Price	5	8.5	4.2	6	8.5	5	6.8	10.2	12	8.5	10.2
Retailer Selling Price	6	10	5	7	10	6	8	12	14	10	12

The chart above gives per unit selling prices and costs in rupees of 11 items prepared by a sweetshop. Margins are calculated on percentage basis. Based on the chart above, answer the question that follows:

43. Which of the following conclusions can be made?

A. Producer s margin for panir kachouri is less than retailer s margins.
B. Producer s margin for chicken pizza is more than retailer s margins.
C. Producer s margin for fish spring roll more than retailer s margins.
D. Producers and retailer s margins are highest for panir kachouri alone.
E. Retailer s made losses in a few products.

Solution:

From the Tables, we get that Producer s margin for fish spring roll is more than retailer s margin.

Hence, option C.

44. Which of the following conclusion can be drawn from diagram above?

A. Retailers selling price for mistisukh was more than producer s selling price for chicken titbit.
B. Difference between retailer s selling price and producer s selling price for fish kachour i was more than that of cream roll.

C. These are three types of margins for all items.
D. Of all the margins, both for retailer and producer, producer s margin for chicken pizza was the maximum.
E. The three lines that connect different points, in the diagram above, are superfluous.

Solution:

There are different items for which line graphs are made, which is ambiguous.

Hence, option E.

45. Mungeri Lal has two investment plans- A and B, to choose from. Plan A offers interest of 10% compounded annually while plan B offers simple interest of 12% per annum. Till how many years is plan B a better investment?

A. 3
B. 4
C. 5
D. 6
E. 7

Solution:

Let Mungeri Lal have Rs. 100 to be invested in both the plans.

From plan A, we can calculate total amount along with the compound interest of 10% for every year.

From plan B, we can calculate total amount along with the simple interest of 12% for every year.

From the calculations, we can show that till 4 years, plan B gives more amount than plan A with the same initial investment.

Hence, option B.

46. For all real numbers x, except x = 0 and x = 1, the function F is defined by

A. $(\sin a)^2$
B. $(\cos a)^2$
C. $(\tan a)^2$
D. $(\cot a)^2$
E. $(\sec a)^2$

Solution:

Hence, option B.

47. Two teams *Arrogant* and *Overconfident* are participating in a cricket tournament. The odds that team Arrogant will be champion is 5 to 3, and that Overconfident will be the champion is 1 to 4. What are the odds that either team Arrogant or team Overconfident will become the champion?

A. 3 to 2
B. 5 to 2
C. 6 to 1
D. 7 to 1
E. 9 to 1

Solution:

The correct answer is 7 to 3, which is not mentioned in the given options.

Answer the questions 48 to 50 on the basis of the data given in the table.

A cake chain manufactures two types of products – „cakes/pastries/gateaux and savouries. The chain was concerned about high wastage (in terms of leftover) and wanted to reduce it. Table 1 provides information about sales, costs and wastage for both products.

Table 1: Revenue Statement

	Cakes/ Pastries/ Gateaux			Savouries		
Year	Sales in Rs. lac	Costs in Rs. lac	Leftover as % age of sales	Sales in Rs. lac	Costs in Rs. lac	Leftover as % age of sales
1993	81.47	80.06	1.52	41.79	41.07	9.38
1994	171.42	168.03	1.58	80.69	79.09	10.61
1995	326.95	323.7	1.43	146.88	145.42	10.08
1996	591.77	576.52	1.23	220.96	215.26	10.45
1997	667.1	657.89	2.06	516.23	509.1	8.43
1998	936.52	928.95	1.74	468.39	464.6	11.04
1999	978.69	966.97	1.19	528.31	521.98	6.98
2000	752.09	743.2	1.5	637.63	630.09	5.61
2001	713.46	687.83	1.83	694.42	669.47	5.96
2002	885.29	845.83	1.76	869.15	830.4	5.66
2003	1071.81	1014.87	1.81	913.68	865.14	6.72
2004	1225.00	1163.75	2.78	1075.00	1021.25	6.14

48. Which of the following statement(s) is (are) right?

1. The worth of leftover for cakes/pastries/gateaux increased from 1993 to 2004.
2. The worth of leftover for cakes/pastries/gateaux, kept on fluctuating, many a times, between 1993 and 2004.
3. The worth of leftover for savouries and cakes/pastries/gateaux was highest in 2004.
4. The worth of leftover for savouries kept on fluctuating, many a times, between 1993 and 2004.

Choose the right combination from the following:

A. 1 and 4
B. 3 and 4
C. 1 and 2
D. 3 only
E. 2 and 3

Solution:

Cakes/Pastries/Gateaux

Year	Sales	Cost	Leftover%	LO(Cack)	Decline	Profit
A1993	81.47	80.06	1.52	1.238344		0.171656
A1994	171.42	168.03	1.58	2.708436	-1.47009	0.681564
A1995	326.95	323.7	1.43	4.675385	-1.96695	-1.42539
A1996	591.77	576.52	1.23	7.278771	-2.60339	7.971229
A1997	667.1	657.89	2.06	13.74226	-6.46349	-4.53226
A1998	936.52	928.95	1.74	16.29545	-2.55319	-8.72545
A1999	978.69	966.97	1.19	11.64641	4.649037	0.073589
A2000	752.09	743.2	1.5	11.28135	0.365061	-2.39135
A2001	713.46	687.83	1.83	13.05632	-1.77497	12.57368
A2002	885.29	845.83	1.76	15.5811	-2.52479	23.8789
A2003	1071.81	1014.87	1.81	19.39976	-3.81866	37.54024
A2004	1225	1163.75	2.78	34.055	-14.6552	27.195

Savouries

Year	Sales	Cost	Leftover %	LO(sav)	Profit	Total profit
A1993	41.79	41.07	9.38	3.919902	-3.1999	-3.028246
A1994	80.69	79.09	10.61	8.561209	-6.96121	-6.279645
A1995	146.88	145.42	10.08	14.8055	-13.3455	-14.770889
A1996	220.96	215.26	10.45	23.09032	-17.3903	-9.419091
A1997	516.23	509.1	8.43	43.51819	-36.3882	-40.920449
A1998	468.39	464.6	11.04	51.71026	-47.9203	-56.645704
A1999	528.31	521.98	6.98	36.87604	-30.546	-30.472449
A2000	637.63	630.09	5.61	35.77104	-28.231	-30.622393
A2001	694.42	669.47	5.96	41.38743	-16.4374	-3.86375
A2002	869.15	830.4	5.66	49.19389	-10.4439	13.435006
A2003	913.68	865.14	6.72	61.3993	-12.8593	24.680943
A2004	1075	1021.25	6.14	66.005	-12.255	14.94

From the above table, we get sentences 1 and 3 as right one. But option corresponding to this answer is not provided.

49. Maximum decline in amount of leftover of cakes/pastries/gateaux occurred in the year:

A. From 1997 to 1998
B. From 1995 to 1996
C. From 1998 to 1999
D. There was always an increase in worth of leftover.
E. Cannot be calculated from the data.

Solution:

We can observe that in the year 1998-99 there was a maximum decline.

Hence, option C.

50. If profit = sales – cost – leftover, in which year did the cakes chain was in losses?

1. 1993
2. 1997
3. 1998
4. 2000

Choose the right option:

A. 1, 2, 3, 4
B. 3, 4
C. 2, 3
D. 1, 2, 3
E. It was always in profit.

Solution:

We can see from the last column that there were losses in the years 1993, 1997, 1998 and 2000.

Hence, option A.

51. Let $a$and $b$be the roots of the quadratic equation $x^2 + 3x - 1 = 0$. If $P_n = a^n + b^n$ for $n = 0$, then, for $n = 2$, P_n =

A. $-3P_{n-1} + P_{n-2}$
B. $3P_{n-1} + P_{n-2}$
C. $-P_{n-1} + 3P_{n-2}$
D. $P_{n-1} + 3P_{n-2}$
E. None of the above

Solution:

We have, $x^2 + 3x - 1 = 0$

Since, $P_n = a^n + b^n$ for $n = 0$, we have

Now, let s look at the options:

Option A: $P_n = -3P_{n-1} + P_{n-2}$ for $n = 2$

For $n = 2$, $P_2 = -3P_1 + P_0 = -3(-3) + 2 = 9 + 2 = 11$

Since, P_2 is 11, this option is valid.

Option B: $P_n = 3P_{n-1} - P_{n-2}$ for $n = 2$

For $n = 2$, $P_2 = 3P_1 - P_0 = 3(-3) - 2 = -9 - 2 = -11$

Since, P_2 is 11, this option is cannot be correct.

Option C: $P_n = -P_{n-1} + 3P_{n-2}$ for $n = 2$

For $n = 2$, $P_2 = -P_1 + 3P_0 = -(-3) + 3(2) = 9$

Since, P_2 is 11, this option is cannot be correct.

Option D: $P_n = P_{n-1} + 3P_{n-2}$ for $n = 2$

For $n = 2$, $P_2 = P_1 + 3P_0 = (-3) + 3(2) = 3$

Since, P_2 is 11, this option is cannot be correct.

Hence, option A.

52. A rural child specialist has to determine the weight of five children of different ages. He knows from his past experience that each of the children would weigh less than 30 Kg and each of them would have different weights. Unfortunately, the scale available in the village can measure weight only over 30 Kg. The doctor decides to weigh the children in pairs. However his new assistant weighed the children without noting down the names. The weights were: 35, 36, 37, 39, 40, 41, 42, 45, 46 and 47 Kg. The weight of the lightest child is:

A. 15 Kg.
B. 16 Kg.
C. 17 Kg.
D. 18 Kg.
E. 20 Kg.

Solution:

Let a, b, c, $d$and $e$be the weight of five children such that $a < b < c < d < e$.

Adding all the weights, we get, $4 \times (a + b + c + d + e) = 408$

$(a + b + c + d + e) = 102$

But $a + b = 35$(Lowest) and $d + e = 47$(Highest)

$a + b + d + e = 82$ gives $c = 20$

Also, $a + c = 36$ (Second lowest) which gives $a = 16$ kg

Hence, option B.

53. Sangeeta and Swati bought two wristwatches from Jamshedpur Electronics at 11.40 A.M. IST. After purchasing they found that when 60 minutes elapses on a correct clock (IST), Sangeeta s wristwatch registers 62 minutes whereas Swati s wristwatch registers 56 minutes. Later in the day Sangeets s wristwatch reads 10 P.M., then the time on Swati s wristwatch is:

A. 8:40 PM
B. 9:00 PM
C. 9:20 PM

D. 9:40 PM
E. Cannot be calculated.

Solution:

It was 11.40 AM when Sangeeta and Swati bought the watches. According to Sangeeta s watch, it was now 10 PM; that is, her watch has shown time elapsing by 10 hours and 20 minutes (= 620 minutes).

It is given that when the actual time elapses by 60 minutes, her watch shows time elapsing by 62 minutes. Hence,

Actual time Time on Sangeeta s watch

60 minutes 62 minutes

? 620 minutes

Hence, the actual time elapsed by (620 × 60)/62 = 600 minutes

It is given that when the actual time elapses by 60 minutes, Swati s watch shows time elapsing by 56 minutes. Hence,

Actual time Time on Swati s watch

60 minutes 56 minutes

600 minutes ?

Hence, the time on Swati s watch elapsed by (600 56)/60 = 560 minutes

Hence, the time on her watch is 11.40 AM + (9 hours, 20 minutes) = 9.00 PM

Hence, option B.

54. F(x) is a fourth order polynomial with integer coefficients and no common factor. The roots of F(x) are - 2, - 1, 1, 2. If p is a prime number than 97, then the largest integer that divides F(p) for all values of p is:

A. 72
B. 120
C. 240
D. 360
E. None of the above

Solution:

Roots of F(x) are 2, 1, 1, 2, we have,

So we have, F(x) = (x+ 2)(x+ 1)(x1)(x2)

F(p) = (p+ 2)(p + 1)(p 1)(p2) where „ $p$is the prime number > 97

Let „$k$be the largest integer which can divide F(p).

In (p+ 2), (p + 1), (p 1) and (p2), there will two even numbers and two odd numbers as „ p itself is an odd number.

Now, out of these two even numbers, one surely will be divisible by 4 and other by 2. So these two numbers are collectively divisible by 8.

Now, (p+ 2), (p + 1), p, (p 1) and (p2) are five consecutive integers. So either (p + 1) and (p 2) or (p + 2) and (p 1), each will be divisible by 3. So either of these two pairs are divisible by 9.

Also, being 5 consecutive numbers, it must contain one number which is multiple by 5. So this number will be divisible by 5.

So collectively F(p) will be divisible by 8 × 9 × 5 = 360

Hence, option D.

Instructions: Consider the information given below for question 55 and 56.

In the diagram below, the seven letters correspond to seven unique digits chosen from 0 to 9. The relation among the digits is such that:

P.Q.R = X.Y.Z = Q.A.Y

P		X
Q	A	Y
R		Z

55. The value of A is:

A. 0
B. 2
C. 3
D. 6
E. None of the above

Solution:

P X
Q A Y
R Z

6 8
4 2 9
3 1

After trial and error, we get, $8 \times 9 \times 1 = 4 \times 2 \times 9 = 6 \times 4 \times 3 = 72$

From this above table, we get that, A is equal to 2.

Hence, option B.

56. The sum of the digits which are not used is:

A. 8
B. 10
C. 14
D. 15
E. None of the above

Solution:

Digits which are not used are 0, 5, 7

Sum of these digits = 5 + 7 + 0 = 12

Hence, option E.

57. Steel Express stops at six stations between Howrah and Jamshedpur. Five passengers board at Howrah. Each passenger can get down at any station till Jamshedpur. The probability that at five persons will get down at differ ent station is:

E. None of the above.

Solution:

The total number of ways in which the 5 passengers can descend at 7 different stations (6 intermediate stations + Jamshedpur Station) is given by 7^5.

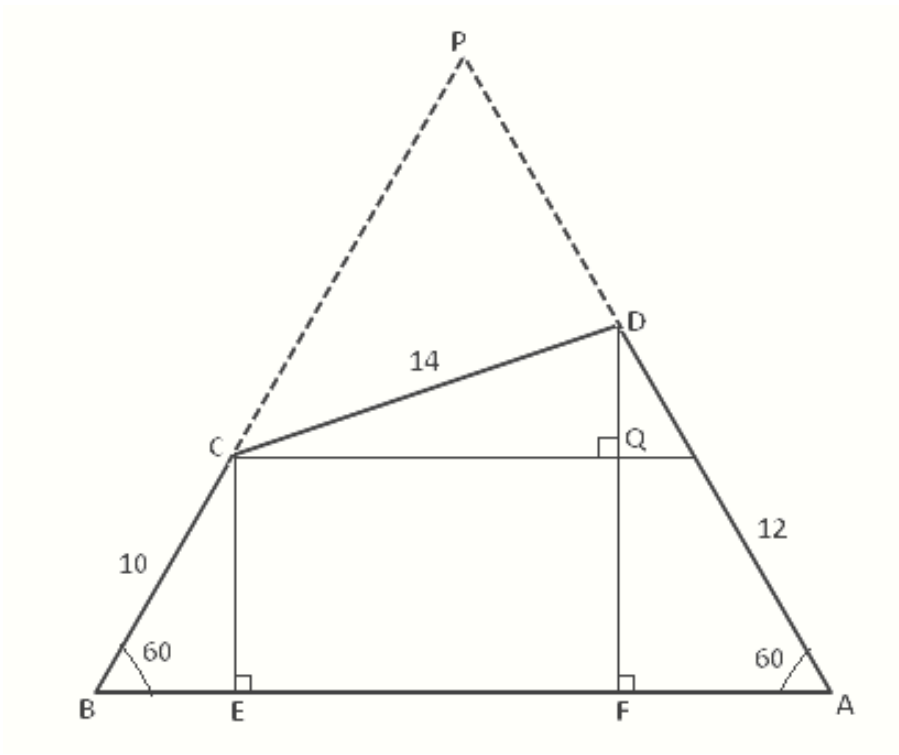
The number of ways in which the 5 passengers descend at the 7 stations, such that each of the passengers gets down at a different station is given by ${}^{7}P_{5}$.

Hence, option C.

58. In a quadrilateral ABCD, BC = 10, CD = 14, AD = 12 and CBA = BAD = 60°. If

A. 193
B. 201
C. 204
D. 207
E. None of the above.

Solution:



AB = AF + FE + BE

= 12 × (cos 60°) + CQ + (10 × cos 60°)

$a+ b= 204$

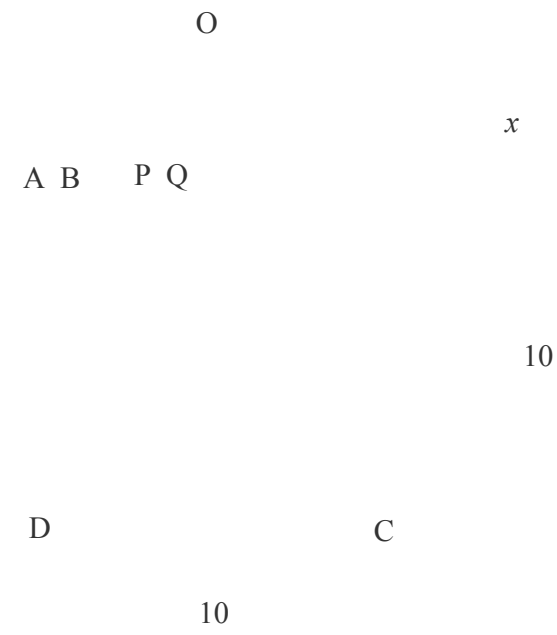
Hence, option C.

59. ABCD is a square with sides of length 10 units. OCD is an isosceles triangle with base CD. OC cuts AB at point Q and OD cuts AB at point P. The area of trapezoid PQCD is 80 square units. The altitude from O of the triangle OPQ is:

A. 12
B. 13
C. 14
D. 15
E. None of the above.

Solution:

The given information can be illustrated as follows:



Area of the trapezoid PQCD = 80 units

PQ = 6 units

Now, OPQ and ODC are similar triangles. Let M be the point of contact of the altitude of OCD and side AB. Then, let length of OM = $x$units.

10 x= 6 x+ 60

x= 60/4 = 15 units

Hence, option D.

60. How many differently shaped triangles exist in which no two sides are of the same length, each side is of integral unit length and the perimeter of the triangle is less than 14 units?

A. 3
B. 4
C. 5
D. 6
E. None of the above.

Solution:

Now, let there be a triangle with sides a, b, c, wher e c is the largest side.

Also, it is given that the perimeter must be less than 14.

$a + b + c < 14$ … (ii)

Since, $c < a + b$

$c + c < a + b + c < 14$

$2c < 14$

$c < 7$

Hence, we try out for values of $c$from 1 to 6, and check if we can find two numbers $a$and $b$that satisfy equations (i) and (ii). These values are tabulated below:

c	***a, b***
4	3, 2
5	2, 4
5	3, 4
6	2, 5
6	3, 4

Thus, there are 5 such triangles.

Hence, option C.

61. Company BELIANCE hosted a party for 8 members of Company AXIAL. In the party no member of AXIAL had interacted with more than three members of BELIANCE. Out of all the members of BELIANCE, three members – each interacted with four members of AXIAL and the remaining members – each interacted with two members of AXIAL. The greatest possible number of company BELIANCE in the party is

A. 9
B. 10
C. 11
D. 12
E. None of the above.

Solution:

There are 8 members in AXIAL, and each of them interacts with a maximum of 3 members from BELIANCE.

A maximum of $8 \times 3 = 24$ interactions are possible

Now, assume that there are X members in BELIANCE. Since 3 members of BELIANCE each interact with 4 members of AXIAL

12 interactions occur in this process.

$24 - 12 = 12$ interactions remain; that is, 12 is the maximum number of interactions that could occur among the remaining members.

The remaining members in BELIANCE is $(X - 3)$ and each of them interact with 2 members of AXIAL, therefore interactions will be maximum when $(X - 3) \times 2 = 12$, that is when $X = 9$

Hence, option A.

Answer the questions 62 to 64 on the basis of the following information.

KK, an aspiring entrepreneur wanted to set up a pen drive manufacturing unit. Since technology was changing very fast, he wanted to carefully gauge the demand and the likely profits before investing. Market survey indicated that he would be able to sell 1 lac units before customers shifted to different gadgets. KK realized that he had to incur two kinds of costs – fixed costs (the costs which do not change, irr espective of numbers of units of pen drives produced) and variable costs (= variable cost per unit multiplied by number of units). KK expected fixed cost to be Rs. 40 lac and variable cost to be Rs. 100 per unit. He expected each pen drive to be sold at Rs. 200.

62. What would be the break-even point (defined as no profit, no loss situation) for KK s factory, in term of sales?

A. Rs. 80 lac
B. Rs. 100 lac

C. Rs. 120 lac
D. Rs. 140 lac
E. Cannot be found with the given data.

Solution:

Now, the expected variable cost for each pen drive is Rs. 100, while the expected selling price per unit is Rs. 200. Hence, the expected profit margin is Rs. 100 per unit.

Break-even point in terms of sales (in Rupees) = 0.4 lac × 200 = Rs. 80 lac

Hence, option A.

63. KK was sceptical that per unit variable might increase by 10% though the demand might remain same. What will be the expected changes in profit in such a case?

A. Profit would decrease by 10.33%
B. Profit will increase will by 15.75%
C. Profit would decrease by 15.75%
D. Profit will decrease by 16.67%
E. Profit will increase by 16.67%

Solution:

Originally, Variable Cost = Rs. 100 per unit and Sales Price = Rs. 200 per unit. Also, the demand (in number of units sold) was 1 lac units and the Fixed Costs was Rs. 40 lac.

Original Profit = Total Sales – Total Costs

= (200 × 1 lac) – (40 lacs + 100 × 1 lac)

= 200 lac – 140 lac = 60 lac

Now, per unit variable cost has increased by 10%.

New Variable Cost = 1.1 × 100 = Rs. 110 per unit. The sales price, demand and fixed costs remain the same.

New Profit = (200 × 1 lac) – (40 lac + 110 × 1 lac)

= 200 lac – 150 lac = 50 lac

Hence, option D.

64. He discussed his business with a chartered accountant. KK informed that he was contemplating a loan of Rs. 20 lac at simple interest of 10% per annum for starting the business. The chartered accountant informed him that in such a case KK has to pay interest, followed by 30% tax.

    By how much does KK s earnings change with 20% growth in sales vis -à-vis the original sales volume, in both cases considering tax and interest on loan?

A. 20%
B. 16.7%
C. 25.6%
D. 33.3%
E. 34.5%

Solution:

Originally, KK s profit = 200 lac – 140 lac = Rs. 60 lac

He has taken a loan for Rs. 20 lac at a simple interest of 10%, hence he has to pay an interest of 10% × 20 lac = Rs. 2 lac.

From the remaining 58 lac, KK has to pay 30% tax.

KK s total earnings = 58 lac 0.7 = 40.6 lac

Now, there is a 20% growth in sales; that is, he will now be able to sell 1.2 lac units (as opposed to 1 lac units earlier)

Profit = Total Sales – Total Costs

= (200 × 1.2 lac) – (40 lac + 100 × 1.2 lac)

= 240 lac – 160 lac = 80 lac

KK s Profit after paying interest on his Rs. 20 lac loan = 80 lac – 2 lac = 78 lac

KK s total earnings after tax deduction = 78 lac 0.7 = 54.6 lac

Hence, option E.

65. Let X be a four digit number with exactly three consecutive digits being same and is a multiple of 9. How many such X s are possible?

A. 12
B. 16

C. 19
D. 21
E. None of the above.

Solution:

X is a four-digit number that is divisible by 9. This means that the sum of its digits should add up to a multiple of 9.

It is also given that exactly 3 consecutive digits are the same. Hence, two possible patterns of the number arise: XXXY and YXXX

Case 1: The first three digits are the same, and the fourth one is different; i.e. XXXY

Here, we will substitute X by values from 1 to 9 (not 0, since X is the first digit), and see how many values Y can take such that XXXY will be a multiple of 9.

For example, when X is 1, then the first three digits add upto 3. Since (X + X + X + Y) must be some multiple of 9, hence Y can only be 6 (i.e. the number will be 1116). Similarly, when X is 3, then the first three digits add up to 9. Hence, the fourth digit could be either 0 or 9 (i.e. the numbers formed will be 3330 and 3339 – both multiples of 9).

X	Y
1	6
2	3
3	0, 9
4	6
5	3
6	0, 9
7	6
8	3
9	0*

* When X is 9, then the first three digits add up to 27. Hence, the fourth digit could be either 0 or 9. However, if the fourth digit was 9, then the number formed would be 9999, which doesn t satisfy the criteria that exactly THREE consecutive digits should be the same.

This case leads to 1 + 1 + 2 + 1 + 1 + 2 + 1 + 1 + 1 = 11 possibilities

Case 2: The last three digits are the same, and the first one is different; i.e. YXXX

Again, we substitute X by values from 0 to 9 (this time Y is the first digit, so X can be 0), and see how many values of Y can satisfy the criteria that YXXX is a multiple of 9.

For example, when X is 1, the last three digits add up to 3. Hence, Y can take the value 6. When X is 3, the sum of the last three digits is 9; so Y will be 9 (Y, being the first digit, cannot be 0).

X	Y
0	9
1	6
2	3
3	9
4	6
5	3
6	9
7	6
8	3
9	-

This case leads to 1 × 9 = 9 possibilities

total of 11 + 9 = 20 four-digit numbers are possible that is a multiple of 9, with exactly 3 consecutive digits being same

Hence, option E.

Questions 66-67

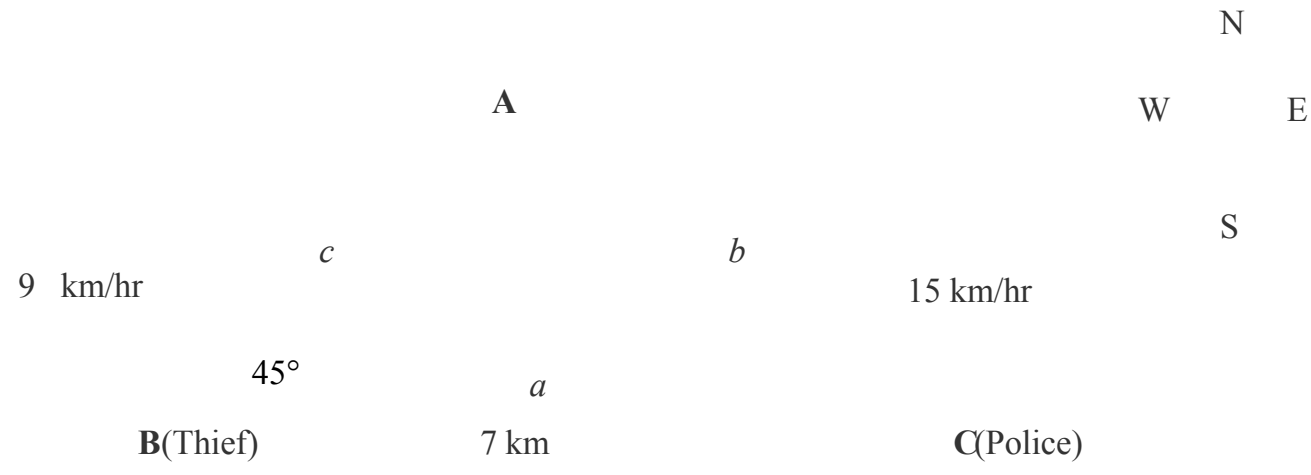
A police inspector spots a thief standing 7 km away from him on a straight road aligned in East-West direction. The inspector is standing on the eastern side while the thief is on the western side of the road. On spotting the inspector the thief takes his bicycle and tries to cut across the adjoining field by riding away with a uniform speed of 9v2 km/hour in a direction making an angle of 45° with the road towards North-East. The inspector starts with his scooter at the same instance to move with a uniform velocity15 km/hour and catches the thief.

66. Time taken by the inspector to catch the thief is:

A. 12 minutes
B. 15 minutes
C. 18 minutes
D. 20 minutes
E. 30 minutes

Solution:

The information given in the common data can be represented as follows:



Both the thief and the police man start running simultaneously and stop when they meet; that is, they run for the same amount of time. Let this time be t hours. The speeds of the thief and the police man are 9 km/hr and 15 km/hr respectively.

Using the time-speed-distance formula, we have,

Distance AC = $b = 15\ t$ km

Also, in ABC, we have,

$63\ t^2 + 126\ t - 49 = 0$

$9\ t^2 + 18\ t - 7 = 0$

$(3\ t + 7)(3\ t - 1) = 0$

$t = -7/3$ or $t = 1/3$

Time cannot be negative, hence $t = 1/3$ hours or 20 minutes

Hence, option D.

67. The distance the inspector has to travel is:

A. 3 km
B. 3.75 km
C. 5 km
D. 6 km
E. 7.5 km

Solution:

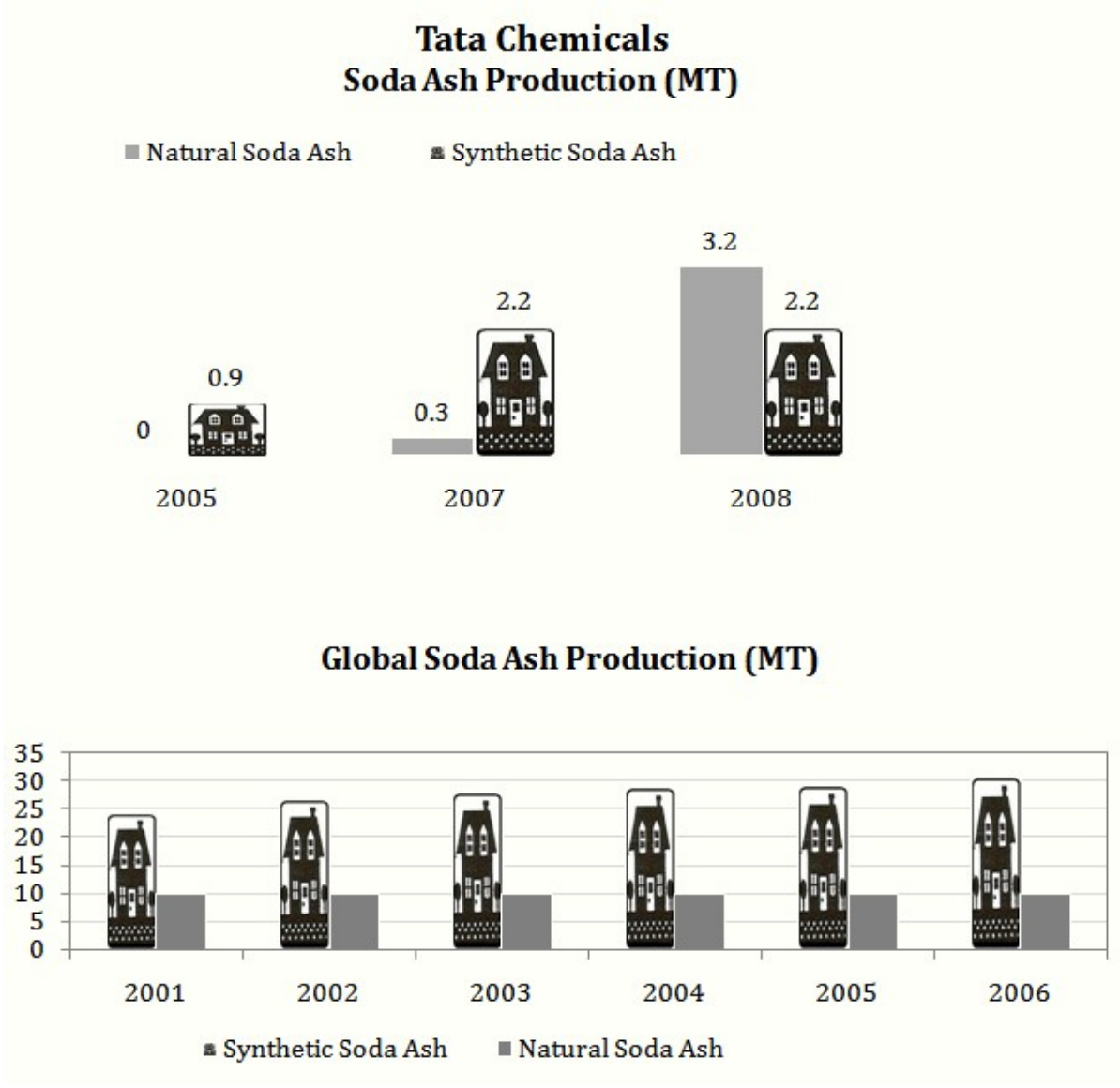
From the solution of the previous question, it is clear that the distance travelled by the policeman

$= 15t = 15 \times 1/3 = 5$ kilometres

Hence, option C.

Instructions: Answer the questions 68 to 70 on the basis of the data given in two charts.

Sodium carbonate, also called as soda ash is an important ingredient for glass, soaps and detergents, and many other products. There were two ways of producing soda ash. The first is producing soda ash from *trona* obtained naturally. The second method was producing soda ash from common salt through Solvay process. Soda ash produced thus was called synthetic soda ash. Tata Chemicals was one of largest producers of soda ash. Given below are two charts- first chart shows production of two varieties of soda ash in the world.



68. It was expected that global soda ash production would be same for 2006, 2007 and 2008 (only for this question). What could be a possible reason for different patterns of production in Tata Chemicals and the words?

A. Tata Chemicals build new plants of 2.2 MT natural soda ash capacity in 2007.
B. Tata Chemicals build 3.2 MT of natural soda ash capacity from 2005 to 2008.
C. Tata Chemicals produced 2.7% of total soda ash in the world.
D. Tata Chemicals might have acquired 0.3 MT of natural soda ash facility in 2007.
E. None of above conclusions could possibly be drawn

Solution:

Comparing the graphs given for Tata Chemicals and for the Global production of soda ash, we see that between the years 2005 to 2007, the production of natural soda ash in Tata Chemicals have increased from 0 MT to 0.3 MT. So, the global production also ought to have increased. However, from the graph (also, it is given in the question that the soda ash production remains the same for 2006, 2007 and 2008) we see that the global production remains unchanged during this period. The only reason, among the given options, that justifies this is that Tata Chemicals, rather than producing more quantities of natural soda ash on its own, acquired another company s production. This will explain why the global production did not increase.

Hence, option D.

69. Suppose the total global production increased (year on year) from 2005 to 2008 by the amount Tata Chemicals synthetic production (year on year) increased in the same period. By what percentage did the total global production increase from 2007 to 2008?

A. Cannot be calculated at all from the tables above.
B. Increased by 10.16%.
C. Increased by 9.48%.
D. Did not increase at all.
E. Increased by 8.64%

Solution:

From the first graph, Tata Chemical s synthetic production did not increase at all from 2007 to 2008 (it remained 2.2 MT in both years).

The question states that the total global production increased by the same amount, hence the total global production increase from 2007 to 2008 was 0.

Hence, option D.

70. Which of the following statements are true?

1. Proportion of natural soda ash to synthetic soda has decreased from 2001 to 2006 globally.
2. Proportion of natural soda ash to synthetic soda ash has increased from 2001 to 2006 globally.
3. Proportion of synthetic soda ash to total soda ash has decreased for Tata chemicals from 2005 to 2007.
4. Proportion of synthetic soda ash to total ash has increased for Tata chemicals.

A. 1 and 3
B. 1 and 4
C. 2 and 4
D. 2 and 3
E. 1, 2 and 3 only

Solution:

According to the first statement, the ratio of Natural soda ash to synthetic soda ash decreased from 2001 to 2006 globally. This is true since the global production of natur al soda ash remained constant while that of synthetic soda ash kept increasing.

The second statement is a direct contradiction of the first, and is therefore obviously false.

According to the third statement, the ratio of synthetic soda ash to the total soda ash decreased from 2005 to 2007 for Tata Chemicals. From the graph, we see that this ratio is 1 (0.9/0.9) in 2005, and is less than 1 (2.2/2.5) in 2007. So, this statement is definitely true.

The fourth statement does not specify any years, and there are years during which the specified ratio decreases (like the one given in the third statement). This statement is false.

Hence, option A.

71. What is Tata Chemicals share of global production in 2008?

A. 12.86%
B. 17.42%
C. 59.34%
D. Incomplete data.
E. None of the above.

Solution:

In order to find Tata Chemicals share of the global production in 2008, we need to know the global production in 2008. However, this data is not given to us.

Hence, option D.

72. Suppose total global production of soda ash in 2008 was 40 MT and Tata Chemicals was second highest producer of soda ash globally after another company called Solvay. FMC Wyoming was the third highest producer. Two Indian giants, Tata Chemicals and Nirma have a combined production capacity of 8.8 MT. Which of the following statements are right?

1. Solvay s marked share was more than 20.66%
2. Solvay s marked share was more than 13.5%
3. FMC s share was less than 10.33%
4. FMC share was less than 13.5%
5. Nirma, which was sixth largest producer, had a share of less than 8.5%

Choose the right option.

A. 1 and 3
B. 1 and 5
C. 2 and 4
D. 1, 3 and 5
E. 2, 4 and 5

Solution:

It is given that the total global production of soda ash in 2008 was 40 MT. Solvay was the highest producer, Tata Chemicals was the second highest producer, and FMC was the third highest.

Now, from the first graph, we see that the total soda ash production of Tata Chemicals in 2008 was 3.2 + 2.2 = 5.4 MT. Since the combined production of Tata Chemicals and Nirma was 8.8 MT, thus Nirma s production was 8.8 – 5.4 = 3.4 MT

Now let s go through the five statements:

Statement 1: Solvay s market share > 20.66% 40 = 8.264 MT: We have no way knowing whether or not this is true.

Statement 2: Solvay s market share > 13.5% 40 = 5.4 MT: Since, Tata Chemicals production is 5.4 MT, and Solvay is the highest producer; hence Solvay s production is definitely > 5.4 MT. This statement is definitely true.

Statement 3: FMC s share < 10.33% × 40 = 4.132 MT: We have no way knowing whether or not this is true.

Statement 4: FMC s share < 13.5% 40 = 5.4 MT: Since, Tata Chemicals production is 5.4 MT, and FMS ranked below Tata; hence FMC s production is definitely < 5.4 MT. This statement is definitely true.

Statement 5: Nirma s share < 8.5% 40 = 3.4 MT (and Nirma was the sixth largest producer): We have already seen that Nirma s production was 3.4 MT; so, this statement is definitely false.

Hence, option C.

73. Raj Travels has the following revenue model for a group package. Owner charges Rs. 20,000 per person till group size of 200. For every additional traveller beyond 200, he starts offering discount of 50 rupees to all members of the group. The maximum possible income for Raj Travels from the package is:

A. Rs. 4000000
B. Rs. 4200000
C. Rs. 4500000
D. Rs. 5000000
E. Rs. 5500000

Solution:

If there are 200 or less than 200 people in a group, then charges per person = Rs. 20,000.

For every extra person beyond the 200 mark, the owner gives a discount of Rs. 50 to all the people in the group. That is, if there ar e (200 + 3) = 203 people in the group, then the owner will allow all the 203 people to pay just (20,000 – 50 × 3) = Rs. 19850 each.

Thus, if there are (200 + n) people in the group, then each of the (200 + n) people will pay Rs. (20,000 – 50n).

Total revenue for the owner = (200 + n)(20,000 – 50 n)

$$= 40,00,000 - 10,000\ n + 20,000\ n - 50\ n^2$$

$$= 40,00,000 + 10,00\ 0n - 5\ 0n^2$$

$$= -50(\ n^2 - 200\,n - 80,000)$$

Substituting each of the options, we have

Option E: $-50(n^2 - 200n - 80{,}000) = 55{,}00{,}000$

$n^2 - 200n - 80{,}000 = -1{,}10{,}000$

$n^2 - 200n + 30{,}000 = 0$

Here, discriminant $= (-200)^2 - 4 \times 30{,}000 = 40{,}000 - 120{,}000 = -80{,}000$

The discriminant is negative, this option is not valid.

Option D: Here we get $n^2 - 200n + 20{,}000 = 0$

Here, discriminant $= (-200)^2 - 4 \times 20{,}000 = 40{,}000 - 80{,}000 = -40{,}000$

The discriminant is negative, this option is also not valid.

Option C: Here we get $n^2 - 200n + 10{,}000 = 0$

Here, discriminant $= (-200)^2 - 4 \times 10{,}000 = 40{,}000 - 40{,}000 = 0$

This option is valid and is the maximum among the given options.

Hence, option C.

SECTION C: ANALYTICAL REASONING AND DESCISION MAKING

Directions (Question No 74-85): Each group of questions in this section is based on a set of conditions. In answering some of the questions, it may be useful to draw rough diagram. Choose the response that most accurately and completely answers each question.

Questions (74-76): Four married couples competed in a singing competition. Each couple had a unique team name. Points scored by the teams were 2, 4, 6 and 8. The "Sweet Couple" won 2 points. The "Bindas Singers" won two more points than Laxman s team. Mukesh s team won four points more than Linas s team, but Lina s team didn t score the least amount of points. "Just Singing" won 6 points. Waheda wasn t on the team called "New Singers". Sanjeev s team won 4 points. Divya wasn t on the "Bindas Singers" team. Tapas and Sania were on the same team, but it wasn t the "Sweet Couple".

74. Laxman s teammate and team s name were:

A. Divya and Sweet Couple
B. Divya and Just Singing
C. Waheda and Bindas Singers
D. Lina and Just Singing
E. Waheda and Sweet couple

Solution:

The given data can be tabulated as follows:

S. no.	Team	Member 1	Member 2	Points
1	Sweet Couple	Laxman	Waheda	2
2	Bindas Singers	Sanjeev	Lina	4
3	Just Singing	Tapas	Sania	6
4	New Singers	Mukesh	Divya	8

From the table above, we can determine that Laxman s team mate is Waheda and his team is Sweet Couple.

Hence, option E.

75. The teams arranged in the ascending order of points are:

A. Bindas Singers, Just Singing, New Singers, Sweet Couple
B. Sweet Couple, New Singers, Just Singing, Bindas Singers
C. New Singers, Sweet Couple, Bindas Singers, Just Singing
D. Sweet Couple, Bindas Singers, Just Singing, New Singers

E. Just Singing, Bindas Singers, Sweet Couple, New Singers

Solution:

The teams can be easily arranged in the ascending order of points.
The correct order is Sweet Couple, Bindas Singers, Just Singing, New Singers.

Hence, option D.

76. The Combination which has the couples rightly paired is:

A. Mukesh, Lina
B. Mukesh, Waheda
C. Sanjeev, Divya
D. Sanjeev, Lina
E. Sanjeev, Waheda

Solution:

Sanjeev and Lina are in team Bindas Singers.

Hence, option D.

Questions (77-80): The regular mathematics faculty could not teach because of being sick. As a stop gap arrangement, different visiting faculty taught different topics on 4 different days in a week. The scheduled time for class was 7:00 am with maximum permissible delay of 20 minutes. The monsoon made the city bus schedules er ratic and therefore the classes started on different times on different days.

Mr. Singh didn t teach on Thursday. Calculus was taught in the class that started at 7:20 am. Mr. Chatterjee took the class on Wednesday, but he didn t teach probability. The class on Monday started at 7:00 am, but Mr. Singh didn t teach it. Mr. Dutta didn t teach ratio and proportion. Mr. Banerjee, who didn t teach set theory, taught a class that started five minutes later than the class featuring the teacher who taught probability. The teacher in Friday s class taught set theory. Wednesday s class didn t start at 7:10 am. No two classes started at the same time.

77. The class on Wednesday started at:

A. 7:05 am and topic was ratio and proportion.
B. 7:20 am and topic was calculus.
C. 7:00 am and topic was calculus.
D. 7:20 am and topic was calculus.
E. 7:05 am and topic was probability.

Solution:

It is given that Mr. Chatterjee took the class on Wednesday.
Also the class on Monday which started at 7:00 am was not taken by Mr. Singh

It has to be taken either by Mr. Dutta or Mr. Banerjee.

But Mr. Banerjee taught a class that started five minutes later than the class of probability.

The class on Monday starting at 7:00 am was taken by Mr. Dutta.

Mr. Singh didn t take a class on Thursday His class has to be on Friday.

We also know that the teacher in Friday s class taught set theory.

The information that we have till now can be represented as:

Professor	Timing	Subject	Day
Mr. Singh		set theor y	Friday
Mr. Chatterjee			Wednesday
Mr. Dutta	7:00 am		Monday
Mr. Banerjee			Thursday

The class on Calculus started at 7:20 am,

Now this class cannot be taken by Mr. Singh as he is teaching set theory, not by Mr. Dutta also as his class is starting at 7:00 am, not even by Mr. Banerjee as his class is starting 5 mins after the class on Probability and the timing on probability has to be one from 7: 10 am and 7:20 am.

The class on Calculus started at 7:20 am was taken by Mr. Chatterjee.

We also know that Mr. Dutta didn t take a class on Ratio and proportion

The class on ratio and proportion was taken by Mr. Banerjee.

The class on probability was taken by Mr. Dutta.

The class by Mr. Banerjee was taken at 7:05 am as the class on probability was taken at 7:00 am.

The class by Mr. Singh was taken at 7:10 am.

Professor	Timing	Subject	Day
Mr. Singh	7:10 am	Set theory	Friday
Mr. Chatterjee	7:20 am	Calculus	Wednesday
Mr. Dutta	7:00 am	Probability	Monday
Mr. Banerjee	7:05 am	Ratio and proportion	Thursday

From the above table we get that the class on Wednesday started at 7:20 am and the topic was calculus.

Hence, option B or D

78. The option which gives the correct teacher - subject combination is:

A. Mr. Chatterjee – ratio and proportion
B. Mr. Banerjee – calculus
C. Mr. Chatterjee – set theory
D. Mr. Singh – calculus

E. Mr. Singh – set theory

Solution:

Referring the above table we can say that the only correct teacher – subject combination in the given options is Mr. Singh – set theory.

Hence, option E.

79. Probability was taught by:

A. Mr. Dutta on Monday
B. Mr. Dutta on Thursday
C. Mr. Singh on Wednesday
D. Mr. Singh on Monday
E. None of these

Solution:

From the above table we get that Probability was taught by Mr. Dutta on Monday.

Hence, option A.

80. The option which gives a possible correct class time – week day combination is:

A. Wednesday – 7:10 am, Thursday – 7:20 am, Friday – 7:05 am
B. Wednesday – 7:20 am, Thursday – 7:15 am, Friday – 7:20 am
C. Wednesday – 7:05 am, Thursday – 7:20 am, Friday – 7:10 am
D. Wednesday – 7:10 am, Thursday – 7:15 am, Friday – 7:05 am
E. Wednesday – 7:20 am, Thursday – 7:05 am, Friday – 7:10 am

Solution:

Referring the above table we can say that the only possible correct class time – week day combination is:
Wednesday – 7:20 am, Thursday – 7:05 am, Friday – 7:10 am.

Hence, option E.

Questions (81-85): Five people joined differ ent engineering colleges. Their first names were Sarah (Ms.), Swati (Ms.), Jackie, Mohan and Priya (Ms.). The surnames were Reddy, Gupta, Sanyal, Kumar and Chatterjee. Except for one college which was rated as 3 star, all other colleges were rated either 4 star or 5 star.

The "Techno Institute" had a higher rating than the college where Priya studied. The three-star college was not "Deccan College." Mohan s last name was Gupta but he didn t study at "Barla College." Sarah, whose last name wasn t Sanyal, joined "Techno Institute." Ms. Kumar and Jackie both studied at four-star colleges. Ms. Reddy studied at the "Anipal Institute," which wasn t a five-star college. The "Barla College" was a five-star college. Swati s last name wasn t Chatterjee. The "Chemical College" was rated with one star less than the college where Sanyal studied. Only one college was rated five star.

81. Which is the correct combination of first names and surnames?

A. Mohan Gupta, Sarah Kumar, Priya Chatterjee
B. Priya Chatterjee, Sar ah Sanyal, Jackie Kumar
C. Jackie Sanyal, Swati Reddy, Mohan Gupta
D. Mohan Gupta, Jackie Sanyal, Sarah Reddy
E. Jackie Chatterjee, Priya Reddy, Swati Sanyal

Solution:

It is mentioned that only one college was rated five star and only one college was rated three star.

Also Barla College was a five star college.

Therefore, there are three colleges with four star rating.

It is given that Techno Institute had a higher rating than the college where Priya studied.

Techno Institute has four star rating and Priya studied in a three star rating college.

Also Deccan college has four star rating since it is mentioned that it does not have three star rating.

We have Barla college – five star, Techno Institute – four star and Deccan college – four star.

One of Anipal Institute and Chemical college has to have three star.

It is given that Sarah studied at Techno institute and Ms. Reddy studied at Anipal Institute.

If Chemical college is the one with three star rating then Sanyal has to be from a college with 4 star rating which has to be Deccan since it is the only one remaining.

Then the only college remaining for Mohan Gupta is Barla College which is not possible.

Anipal Institute has to be the one with three star rating.

And since Ms. Reddy studied at Anipal Institute and Priya studied at three star rating college.

Priya s full name has to be Priya Reddy.

Sanyal studied at Barla College.

The information that we have till now can be represented as:

Name	Sarah (Ms.)	Swati (Ms.)	Jackie	Mohan	Priya (Ms.)
Surname	Gupta	Reddy			
College	Techno Institute		Anipal		Institute
Rating	Four star	Four star	Four star	Three star	

We know that Sanyal studied at Barla College which is a five star college. It has to be Swati

Now we have Sarah as the only girl remaining She only can be Ms. Kumar

Jackie s full name has to be Jackie Chatterjee

From the information that we have, the table can now be as:

Name	Sarah (Ms.)	Swati (Ms.)	Jackie	Mohan	Priya (Ms.)
Surname	Kumar	Sanyal	Chatterjee	Gupta	Reddy
College	Techno Institute	Barla College	Deccan College/ Chemical College	Deccan College/ Chemical College	Anipal Institute
Rating	Four star	Five star	Four star	Four star	Three star

Referring the above table we get that only option (E) i.e., Jackie Chatterrjee, Priya Reddy, Swati Sanyal is correct.

Hence, option E.

82. Which option gives a possible student - institute combination?

A. Priya – Anipal, Swati – Deccan, Mohan – Chemical
B. Swati – Barla, Priya – Anipal, Jackie – Deccan
C. Joydeep – Chemical, Priya – Techno, Mohan – Barla
D. Priya – Anipal, Joydeep – Techno, Sarah – Barla
E. Swati – Deccan, Priya – Anipal, Sarah – Techno

Solution:

Referring the above table we get that option (B) i.e., Swati – Barla, Priya – Anipal and Jackie – Deccan is a possible student – institute combination.

Hence, option B.

83. Mohan Gupta may have joined:

A. Techno – Institute which had 5 star rating
B. Deccan College which had 5 star rating
C. Anipal Institute which had 4 star rating
D. Chemical College which had 4 star rating
E. Techno – Institute which had 4 star rating

Solution:

From the above table we get that Mohan Gupta may have joined either Deccan College or Chemical College.
But Deccan College had four star rating.
From the options we can say that Mohan Gupta may have joined Chemical College which had 4 star rating.

Hence, option D.

84. In which college did Priya study?

A. Anipal Institute
B. Chemical Institute
C. Barla College
D. Deccan College
E. Techno- Institute

Solution:

From the above table we get that Priya studied in Anipal Institute.

Hence, option A.

85. The person with surname Sanyal was:

A. Sarah studying in Chemical College
B. Swati studying in Barla College
C. Priya studying in Deccan College
D. Jackie studying in Deccan College
E. Sarah studying in Techno- Institute

Solution:

From the above table we get that The person with surname Sanyal was Swati studying in Barla College.

Hence, option B.

Read the f ollowing and choose the best alternative (Questions 86-89):

Decisions are often „risky in the sense that their outcomes are not known with certainty. Presented with a choice between a risky prospect that offers a 50 percent chance to win $200 (otherwise nothing) and an alternative of receiving $100 for sure, most people prefer the sure gain over the gamble, although the two prospects have the same expected value. (Expected value is the sum of possible outcomes weighted by their probability of occurrence.) Preference for a sure outcome over risky prospect of equal expected value is called *risk averse*; indeed, people tend to be risk averse when choosing between prospects with positive outcomes. The tendency towards risk aversion can be explained by the notion of diminishing sensitivity, fir st formalized by Daniel Bernoulli in 1738. Just as the impact of a candle is greater when it is brought into a dark room than into a room that is well lit so, suggested Ber noulli, the utility resulting from a small increase in wealth will be inversely proportional to the amount of wealth already in one s possession. It has since been assumed that people have a subjective utility function, and that preferences should be described using expected utility instead of expected value. According to expected utility, the worth of a gamble offering a 50 percent chance to win $200 (otherwise nothing) is 0.50 * u($200), where u is the person s concave utility function. (A function is concave or convex if a line joining two points on the curve lies entirely below or above the curves, respectively). It follows from a concave function that the subjective value attached to a gain of $100 is more than 50 percent of the value attached to a gain of $200, which entails preference for the sure $100 gain and, hence, risk aversion.

Consider now a choice between losses. When asked to choose between a prospect that offers a 50 percent chance to lose $200 (otherwise nothing) and the alternative of losing $100 for sure, most people prefer to take an even chance at losing $200 or nothing over a sure $100 loss. This is because diminishing sensitivity applies to negative as well as to positive outcomes: the impact of an initial $100 loss is greater than that of the next $100. This results in a convex function for losses and a preference for risky prospects over sure outcomes of equal expected value, called *risk seeking*. With the exception of prospects that involve very small probabilities, risk aversion is generally observed in choices involving gains, whereas risk seeking tends to hold in choices involving losses.

Based on above passage, analyse the decision situations faced by three persons: Babu, Babitha and Bablu.

86. Suppose instant and further utility of each unit of gain is same for Babu. Babu has decided to play as many times as possible, before he dies. He expected to live for another 50 years. A game does not last more than ten seconds. Babu is confused which theory to trust for making decision and seeks help of a renowned decision making consultant: Roy Associates. What should be Roy Associates advice to Babu?

A. Babu can decide on the basis of Expected Value hypothesis.
B. Babu should decide on the basis of Expected Utility hypothesis.
C. "Mr. Babu, I m redundant".
D. A and B
E. A, B and C

Solution:

Since, the instant and further utility of each unit of gain is same for Babu, the result of using both Expected value hypothesis and Expected utility hypothesis will be the same. Thus, Roy Associates can suggest either of the two to Babu.

Also, since his advice is same in both the cases, Babu will find that the advice of Roy Associates is redundant.

Hence, option E.

87. Babitha played a game wherein she had three options with following probalilities: 0.4, 0.5 and 0.8. The gains from three outcomes are likely to be $100, $80 and $50. An expert has pointed out that Babitha is a risk taking person. According to expected utility hypothesis, which option is Babitha most likely to favour?

A. First
B. Second
C. Third
D. Babitha would be indifferent to all three actions.
E. None of the above.

Solution:

The gain in all the cases is the same. No, it is given that Babitha is a risk taking person. Going by the expected value hypothesis, she would opt for the most risky option i.e. the one with least probability of winning. The least probability is 0.4 in the first option.

Hence, option A.

88. Continuing with pervious question, suppose Babitha can only play one more game, which theory would help in arriving at better decision?

A. Expected Value.
B. Expected Utility.
C. Both theories will give same results.
D. None of the two.
E. Data is insufficient to answer the question.

Solution:

There is no data stating whether Babitha won or lost the previous game. This data would have been helpful in determining whether we have to use the diminishing sensitivity for the positive or the negative outcome. This can further tell us whether to use Expected value theory or Expected utility theory.

Due to the lack of data, we cannot determine which theory to use.

Hence, option E.

89. Bablu had four options with probalility of 0.1, 0.25, 0.5 and 1. The gains associated with each options are: $1000, $400, $200 and $100 respectively. Bablu chose the first option. As per expected value hypothesis:

A. Bablu is risk taking.
B. Expected value function is concave.
C. Expected value function is convex.
D. It does not matter which option should Babu choose.
E. None of above.

Solution:

The expected value in all the cases is $100.

Therefore, according to the expected value hypothesis, any option can be chosen.

Hence, option D.

Directions (Question No 90-94): This group of questions is based on a set of conditions. In answering some of the questions, it may be useful to draw a rough diagram. Choose a response that most accurately and completely answers each question.

A circular field, with inner radius of 10 meters and outer radius of 20 meters, was divided into five successive stages for ploughing. The ploughing of each stage was handed over to a different farmer.

1. Farmers are refer red to by following symbols: F1, F2, F3, F4, F5.
2. The points between different stages of project are referred to by the following symbols: P1, P2, P3, P4, P5, not necessarily in that order.
3. Farmer F5 was given the work of ploughing stage starting at point P4.

4. The stage from point P5 to point P3 was not the first stage.
5. Farmer F4 was given the work of the fourth stage.
6. Stage 3 finished at point P1, and the work of which was not given to farmer F1.
7. Farmer F3 was given work of stage ending at point P5.

90. Which was the finish point for farmer F2?

A. P1
B. P2
C. P3
D. P4
E. P5

Solution:

There are five stages of the project on the field with starting and ending points from amongst P1, P2, P3, P4 and P5.

Now from (4) we get that the stage from point P5 to point P3 was not the first stage.

It has to be one of second, third, fourth and fifth stage.

It cant be the third stage as it is given that Stage 3 finished at point P1 and also cant be stage 4 as stage 4 must have started from point P1.

It also cannot be the fifth stage as if it is the fifth stage then the fourth stage work has to be given to farmer F3 but from (5) we get that the fourth stage work was given to farmer F4.

The stage from point P5 to point P3 has to be the second stage.

Farmer F3 was given the work of the first stage.

And from (5) we know that Farmer F4 was given the work of the fourth stage.

From (3) we have that farmer F5 was given the work of stage starting at point P4.

It cant be the second third or the fourth stage.

Farmer F5 was given the work of the fifth stage.

Farmer F1 has to be given the work of the second stage.

The above information can be represented as:

Stage	Farmer	Starting point of the stage	Ending point of the stage
First	F3	P2	P5
Second	F1	P5	P3
Third	F2	P3	P1
Fourth	F4	P1	P4
Fifth	F5	P4	P2

From the above table we get that the finish point for farmer F2 was P1.

Hence, option A.

91. Which stage was ploughed by farmer F5?

A. First
B. Second
C. Third
D. Fourth
E. Fifth

Solution:

From the above table we ge that the fifth stage was ploughed by farmer F5.

Hence, option E.

92. Which were the starting and finishing points for stage 2?

A. P2 and P5
B. P5 and P3
C. P3 and P1
D. P5 and P4
E. P3 and P2

Solution:

From the above table we get that the starting and ending point of stage 2 are P5 and P3.

Hence, option B.

93. For which farmer was P2 a finishing point?

A. F1
B. F2
C. F3
D. F4
E. F5

Solution:

From the above table we get that theP2 was the finishing point for farmer F5.

Hence, option E.

94. Which was the starting point for farmer F3?

A. P2
B. P3
C. P4
D. P1
E. None of above

Solution:

From the above table we get that the starting point for farmer F3 was P2.

Hence, option A.

95. Children are in pursuit of a dog whose leash has broken. Krishnarajan is directly behind the dog. Rangarajan is behind Krishnarajan. Natrajan is behind Rangarajan. Premrajan is ahead of the dog walking down the street in the opposite direction. As the children and dog pass, Premrajan turns around and joins the pursuit. He runs in behind Rangarajan. Krishnarajan runs faster and is alongside the dog on the left. Rangarajan runs faster and is alongside the dog on the right. Which child is directly behind the dog?

A. Krishnarajan
B. Rangarajan
C. Natrajan
D. Premrajan
E. None of above

Solution:

Before Premrajan passes others, the positions are as shown below:

Premrajan

Dog

Krishnarajan

Rangarajan

Natrajan

After he passes them and joins the pursuit, the positions are as shown below:

Dog

Krishnarajan

Rangarajan

Premrajan

Natrajan

Later, Krishnarajan walks faster and comes alongside the dog on the left. Similarly, Rangarajan comes alongside the dog on the right. This gives us the following scenario:

Krishnarajan Dog Rangarajan

Premrajan

Natrajan

Premrajan is directly behind the dog.

Hence, option D.

96.

The jars A to D are of equal radius. The option which gives the correct relationship among capacity of jars is:

A. A = B < C < D
B. D > B = A = C
C. B = D > A < C
D. B = D > A > C
E. D > A = B > C

Solution:

We know that liquid balances itself. Although the height of jar B is more than that of A, the dimension and inclination of the small pipe attached to the two appear to be similar. The level of liquid in jar B may rise above the smaller pipe but it will eventually come down to the height where the tip of the smaller pipe is. Thus the capacity of both A and B is nearly the same.

A = B

The height of jar C is nearly equal to that of A but it does not have the small tube attached to it.

A = B > C

D evidently has the highest capacity as compared to the other three jars.

D > A = B > C

Hence, option E.

Read the following caselet and choose the best alternative (Question 97-100):

Om Chowdhury was one of the supervisors in the Fire and safety (F&S) department of Maqsood Textile Mills. He was distant cousin to Mr. Bhiwani, General Manager (Personal & Administration). Personal & administration department was given the responsibility of all personnel related decisions. It was often rumored that Om had obtained the job due to his cousin s influence. However, Om was meticulous in the performance of his duties and didn t give anyone reason for complaint. It was known that Om was not much given to talking and kept to himself and to his duties.

All F&S supervisors reported to Mr. Rabindra, the shop-floor manager. The mill operated on a three-shift basis and Rabindra allocated the supervisors to different shifts. They were required to be present at all times during the shift operation and carry out scheduled checks on of machinery and fire fighting equipments. For some reasons, Om was allocated the night shifts more often than other supervisors. Om accepted these allocations without any objection, while it was known that other supervisors would often plead and bargain with Rabindra to be allocated the day shifts. During the night shift, keeping awake and remaining mentally alert were some of the major challenges f ace by the supervisors.

Of late, Rabindra observed signs of indifference from Om. On two occasions he found Om absent from his cabin. Rabindra heard from others that Om was often found in different part of shop floor employees. Rabindra called him to his office and reminded Om office responsibilities. Om did not counter Rabindra. He promised that he would not be lax in his duties again Rabindra also broached the subject with Mr. Bhiwani. Mr. Bhiwani called Om to his office and talked on a very personal basis. He reminded Om that their family relations made it uncomfortable to all concerned. Om nodded and agreed to do better. Soon his performance became that of a model supervisor. It was often found he went beyond his official duties to sort out problems of employees.

After three month later, Rabindra happened to visit the plan during night. As he looked into F&S office, he found Om playing solitaries on the office computer. Mr. Rabindra immediately fired Om.

The next morning Mr. Bhiwani called Mr. Rabindra and asked how he can fire an employee. He suggested that Mr. Rabindra reconsider Om s dismissal. “This decision has already been made. There will be no turning back” replied Rabindra.

97. The options below give combinations of possible root cause of the problem and the justifications thereof. Given the details in the case, which one can be inferred to be the best option?

A. Hiring of Om. **Reason:** That ensured Om was perpetually casual towards his duties.
B. Om favouring to work during night shift. **Reason**: Absence of Rabindra ensured that Om could relax.
C. Rabindra s bias against Om. **Reason**: Rabindra had been assigning too many night shifts to Om while for other supervisors he was lenient.
D. Rabindra jumping to conclusions. **Reason**: He should have investigated whether Om had carried out his duties.
E. Rabindra s firing of Om. **Reason** : It led to clash between Rabindra and Mr. Bhiwani.

Solution:

Om was casual towards his duties only for a little while and started acting r esponsibly as soon as he was reminded of his duties. This means that his casual attitude was not perpetual. Hence, we can safely eliminate option A.

Option B here is absolutely wrong as Om never showed any preference or disliking towards the night shift.

Rabindra happened to assign more night shifts to Om because Om never refused or bargained with him. Others used to bargain or plead with Rabindra to get the day shift. This does not show that Rabindra had a bias against Om. This eliminates option C.

The clash between Rabindra and Mr. Bhiwani was a minor issue and therefore Rabindra s firing of Om cannot be the root cause of the problem. This eliminates option E.

Rabindra jumped to the conclusion that Om was careless towards his duties when he saw him playing solitaire. He needed to investigate the matter before making notions about Om.

Hence, option D.

98. The details of the entire episode have become common knowledge among all the employees of the company. Out of options below, which one presents the best way for the top management to resolve the issue so as to benefit the organization as a whole?

A. Revoke Rabindra s order. It can be communicated to others that firing was too severe a punishment for such a small incident of indiscipline.
B. Ask Om for clarification. It can be communicated that since Om had clarified regarding his duties, the order has been taken back.
C. Declare Rabindr a s order as void. Reiterate officially the disciplinary processes that need to be followed by managers along with their scope of authority.
D. Ask feedback from other employees on the shop-floor regarding Om s performance. This can be used to revoke Rabindra s order.
E. Take the feedback of other F&S supervisors as to the work involved during night shift. This would better explain Om s behaviour.

Solution:

Options B and C, if used, would undermine the authority of Rabindr a and would lead the employees to believe that personal relations of Om and Mr. Bhiwani bailed Om out of trouble. Thus, these actions would send out a wrong message. These options can, therefore, be safely eliminated.

Action suggested in option E also undermines the authority of Rabindra to some extent, which would certainly not be in the welfare of the organization as a whole. This leaves us with options B and D.

A similar situation would be created if the action suggested in option D be implemented as it again bypasses Rabindra and allows the junior employees to rule against the decision taken by a senior.

By asking Om for a clarification, he is being given a chance to explain his part of the story. Also this action keeps the reputation of Rabindra intact. This is to the benefit of the organization as a whole.

Hence, option B.

99. Out of options below, which one best summarizes the learning from *solitaire incident*?

A. Managers often do not take any responsibility towards training juniors.
B. People tend to become relaxed during night shift and required surprise checks to keep them on their toes.
C. Certain roles would have different ways of carrying out their duties.
D. Having relatives in the same organization can be a source of potential problems.
E. Managers tend to allocate silent people to different positions.

Solution:

The learning from the passage is that one should not judge based on what he sees without investigating properly. This summary, however, is not reflected in any of the 5 options.

Option A is vague as „training is not mentioned anywhere in the passage. Option E is also very weak as allocation of employees to certain positions is certainly not the learning f rom the incident. Option B may seem correct but we know from the passage that Om did his duties properly and even went out of the way to help colleagues. This means that in no way could he have been relaxed and no surprise check was required to make sure he did his duties. Option D also looks correct as the passage starts on this very note but it is not explicitly mentioned that Rabindra had a bias against Om for the very fact that he was related to Mr. Bhiwani.

Option E comes out strongest here. This comes from the fact that because Om was the supervisor and it may not have been his duty to be standing or looking around the entire place all the time.

Hence, option C.

100. Of the options below, which could have been a better response from Mr. Ravindra when he saw Om playing?

A. He should have clarified about his authority to fire employees.
B. He should have informed Mr. Bhiwani about the incident and asked him to take necessar y action.
C. He should have asked the employees of the shift regarding Om s performance of his duties.
D. He should have checked if Om had done his duties or not.
E. He should have checked the production levels in the shift to see if he was as required.

Solution:

Clarifying his authority to fire employees shows that Rabindra is not a confident manager and this by no means can be a good response. Option A can thus be eliminated.

As Rabindra does not report to Mr. Bhiwani, informing him about the incident and asking him to take the necessar y action shows that he is bringing in personal relations in work, which again is not an advisable course of action. Hence, option B is not correct.

By asking the employees about Om, he may or may not have received a clear picture. This is a weaker option as compared to option D. By checking if Om has done his duties or not, he can make a just decision.

Production levels in the shift depend on various other factors and ar e not directly related with Om performing his duties or not.

Hence, option D.

Read the following caselet and choose the best alternative (Questions 101-104):

Shekhar, an MBA from Singapore returned to his hometown-Jamshedpur. Jamshedpur had a population of 10 lacs with one of the highest per capita income among India cities. Shekhar loved music. While listening to his favourite song on "satellite radio", he wondered if he could mix his passion with business. Incidentally, a few weeks later, while called for *expression of interest* from potential franchisees. Jamshedpur did not have a single good music outlet, where its residents could buy quality, variety and the latest from the world of music.

Music world wanted the potential franchisees to own minimum 1200 square feet space and invest Rs.30 lacs. Profits were to be shared in the ratio of 3:7 between Music World and the franchisee. While Shekhar was excited about working with a renowned brand, he was worried if Rs. 30 lacs was too high an amount to shell out. He did not have the entire amount with him and was thinking of borrowing from the bank. He made enquiries with other Music World franchisees located in

towns like Patna and Ranchi, as he expected similar footf all in Jamshedpur. A franchisee in Patna had sales revenue var ying f rom 1-2 lacs rupees per month with profit margin in the range of 25-30%. Satisfied, Shekhar decided to proceed.

Soon, he was on a look out for the space. Jamshedpur had three main areas - Bistupur, Sakchi and Sonari. All areas were inter-connected by good roads. Bistupur was a business area where most of High end retail formats were located. Most upper middle class and higher class customers shopped there. It was also the education hub of the city. On the other hand, Sakchi was a growing Lower middle class business area and Sonari had mostly residential population.

Shekhar was in favour of choosing Bistupur as it was the place where he shopped. However, he soon stumbled across pr oblems. Not only it was difficult to obtain space in Bistupur but property Rentals touched 30-40 rupees per square feet month. Rentals at Sakchi and Sonari were in the Range of 15-20 rupees per squar e feet per month. Also, Shekhar s friend, who stayed in Sakchi, told him that a few branded outlets were opening in Sakchi and it seemed to be the fastest growing market in Jamshedpur, with highest ratio of teenagers. But, Shekhar was not in favour of Sakchi due to its low image. He expected to target college going crowd in Bistupur.

High real estate prices in Bistupur and his low assessment of Sakchi market created confusion in Shekhar s mind. To give the decision a serious and fresh thought, he decided to hit Jamshedpur - Ranchi highway in his newly acquired car.

101. How best should Shekhar resolve his confusion?

A. By investing in the franchise
B. Do not invest in the franchise and look for diff erent brand name.
C. Go back to Singapore and start to find the drivers and potential of the business.
D. Do a further in–depth study to find the drivers and potential of the business.
E. Approach another music company for setting up a franchise.

Solution:

Option C is vague. Going back to Singapore and looking for a job there does not resolve Shekhar s confusion.

Options B and E are similar in approach and both take a totally different course instead of helping Shekhar resolve his confusion.

Option A suggests that Shekhar should invest in the franchise. This decision can be only made after he is sure about the business venture and this is exactly what he needs help in resolving. So this is not the approach he should take.

The situation demands Shekhar to do a further study into the matter. This is explicitly mentioned in option D.

Hence, option D.

102. Suppose sales in Patna ad Bistupur are likely to be same, how many years would it take for Shekhar to recoup the investment (consider zero inflation)?

A. Less than five years.
B. Less than seven years.

C. Less than eight years.
D. Less than nine years.
E. May be never.

Solution:

Consider approximate values from the given data.

Monthly rent of the property(of required area) in Bistupur is Rs. 42000.
Since, the sales revenue in Bistupur is the nearly the same as that in Patna, the profit margin in Bistupur will be lesser as compared to Patna owing to higher real estate prices.

Assuming that Shekhar pays the rent from the profit that he makes, the profit(after sharing with the Music company in the ratio 3:7) comes out to be slightly lesser than the rent(assuming sales revenue to be Rs. 1.5 lac and profit margin to be 27.5%).

This means that he can probably never make clear profit enough to repay the initial investment of Rs. 30 lacs.

Hence, option E.

103. What could be the most likely reason for Shekhar s bias in favour of Bistupur?

A. Presence of college going crowd, as he felt they were the customers for the latest music.
B. Crowded (hoi polio) image of Sakchi.
C. It was difficult for Shekhar to associate non – Bistupur areas with good quality products.
D. Higher rentals in Bistupur.
E. Patronage of Bistupur shops by executive and their families.

Solution:

The passage does not mention that Shekhar has a crowded image of Sakchi. The place however has a low image in general. Option B is therefore incorrect.

Option C can be inferred from the passage but it by no means is the most likely reason for Shekhar s bias in favour of Bistupur.
Higher rentals in Bistupur would only deter Shekhar from choosing Bistupur as the location.

Option D is therefore exactly opposite to the answer we are looking for. This can thus be safely eliminated.

The passage shows only Shekhar s patronage of Bistupur shops as he likes shopping there. There is no mention of shopping preferences of anyone else. Hence, this cannot be the most likely reason.

The passage clearly mentions that Shekhar expects to target college going crowd.

Hence, option A.

104. Which one of the following is the most important decision criterion is such a business Situation?

A. Financial capability of entrepreneur.
B. Changes in music industry.
C. Future market growth.
D. Profitability of business in first couple of years.
E. Real Estate prices.

Solution:

Options B, C and D are merely speculative. These cannot be the criteria for taking a decision as their results are not known.

Shekhar is looking to borrow money from a bank and the lack of funds is not an issue with him. Thus the financial capability of the entrepreneur is not the most important criterion.

A major deterrent in his decision is the property rates in different places. This makes real estate price a major criterion.

Hence, option E.