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## SECTION - I

## Verbal and Logical Ability

Number of questions: $\mathbf{2 4}$

1. A. This is Russia's Wild Weal, though the mountains lie la the south of Moscow and SL Petersburg.
B. The Caucasus range has throughout history held Russians, especially fierce nationalists like Solzhenitsyn in fear and awe.
C. Hera, between the Black and Caspian seas, is a land bridge where Europe gradually vanishes amid a six-hundred-mile chain of mountains as high as eighteen thousand feet mesmerizing in their spangled beauty, especially after the yawning and flat mileage of the steppe lands to the north,
D. Here, since the seventeenth century, Russian colonizers have tried to subdue congeries of proud peoples: Chechens, Ingush, Ossetes, Daghestanis, Abkhaz, Kartvelians, Kakhetians, Armenians, Azeris, and others.
E. Here, the Russians encountered Islam in both its moderation and implacability.

Which of the following options is the best logical order of the above statements?

1. A, B, C, D, E
2. B, C, A, D, E
3. B, D, C, A, E
4. C, A, B, D, E
5. D, E, C, A, B
6. A. The periodic table orders the elements in a way that helps to understand why atoms behave as they do.
B. The properties of the elements are due to electronic configuration, and their recurring pattern give rise to periodicity.
C. In other words, what gives the elements their properties and what order lies below the surface of their seemingly random nature?
D. What makes Fluorine read violently with Caesium white its nearest neighbour neon is reluctant to react with anything?

Which of the following options is the best logical order of the above statements?

1. A, B, C, D
2. A, D, C, B
3. B, C, A, D
4. C, D, B, A
5. D, C, A, B
6. Fragrant with steam
were the days and the nights red
with many braziers
in the beloved house 1 of my father, my mother.
Which of the following options is the closest expression of the poet's feeling?
7. The house was located in beautiful settings probably surrounded by flowers in the mountains.
8. The ancestral home was probably the most important house in the community.
9. The poet fondly recalls the pleasant climate enjoyed day and night.
10. The poet misses the braziers and steam she had enjoyed during her childhood.
11. Everything about the house felt special because of her parents love for her.

12. The current trend indicates that food and vegetable inflations continue la be pain points. Food inflation rose to 7.79 percent in June from 7.47 percent, and vegetable inflation rose to 14.74 percent from 10.85 percent. In the weeks ahead, the volatile food inflation will determine the course of overall inflation.

For RBI too, the trend is a concern since under the current agreement with the government, if the inflation exceeds II percent it will have to explain to the government why it could not be contained (the lower limit is 2 percent).

Which of the following options is the most appropriate?

1. The first paragraph states a cause and the second illustrates the effect.
2. The first paragraph provides information and the second highlights potential application of the information.
3. The first paragraph is an assertion and the second provides an illustration of that Assertion.
4. The first paragraph highlights inflation conditions and the second hints at RBI's inefficiency in managing the situation.
5. The first paragraph highlights pain points and the second contains a remedy for them.
6. The serious study of popular films by critics is regularly credited with having rendered obsolete a once-dominant view that popular mainstream films are inherently inferior lo an films. Yet the change of attitude may be somewhat $\qquad$ Although, it is now academically respectable to analyse popular films, the fact that many critics feel compelled to rationalize their own $\qquad$ action movies or mass-market fiction reveals, perhaps unwittingly, their continued $\qquad$ the old hierarchy of popular and art films.

Consider the following words:
A. unproductive
B. not appreciated
C. overstated
D. penchant for
E. dislike for
F. investment in
G. exposure lo

Which of the following options is the most appropriate sequence that Would meaningfully fit the blanks in the above paragraph?

1. A, E, G
2. C, B, G
3. C, D, F
4. D, E, F
5. F, C, A
6. Invisible atoms coming together

Revealing themselves in visible forms
Seeds are hugged by the earth
Which renders them as gardens in bloom
And yonder stars, arc they not pearls
Floating on teeming seas?
Scattered, yet strung together in orderly constellations
Love binding them lo one another
And each is perpetually seeking its like?

Which of the following options best captures the spirit of the above stanza?

1. Stars and seas are similar.
2. All rivers flow into the ocean.
3. United we stand, divided we fall.
4. Love dissolves all religious differences.
5. Something invisible binds disparate objects
6. Which of the following options is grammatically correct and meaningful?
7. I want to join an MBA college that is not only the best in the country but also provides the best campus jobs.
8. I want to join an MBA college that is not only the best in the country but also I can get good job.
9. I want to join an MBA college that is not only the best in the country hut also best in job.
10. I want to join an MBA college that is not only good but also I can get good job.
11. I want to join an MBA college that I found not only best in the country but also I can get good job.
12. On Friday morning, Dieting supplement sales Company Herbalife agreed to pay the US Federal Trade Commission a $\$ 200 \mathrm{~m}$ fine. The FTC said Herbalife cheated hopeful salespeople out of hundreds of millions of dollars with a high-pressure multi-level marketing scheme.

Herbalife's stock received an immediate $15 \%$ increase following the above news. The company also announced that it would hire a second former FTC commissioner in a press release describing the terms of the settlement.

Which of the following options would imply that the 15 percent increase in stock price is fair?

1. Cheating results in increase in the company's stock price.
2. When fraudulent companies are exposed, their stock price increases.
3. When fraudulent companies are caught, their stock price initially goes down,
4. Acknowledgement of deceit increases the stock price of companies'
5. Compliance with court order increases the company's stock price.
6. Worldwide, tomato $\backslash s$ one of the most important crops. Because this crop can be adapted for cultivation in various environments ranging from tropical to alpine regions, its cultivation area is now expanding worldwide into not so productive regions. On the other hand, traditional cultivation areas, the most favourable for tomato cultivation with warm and dry climate, me contracting. Every year, traditional cultivation areas lose 2 million hectares (ha) of land to environmental factors such as salinity, drought, and soil erosion.

Which of the following is the coned inference based on the above passage?

1. In recent years, per hectare production of tomato has increased worldwide.
2. In recent years, per hectare wastage of tomato has increased worldwide.
3. In recent years, per hectare production of tomato has decreased worldwide,
4. In recent years, per hectare wastage of tomato has decreased worldwide.
5. In recent years, per hectare production of tomato has remained the same worldwide.

6. Carefully read the statements below:
A. Chatterjee loves books; therefore, he reads them all the time.
B. Chatterjee loves books. Therefore, he reads them all the time.
C. Chatterjee loves books and, therefore, reads them all the time.

Which of the above statement(s) is (are) correct in grammar and meaning?

1. A only
2. B only
3. A and B only
4. B and C only
5. A, B \& C
6. Grotesque is related to Macabre in a similar way as
7. Classics is related to Ruins 2. History ii related to Palaeontology
8. Marriage is related to Funeral
9. Sorcery is related to Necromancy
10. Science is related to Thanatology

DIRECTIONS for question 12: Choose the option with all the correct words and their correct accent (underlined syllable) that fits the blanks.
12. The suspension of the captain may $\qquad$ the number of spectators, who turn up for this match.
Transportation costs will directly $\qquad$ the cost of retail goods.
Grandmother's advancing age could $\qquad$ her ability to take care of the house.
She $\qquad$ a Texan accent throughout the interview.

1. affect, effect, effect, effected
2. affect, effect, affect, affected
3. affect, affect, affect, affected
4. effect, affect, effect, effected
5. effect, affect, effect, affected

## DIRECTIONS for question 13 to 15: Analyse the passage below and answer the questions.

It's taken me 60 years, but I had an epiphany recently: Everything, without exception, requires additional energy and order to maintain itself. I knew this in the abstract as the famous second law of thermodynamics, which stales that everything is falling apart slowly. This realization is not just the lament of a person getting older. Long ago I learnt that even the most inanimate things we know ofstone, iron columns, copper pipes, gravel roads, a piece of paper-won't last very long without attention and fixing and the loan of additional order. Existence, it seems, is chiefly maintenance.

What has surprised me recently is how unstable even the intangible is. Keeping a website or a software program afloat is like keeping a yacht afloat. It is a black hole for attention, I can understand why a mechanical device like a pump would break down after a while-moisture rusts metal, or the air oxidizes membranes., or lubricants evaporate, all of which require repair. But 1 wasn't thinking that the nonmaterial world of bits would also degrade. What's to break? Apparently everything.

Brand-new computers will ossify, Apps weaken with use. Code corrodes. Fresh software just released will immediately begin to fray. On their own - nothing you did. The more complex the gear,

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the more (not less) attention it will require. The natural inclination toward change is inescapable, even for the most abstract entities we know of: bits.

And then there is the assault of the changing digital landscape. When everything around you is upgrading. Ibis puts pressure on your digital system and necessitates maintenance. You may not want to upgrade, but you must because everyone else is. It's an upgrade arms race.

I used to upgrade my gear begrudgingly (why upgrade if it still works?) and at the last possible moment. You know how it goes: Upgrade this and suddenly you need to upgrade that, which triggers upgrades everywhere. I would put it off for years because I had the experiences of one "tiny" upgrade of a minor pan disrupting my entire working life. But as our personal technology is becoming more complex, more co-dependents upon peripherals, more like a living ecosystem, delaying upgrading is even more disruptive. If you neglect ongoing minor upgrades, the change backs up so much that the eventual big upgrade reaches traumatic proportions So I now see upgrading a type of hygiene: You do it regularly to keep your tech healthy. Continual upgrades are so critical for technological systems that they are now automatic for the major personal computer operating systems and some software apps, Behind the scenes, the machines will upgrade themselves, slowly changing their features over time. This happens gradually, so we don't notice they are "becoming."

We lake this evolution as normal.
Technological life in the future will be a series of endless upgrades. And the rate of graduations is accelerating. Features shift, defaults disappear, menus morph. I'll open up a software package E don ${ }^{1}$ ) use every day expecting certain choices, and whole "menus will have disappeared.

No matter how long you have been using $a$ tool, endless upgrades make you into a newbie-the new user often seen as clueless. In this era of "becoming," everyone becomes a newbie. Worse, we will be newbies forever. Thai should keep us humble.

That bears repeating. All of us-every one of us-will be endless newbies in the future simply trying to keep up. Here's why: First most of the important technologies that will dominate life 30 years from now have not yet been invented, so naturally you'll be a newbie to Them. Second because the new technology requires endless upgrades, you will remain in the newbie state Third, because the cycle of obsolescence is accelerating (the average lifespan of a phone app is a mere 30 days!), you won't have time to master anything before it is displaced, so you will remain in the newbie mode forever, Endless Newbie is the new default for everyone, no matter your age or experience.
13. Which of the fallowing statements would the author agree with the most?

1. The second law of thermodynamics states that things need more energy as they separate.
2. When it comes to erosion, intangibles behave differently from tangible.
3. Degradation is no longer an option but an obligation.
4. Up-gradation though simple is disruptive.
5. In the next thirty years, one's experience in up-grading will be greatly valued.
6. Which of the following quotes would the author agree with the most?
7. Life is like riding a bicycle. In order to avoid felling, you must keep moving.
8. The only thing constant in life is change.

9. You must be the change you wish to see in the world.
10. If you do not change you will be changed.
11. What we can't cure we must endure.
12. The CEO of a technology company was thinking of the following policies.
A. Life time employment
B. Promotion based on seniority
C. Hire new competent employees and fire old incompetent employees
D. Regular training and retraining

If a CEO were to consult the author of the passage, which of the above policies should (he author recommend?

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

## DIRECTIONS for question 16 to 17: Analyse the passage below and answer the questions

Writing is both my vocation and my avocation: that's all I do.
You may wonder why I should write a genealogy. Well, to begin with my story is interesting. And, next, I am a mystery more so than a tree or a sunset or even a flash of lightning. But, sadly, I am taken for granted by those who use me, as if I were a mere incident and without background. This supercilious altitude relegates me to the level of the commonplace. This is a species of the grievous error in which mankind cannot too long persist without peril. For, as a wise man, G. K.Chesterton observed, "We are perishing for want of wonder, not for want of wonders."

I, simple though I appear to be, merit your wonder and awe, a claim I shall attempt to prove. In fact, if you can understand me-no, that's too much to ask of anyone - if you can become aware of the miraculousness that I symbolize, you can help save the freedom mankind is so unhappily losing. I have a profound lesson to teach. And I can teach this lesson better than an automobile or on airplane or a mechanical dishwasher because - well, because I am seemingly so simple.

Simple? Yes not a single person on the face of this earth knows how to make me. This sounds fantastic, doesn't it? Especially when you realize that there are about one and one -half billion of my kind produced in the U.S. each year.

Pick me up and look me over. What do you see? Not much meets the eye - there's some wood, lacquer, the printed labeling, graphite lead, a bit of metal, and an eraser.
16. 'I' in the passage, most likely, refers to:

| 1. the author of the passage | 2. a geometry box |
| :--- | :--- |
| 3. a study table 4. a pencil <br> 5. the evolution of a book  |  |

17. A "supercilious attitude" in this passage implies;
18. Failure to perceive the mystery of the sunset.
19. Arrogance of treating all simple things as trivial

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20. Lack of curiosity in seeking the mystery behind the lightning.
21. A tendency to break down intricacies of creation into its simple parts.
22. Prosaic attitude immune to the mysteries world

DIRECTIONS for question 18 to 20: Analyse the passage below and answer the questions 18-20 that follow:

Some psychologists and sociologist believe that psychopathy can be an asset in business and politics and that, as a result psychopathic traits are overrepresented among successful people. This would be a puzzle if $n$ were so. If our moral feelings evolved through natural selection, then it shouldn't be the case dial one would flourish without them. And, in fact, the successful psychopath is probably the exception. Psychopaths have certain deficits. Some of these are subtle. The psychologist Abigail Marsh and her colleagues find that psychopaths are markedly insensitive to the expression of fear. Normal people recognize fear and treat it as a distress cue, but psychopaths have problems seeing it, let alone responding to it appropriately. Other deficits run deeper. The overall lack of moral sentiments-and specifically, the lack of regard for others-might turn out to be the psychopath's downfall. We non-psychopaths are constantly assessing one another, looking for kindness and shame and the like, using this information to decide whom to trust, whom to affiliate with. The psychopath has to pretend to be one of us. But this is difficult. It's hard to force yourself to comply with moral rules just through a rational appreciation of what you are expected to do. [f you feel like strangling the cat, it's a struggle to hold back just because you know that it is frowned upon. Without a normal allotment of shame and guilt, psychopaths succumb to bad impulses, doing terrible things out of malice, greed, and simple boredom. And sooner or later, they get caught. While psychopaths can be successful in the short term, they tend to fail in the long term and often end up in prison or worse. Let's take a closer look at what separates psychopaths from the rest of us. There are many symptoms of psychopathy, including pathological lying and lack of remorse or guilt, but the core deficit is indifference toward the suffering of other people. Psychopaths lack compassion. To understand how compassion works for all of us non-psychopaths, it's important to distinguish it from empathy. Now, some contemporary researchers use the terms interchangeably, but there is a big difference between caring about a person (compassion) and putting yourself $m$ the person's shoes (empathy).

I am too much of an adaptationist to think that a capacity as rich as empathy exists as a freak biological accident. It most likely has a function, and the most plausible candidate here is that it motivates us to care about others. Empathy exists to motivate compassion and altruism. Still, the link between empathy (in the sense of mirroring another's feelings) and compassion (in the sense of feeling and acting kindly toward another) is more nuanced than many people believe. First, although empathy can he automatic and unconscious-a crying person can affect your mood, even if you're not aware that This is happening and would rather it didn't-we often choose whether to empathize with another person. So when empathy is present, it may be the product of a moral choice, not the cause of it. Empathy is also influenced by what one thinks of the other person. Second, empathy is not needed to motivate compassion. As the psychologist Steven Pinker points out, "If a child has been frightened by a barking dog and is howling in terror, my sympathetic response is not to howl in terror with her, but to comfort and protect her." Third, just as you can have compassion without empathy, you can have empathy without compassion. You might feel the person's pain and wish to slop feeling it-but choose to solve the problem by distancing yourself from that person instead of alleviating his or her suffering. Even otherwise good people sometimes turn away when faced with depictions of pain and suffering in faraway lands, or when passing a homeless person on a city street.

18. The core deficit of Psychopaths affects their long term success because

1. they cannot sustain the behaviour.
2. they arc less likely to succeed as HR managers than as finance managers.
3. they cannot hide their lack of compassion for long.
4. empathy is essential for long term success.
5. natural selection enables moral feelings.
6. Which of the following options is correct according to the author?
7. Compassion exists for a reason.
8. Empathy is a chance event.
9. Empathy is the cause of moral choice.
10. Caring for others is psychopathy.
11. Long term success in business is a freak accident.
12. A student approached a faculty pleading to increase his marks because failure in one more subject will result in the student having to leave the program. The faculty said, "I am sorry. But I cannot change your grades as it would be unfair to others" In the given circumstance, which of the following best describes the faculty?
13. The faculty is a psychopath.
14. The faculty was compassionate.
15. The faculty was both empathetic and compassionate but unfair
16. The faculty displayed empathy but not compassion.
17. The faculty displayed compassion but not empathy.

DIRECTIONS for question 21 to 24: Analyse the passage below and answer the questions 18-20 that follow:

Every age has its pet contradictions, A few decades back, we used lo accept Marx and Freud together, and then wonder, like the chameleon an the turkey carpet, why life was so confusing. Today there is similar trouble over the question whether there is, or is not, something called Human Nature, On the one hand, there has been an explosion of animal behavior studies, and comparisons between animals and men have become immensely popular. People use evidence from animal? (o decide whether man is naturally aggressive, or naturally territorial; even whether he has an aggressive or territorial instinct. Moreover, we are still much influenced by Freudian psychology, which depends on the notion of instinct On the other hand, many still hold what may be called the Blank Paper view, that man is a creature entirely without instincts. So do Existentialist philosophers. If man has no instincts, all comparison with animals must be irrelevant. (Both these simple party lines have been somewhat eroded over time, but both are still extremely influential.)

According to the Blank Paper view, man is entirely the product of his culture. He starts off infinitely plastic, and is formed completely by the society in which he grows up. There is then no end to the possible variations among cultures; what we take to be human instincts are just the deep-dug prejudices of our own society. Forming families, -fearing the dark, and jumping at die sight of a spider are just results of out conditioning. Existentialism at first appears a very different standpoint, because the Existentialist asserts man's freedom and wilt not let him call himself a product of anything. But Existentialism too denies that man has a nature; if he had, his freedom would not be complete. Thus Sartre insisted that "there is no human nature.... Man first of all exists, encounters

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himself, surges up in the world, and defines himself afterwards. If man as the Existentialist sees him is not definable, it is because to begin with he is nothing. He will not be anything until later, and then he will be what he mates himself" For Existentialism there is only the human condition, which is what happens to man and not what he is born like. If we are afraid of the dark, it is because we choose to be cowards: if we care more for our own children than for o(her people's, it is because we choose to be partial. We must never talk about human nature or human instincts. This implicit moral notion is still very influential, not at all confined to those who use the metaphysic of essence and existence. So I shall sometimes speak of it, not as Existentialist, but at libertarian-meaning that those holding it do not just (like alt of us) think liberty important, but think it supremely important and believe that our having a nature would infringe it.

Philosophers have not yet made much use of informed comparison with other species as a help in the understanding of man. One reason they have not is undoubtedly the fear of fatalism. Another is the appalling way terms such as instinct and human nature have been misused in the past. A third is the absurdity of some ethological propaganda.
21. A business school led by an existentialist director, warned to decide on admission policy for its executive MBA program, which requires candidates to possess minimum five years of managerial experience.
With respect to the selection process, which of the following statements will be closest to the director's belief:

1. Tenth standard matte should he given highest weightage.
2. Twelfth standard marks should be given highest weightage.
3. Marks scored in the engineering college should be given highest weightage.
4. Marks scored by the candidate in all previous examinations be given equal weightage.
5. Recent work experience and contribution to the organization should be given highest weightage.
6. Which of the following statements would the author agree with the most?
7. Existentialism can be extended to Libertarianism.
8. Existentialism and Libertarianism are the same.
9. Existentialism encompasses Liberlarianism.
10. Animal behaviour should not be compared with human behaviour.
11. Liberty and existentialism are unrelated,
12. Who among the following, as staled in the third paragraph, would the author be the most sympathetic to?
13. PETA (People for the ethical treatment of animals) activists.
14. Save the tiger activists
15. Architect
16. Physicists
17. Zoologists
18. Which sentence in the passage distances man from 'nature', the most?
19. The sixth sentence of the first paragraph.
20. The sentence of the second paragraph.
21. The sentence third from the last in the passage.
22. The sentence second from the last in the passage.
23. The last sentence of the passage.


## SECTION - II

## DECISION MAKING ABILITY

## Number of questions: 21

DIRECTIONS for question 25 to 26: Analyse the following caselet and answer the questions.
Vimla is the domestic help for Shreya and her neighbour Padma; both live in a posh gated community- Vimla not only cleans the house, but also cooks for both the families. Shreya treasures Vimla ever since she joined her family four years ago, Vimla joined Padma's household this year.
25. One evening Shreya trying to pay the pizza delivery was surprised to find a few five hundred rupee notes missing from her purse that she was sure were there earlier She wants to ascertain if someone has stolen the money. On reflecting, the following facts crossed her mind:
A. In the last one year, Shreya had noticed cash missing on three occasions.
B. Shreya's husband also shared that a few notes were missing train his wallet, though he was not sure if they were stolen.
C. Her eldest son had been pestering Shreya for more pocket money for the last three weeks; in the last few days, he had stopped doing so.
D. In the last one year, Vimla had received six mails from her family asking for money.
E. Her eldest son's expenditure had gone up in the last few days.

Which of the following combinations of the above statements would DECREASE the likelihood that Vimla has stolen the money?

1. A and C
2. A and D
3. A and E
4. B and D
5. C and E
6. Padma discovered some money missing from her purse. She suspects that Vimla has stolen it. She wants to prevent the stealing from happening again and is contemplating the following actions;
A. She should let it pass, since lo err is human
B. She should confront Vimla and tell her that she knows the truth and the act is unpardonable regardless of her past service and she is thinking of terminating her services.
C. She should tell Vimla that she is aware someone has stolen money from the house but is not sure who it is.
D. She should share with Vim la that neighbours think Vimla has stolen the money though she doesn't, but is interested in finding out the Truth.
E. She should directly ask Vimla if she stole the money, promising her no punishment if she confesses.

Arrange the following combinations of the above actions in the DECREASING order of appropriateness.

1. A, E, D
2. $\mathrm{B}, \mathrm{D}, \mathrm{A}$
3. B, E, D
4. C, E, D
5. E, B, D

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DIRECTIONS for question 27: Analyse the following caselet and answer the questions.
6. Genius Consul ring is a boutique consulting firm started by Shirish, Balram. Rahman and Xavier, four friends from a premier business school. They committed themselves to abide by two principles: a) not to indulge in anything unethical and b) share earning equally.

Genius Consulting could not get a significant project till the following year, when they managed a big one after Rahman's father referred their firm to his top management. Convinced of the team's talent following an impressive presentation, the lop management awarded them the project even though six other referred teams made presentations.

The day following the presentation, they met to decide the way forward for the organization. Which of the following choices would be the most appropriate for Genius Consulting?

1. As this project violates both their principles. Genius consulting should not take up the project.
2. Due to the violation of the first principle Genius consulting should not take up this project.
3. They should take up the project. Further, since Rahman had agreed to equal sharing, he is not entitled to finder's fee.
4. They should take up the project and as the referral helped them survive, Rahman should be paid tinder's fee.
5. They should take up the project. But in order not to violate the principles, Rahman can be paid finder's fee this year and an equal amount be deducted from his compensation the next year.

## DIRECTIONS for question 28-30: Analyse the following caselet and answer the questions.

Mrs Biswas was to retire in one year after serving in the construction department of the Gujarat government for more than thirty years. After retirement, she wanted to spend her retired life along with Mr Biswas, a retired school teacher in a small town in Kerala, They had two children, both studying in Bengaluru, the Biswas' wished to construct a house in Kerala with their life savings.

The couple gathered information about owning a house in Kerala. They had four options:
A. Buy a fully furnished house from a big developer.
B. Buy a semi-furnished house from a big developer and furnish it,
C. Get a local unregistered contractor to construct a house and furnish it
D. Mr Biswas wish inpuis from the family could supervise the construction of a house back in Kerala by employing the best material, engineers, masons and labourers.
28. Which option would ENSURE die best control of quality of construction for the Biswas'?

1. The first option would ensure the best quality.
2. The second option would ensure the best quality.
3. The third option would ensure the best quality.
4. The fourth option would ensure the best quality.
5. Any of the options will equally ensure the best quality.
6. Which of the following additional information, IF TRUE, would improve the chances of the third option being preferred?
7. Based on the current information, with no additional information, the third is the best option.
8. Among local property holders, the contractor in the third option enjoys a good reputation.
9. Big developers are less open to changes in design.
10. Mr Biswas cannot stay back atone to supervise the construction.
11. The Biswas' want to select the furniture on their own.

12. The Kerala Government recently announced a policy: In case of major quality infringement, the builder will pay a penalty of $50 \%$ of the price of the house in addition to the price of The house, to the client within a year of notice.

Rank in ASCENDING order the options that would ensure "control of quality".

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

## DIRECTIONS for question 31-32: Analyse the following caselet and answer the questions.

A pastor bad eaten at a restaurant with his troupe of ten and his family. II is a norm to tip the waiter and about $20 \%$ of a waiter's salary comes from these lips. However, while paying the bill, the pastor crossed out the automatic $18 \%$ lip charged for parties of more than eight and wrote "I give God $10 \%$ why do you get $18 \%$ ?" above his signature. The chagrined waitress at the restaurant posted a photo of this on the social media- She was subsequently fired for violating company's policy on customer privacy.

This would have been understandable if the restaurant had not posted just 2 weeks ago \& customer receipt that was complimenting them. Social media and social activists came heavily upon the management's ambivalent stand and the firing of the waitress. In response, the company posted a note on their social media page defending their actions. This quickly drew over 10,000 comments, mostly negative, lo which the management started responding by posting the same note over and over again. There were also accusations of the company deleting negative comments and blocking users.

The restaurant also experienced a sizable drop in their footfall.
31. Who/what is the main cause for the situation becoming unmanageable?

1. The pastor for flouting the norm of restaurant.
2. The waitress for violating customer privacy.
3. The management for not taking action against the pastor.
4. The management for giving out disproportionate punish merit to waitress.
5. The management for removing negative comments from the social media.
6. The downward spiral continued for the restaurant as the management persisted in defending their actions and argued with those who criticised them. By the following week, the original post had generated over 18,000 negative comments.

Which of the following is the best way forward for the restaurant at this juncture?

1. Unconditionally restore the waitress lo her former position and salary on the ground that she was never at fault in the first place.
2. Apologise to and reinstate the waitresss and ask her to apologize for her breach of customer privacy and post both the apologies on social media.
3. Reinstate the waitress provided she apologies for her breach of customer privacy and post that apology on"1he restaurant's social media page.
4. Reinstate the waitress if and only if she apologizes for her breach of customer privacy and posts that apology on her social media page.
5. Recruit two waitresses at a higher wage but stick to the original decision of firing the waitress.

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DIRECTIONS for question 33-34: Analyse the following caselet and answer the questions.
A college campus with a population of around 2,000 of whom 200 were children. 1,200 people between 15 and 45 years, 500 people between 45 and 65 and around 100 people more than 65 years of age. The campus has two big gates opening out to the city. There are 400 cars and 500 motorbikes inside the campus. The residents relied on these vehicles to visit the city located 10 kilometres away.

Now, with land within the campus becoming scarce, the chief administrator (CA) found the growing demand for parking lot difficult to handle. The faculty, staff and students wanted increased parking space. In the past six years, the parking requirement on campus had doubled. The CA found it inappropriate to construct parking lots from the students' fee, even though those with vehicles may not complain about it.

Besides creating parting problems, the CA felt that these vehicles added to the pollution and made residents less responsible towards each other. The risk to the children and the elderly because of over-speeding was menacing. Therefore, the CA wanted to reduce the number of vehicles in the campus Many faculty members, students and staff members, however, fell that demand for more parking space was natural as vehicles were required to go the market, railway station, airport, and inter-state bus terminal all located in the city. They also told the CA that the elderly, sick and the toddlers relied only on these vehicles.

After listening to all stakeholders the CA wanted to solve these problems while ensuring the campus remained responsible and green.
33. Which of the following actions would best satisfy all the stakeholders within the campus?

1. Levy extra fee on students to construct additional parking Tots inside the campus. Students should pay for up-keep of the campus.
2. Let all vehicles be parked in a college-managed space outside the campus while two battery operated vehicles handle exigencies inside the campus.
3. Bring all stakeholders to the discussion table
4. To reduce carbon footprints, only pooled vehicles should be allowed to operate inside the campus.
5. Charge significant fee from any vehicle entering or leaving the campus
6. Which of the following would be the best option to increase revenue» decrease carbon footprint and still satisfy all the stakeholders in the campus?
7. Make substantial collection from vehicles entering or leaving campus and construct a parking lot outside the campus.
8. Levy extra fee on the students and build extra parking lots inside the campus
9. Bring all stakeholders to table and lei them build consensus
10. To reduce the carbon footprint, only pooled vehicles be permitted on campus
11. Let all vehicles be parked in $u$ managed space outside the campus while battery operated vehicles parked at the two gales can be used inside the campus

DIRECTIONS for question 35-36: Analyse the following caselet and answer the questions.
Girirajan an unemployed youngster from Kumbakonam, Tamilnadu, visited Singapore where his school friend worked as software engineer. In Singapore, Girirajan realized that there were a lot of Tamils in "Little India" area. He soon assessed that there were very few restaurants serving authentic Tamil food and decided to set-up a restaurant "Giri's" in "Little India" serving authentic Tamil food in traditional banana leaf Customers loved the food. Very soon word spread about the good quality food served in die traditional way. Girirajan expanded operation recruiting 10 employees, all Tamils.


Six months later, Girirajan realized that a lot of Kannadiga and Telugu customers started visiting the restaurant along with their Tamil friends. One day, a Kannadiga customer looking for Devangere Benne Dosa suggested that it may not be a bad Idea for Girirajan to serve Karnataka Andhra cuisines along with Tamil.

With time, the popularity of the restaurant kept soaring. As a result, a lot of Malays, Indonesians and Chinese started visiting the restaurant. His software engineer friend advised to cater to customers of all nationalities. Despite his desire to go grand, Gtrirajan realized he did not have enough money to gee extra apace anywhere in Singapore and banks were also reluctant to lend.

One day, while assessing the business, he realized that the restaurant had $90 \%$ occupancy rate during peak hour and $40 \%$ during the non-peak hours. Both figures were increasing with time.
35. Which of the following options would be most suitable for the growth of the business?

1. Include Karnataka and Andhra cuisines in the menu
2. Include Indonesian and Chinese Cuisines in the menu
3. Keep the focus on Tamil food only with an increased focus on quality Improvement.
4. Expand to include either Karnataka and Andhra cuisines or Indonesian and Chinese
5. Include Karnataka and Andhra cuisines as well as Indonesian and Chinese.
6. Girirajan started analysing his quarterly customer data to assess growth opportunities. He discovered that $20 \%$ of his customers are Kannadigas and many of them were requesting for a few Karnataka dishes. He was not sure if it was a good idea to serve Karnataka food. He wanted to experiment before taking the final call, Which of the following options will be worth experimenting in the next fortnight?
7. Introduce a Karnataka food day every week to please the Kannadiga customers.
8. Recruit a few Kannadiga waiters to interact with Kannadiga customers.
9. Rename a few Tamil dishes as Karnataka dishes.
10. Serve Karnataka dishes as and when requested by customers without the menu displaying these dishes.
11. Add a few Karnataka dishes to the cuisine and display these in a separate menu.
12. Girirajan experimented with Karnataka food for a fortnight He collected sales data for Karnataka food along with the trend of overall sales for the last seven days. Which of the following datasets. IF TRUE, will give Girirajan greater confidence to continue serving Kamalaka food? (Figures below represent Karnataka food sales as percentage of total sales)
13. I4, $15,16,17,18,19,20$, with total sales trend increasing by $0.4 \%$,
14. $20.20,20,20,20,20,20$, with total sales trend increasing by $0.4 \%$.
15. $50,47,44,40,47,45,40$, with total sales trend remaining same.
16. $45,44,43,42,41,40,39$, with total sales trend remaining same
17. $20,50,10,45,43, \mathrm{H}, 36$, with total sales trend coming down.

## DIRECTIONS for question 38-40: Analyse the following caselet and answer the questions.

A University coach was asked to select teams in three sports: Shooting, Cricket (batsmen only) and "Snakes \& Ladder". The honest and keen observer head boy of the school informed the coach that he had observed 100 students playing the three games - shooting, cricket and ${ }^{\wedge}$ Snakes \& Ladder". In shooting, all students were given 100 chances to hit a target. In cricket, a batsman faced a maximum of 100 balls, provided he DID NOT GET OUT. In "Snakes \& Udder", every student could play 100 matches, one each with the other students and one against a computer. In shooting, a player got one point for missing it. In "Snakes \& Ladder", a person got one point for winning the game and zero for losing. To the coach's utter surprise, the distribution of points across all three games was the same. It was as follows:
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| Points scored | Number <br> students |
| :---: | :---: |
| $0-9$ | 1 |
| $10-19$ | 8 |
| $20-29$ | 5 |
| $30-39$ | 15 |
| $40-49$ | 20 |
| $50-59$ | 20 |
| $60-69$ | 13 |
| $70-79$ | 7 |
| $80-89$ | 9 |
| $90-99$ | 2 |

The coach has to select a team of eleven in each sport.
38. Which of the following options is the best way to select the "Snakes \&. Ladder" team?

1. The coach must select all students between 80 and 99 .
2. The coach must select both the students between 90 and 99 .
3. The coach must select at least 6 students between 40 and 59 .
4. The coach must not select students between 0 and 9 .
5. The coach can ignore the data in the table and randomly pick any 11 players.
6. Which of the following options is the best way of selecting the Shooting team?
7. The coach should select all students in $80-99$ ranges.
8. The coach should select both the students in 90-99 range; others can be from any of the other ranges
9. The coach should select at least 6 students between 40 and 49 .
10. The coach should not select students between 40 and 89 .
11. The coach can pick randomly any 11 players from any of the ranges.
12. Which of the following options is the correct statement for picking up the cricket team?
13. The coach should never select the player in the range of $0-9$ points.
14. The coach should never select players from the range of 50-59.
15. The coach should never select players from the range of 70-79.
16. The coach should definitely select players only front the range of 80-99.
17. None of the above.

## DIRECTIONS for question 41: Analyse the following caselet and answer the questions.

41. As a newly started organization in the IT sector, Saksha IT is a fast growing 400 employee organization. Its head, Saksha Kumar believes in building an organization driven by humility. Which of the following policies would best help him achieve that?
42. Employees shall, in their annual evaluation form, be asked to acknowledge three of their shortcomings, overcoming which will make them better.
43. Employees shall be asked to share with their peers three shortcomings they had noticed about their peers.
44. The immediate superiors would suggest three shortcomings their subordinates have to work on in a given period.
45. Everyone beginning with Saksha, shall be asked to share three of their weaknesses, in a public forum.
46. Employees shall be asked to overcome three shortcomings in the following year, Improvement, if noticed would attract rewards.


## DIRECTIONS for question 42: Analyse the following caselet and answer the questions.

42. Principal Maheswari BINK School of Management is facing a problem that calls for quick action. She received an anonymous mail one day, possibly from one of the students, complaining about outdated syllabi, mediocre teachers and poor choice of courses on offer.

Which of the following is the best course of action available to the Principal?

1. She should invite students to discuss any problem openly, one on one or in small groups, promise to act on them but firmly condemn the culture of anonymous mails.
2. She should update the students about the efforts the institute is taking in sprucing up the syllabi, hiring talented faculty etc, but make no reference to the letter.
3. She should convenes meeting of the faculty at the earliest and gel them to work on updating the syllabi and also arrange a faculty development program but keep mum about the letter.
4. She should convenes meeting of the faculty and talk about the letter as a symptom of a deeper malaise, ask them to update the syllabi and also organize faculty development program.
5. She should ignore the letter and no! think about it all.

## DIRECTIONS for question 43 to 45: Analyse the following caselet and answer the questions.

Shyam prepares and sells piping hot puri and sabji (gravy) from 7:00 am to 9:00 am (both inclusive) through a stall at XLRI campus. Presently, he has just a single oven, which can do only one job at a time. It takes 30 minutes to cook one handi (a large bowl) of sabji, sufficient for 12 customers. It takes him 10 minutes to prepare 2 plates of puri at a time. While the cost of a plate of puri-sabji is Rs. 10 the price is Rs. 25 . Puri stays hot for only 5 minutes after preparation, while sabji stays hot for 30 minutes only. It takes 10 minutes to reheat the sabji which slays hot for another 30 minutes. If he brings a handi of hot sabji from home, the transport would cost him Rs. 50. It can also stay hot for 30 minutes excluding the transportation time. Currently, every 20 minutes five plates are ordered. All unsold quantities are distributed at cost after 9:30 am.
43. Find the maximum number of plates of puri-sabji Shyam can sell in the first hour of business?
1.6
2. 8
3. 10
4. 12
5. 15
44. Shyam's puri-sabji became famous. Now he gets 5 orders per 10 minutes and has invested in an additional oven. As he is working alone on both the ovens simultaneously, now in any one oven it takes him 45 minutes to cook one handi of sabji. 15 minutes for 2 plates of puri and 15 minutes to reheat the sabji. He can bring only one handi from home. What will he his maximum daily profit?

1. Rs. 250
2. Rs. 280
3. Rs. 300
4. Rs. 330
5. Rs. 360
6. Shyam's stall was becoming popular by the day. Now be gets 5 customers every 10 minutes. After buying a second oven, he employed $a$ helping hand, Aman at Rs. 100 for two hours. Aman can cook one handi of sabji in 20 minutes or can prepare 3 plates of puri in 10 minutes. Reheat time for sabji is 10 minutes. None of them can work on both the ovens simultaneously.

Which of the following options will help Shyam maximize his daily profit, if he does NOT bring sabji from home?

1. Shyam should dismiss Aman because his wages are more than the benefits he brings.
2. Shyam will prepare only puri and Aman will prepare only sabji.
3. Shyam will prepare only sabji and Aman will prepare only puri.
4. Shyam and Aman will prepare both pun and sabji.
5. Options B, C and D will yield the same profit.

## SECTION - III

DATA INTERPRETATION AND
Number of questions: 27 QUANTITATITVE ABILITY
46. The sum of series, $(-100)+(-95)+(-90)+\ldots \ldots \ldots+110+115+120$, is:

1. 0
2. 220
3. 340
4. $\quad \mathrm{AB}$ is a chord of a circle. The length of AB is $24 \mathrm{~cm} . \mathrm{P}$ is (he midpoint of AB . Perpendiculars from P on either side of the chord meets the circle at M and N respectively. If $\mathrm{PM}<\mathrm{PN}$ and $\mathrm{PM}=8 \mathrm{~cm}$. then what will be the length of PN?
5. 17 cm
6. 18 cm
7. 19 cm
8. 20 cm
5.21 cm
9. If $x$ and $y$ are real numbers, the least possible value of the expression.
$4(x-2)^{2}+4(y-3)^{2}-2(x-3)^{2}$ is:
10. -8
11. -4
12. -2
13. 0
14. 2
15. Four two-way pipes $A, B, C$ and $D$ can cither fill an empty tank or drain the full tank in $4,10,12$ and 20 minutes respectively. All four pipes were opened simultaneously when the tank is empty. Under which of the following conditions the tank would be half filled after 30 minutes?
16. Pipe A filled and pipes B, C and D drained
17. Pipe $A$ drained and pipes $B, C$ and $D$ filled
18. Pipes A and D drained and pipes B and C filled
19. Pipes A and D felled and pipes B and C drained
20. None of the above
21. A shop, which sold same marked price shirts, announced an offer - if one buys three shirts then the fourth shirt is sold at a discounted price of Rs. 100 only. Patel took the offer. He left the shop with 20 shirts after paying Rs. 20,000. What is the marked price of a shirt?
22. Rs. 1260
23. Rs. 1300
24. Rs. 1350
25. Rs. 1400
26. Rs. 1500
27. The volume of a pyramid with a square base is $200 \mathrm{~cm}^{3}$. The height of the pyramid is 13 cm . What will be the length of the slant edges (i.e. the distance between the apex and any other vertex), rounded to the nearest integer?
28. 12 cm
2.13 cm
29. 14 cm
30. 15 cm
31. 16 cm
32. A dice is rolled twice. What is the probability that the number in the second roll will be higher than that in the first?
33. $5 / 36$
34. $8 / 36$
35. $15 / 36$
36. $21 / 36$
37. None of the above

38. If $f(x)=a x+b$, $a$ and $b$ are positive real numbers and if $f(f(x))=9 x+8$, then the value of $a+b$ is:
39. 3
40. 4
41. 5
42. 6
43. None of the above
44. Arup and Swarup leave point A at 8 AM to point B. To reach B, they have to walk the first 2 km , then travel 4 km by boat and complete the final 20 km by car. Amp and Swarup walk al a constant speed of 4 km and $5 \mathrm{~km} / \mathrm{hr}$ respectively. Each rows his boat for 30 minutes. Arup drives his car at a constant speed of $50 \mathrm{~km} / \mathrm{hr}$ while Swarup drives at $40 \mathrm{~km} / \mathrm{hr}$. If no lime is wasted in transit when will they meet again?
45. At 9.15 AM
46. At 9.18 AM
47. At 9.21 AM
48. At 9.24 AM
49. At 9.30 AM
50. Hari's family consisted of his younger brother (Chari), younger sister (Gouri), and their father mother. When Chari was born, the sum of the ages of Hari, his father and mother was 70 years. The sum of the ages of four family members, at the time of Gouri's birth, was twice the sum of ages of Hari's father and mother at the time of Hari's birth. If Chari is 4 years older than Gouri, then find the different in age between Hari and Chari.
51. 5 years
52. 6 years
53. 7 years
54. 8 years
55. 9 years
56. In a True/False quiz, 4 marks are awarded for each correct answer and 1 mark is deducted for each wrong answer. Amit, Benn and Chitra answered the same 10 questions, and their answers we given below in the same sequential order.

| AMIT | T | T | $\underline{\mathrm{F}}$ | $\underline{\mathrm{F}}$ | T | T | $\underline{\mathrm{F}}$ | T | T | $\underline{\mathrm{F}}$ |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| BENN | T | T | T | $\underline{\mathrm{F}}$ | $\underline{\mathrm{F}}$ | T | $\underline{\mathrm{F}}$ | T | T | $\underline{\mathrm{F}}$ |
| CHITRA | T | T | T | T | $\underline{\mathrm{F}}$ | $\underline{\mathrm{F}}$ | T | $\underline{\mathrm{F}}$ | T | T |

If Amit and Benn both score 35 marks each then Chitra's score will be;

1. 10
2. 15
3. 20
4. 25
5. None of the above
6. In a class of 60 , along with English as a common subject, students can opt to major in Mathematics. Physics, Biology or b combination of any two. 6 students major in both Mathematics and Physics, 15 major in both Physics and Biology, but no one majors in both Mathematics and Biology. In an English test, the average mark scored by students majoring in Mathematics is 45 and that of students majoring in Biology is 60, However, the combined average mart in English, of students of these two majors, is 50. What is the maximum possible number of student* who major ONLY in Physics?
7. 30
8. 25
9. 20
10. 15
11. None of the above
12. If $5^{0} \leq x^{0} \leq 15^{0}$, then the value of $\sin 30^{\circ}+\cos x^{0}-\sin x^{0}$ will be:
$\begin{array}{ll}\text { 1. Between }-I \text { and }-0.5 \text { inclusive } & \text { 2. Between }-0.5 \text { and } 0 \text { inclusive } \\ \text { 3. Between } 0 \text { and } 0.5 \text { exclusive } & \text { 4. Between } 0.5 \text { and I inclusive }\end{array}$
13. None of the above
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14. If $\mathrm{N}=\left(11^{\mathrm{P}+7}\right)\left(7^{\mathrm{q}-2}\right)\left(5^{\mathrm{r}+1}\right)\left(3^{\mathrm{s}}\right)$ is a perfect cube, where $\mathrm{p}, \mathrm{q}, \mathrm{r}$ and s are positive integers, then the smallest value of $\mathrm{p}+\mathrm{q}+\mathrm{r}+\mathrm{s}$ is:
15. 5
16. 6
3.7
17. 8
5.9
18. An institute has 5 departments and each department has 50 students. If students are picked up randomly from all 5 departments to form a committee, what should be the minim him number of students in the committee so that at least one department should have representation of minimum 5 students?
19. 11
20. 15
21. 21
22. 41
23. None of the above
24. $A B, C D$ and EF are three parallel lines, in that order. Let $d_{1}$ end $d_{2}$ be the distances from $C D$ to $A B$ and EF respectively. $\mathrm{d}_{1}$ and $d_{2}$ are integers, where $\mathrm{d}_{1}: \mathrm{d}_{2}=2: 1, \mathrm{P}$ is a point on $\mathrm{AB}, \mathrm{Q}$ and S are points on $C D$ and $R$ is a point on $F-F$, If the area of the quadrilateral $P Q R S$ is 30 square units, what is the value of QR when value of SR is the least?
25. slightly less than 10 units
26. 10 units
27. slightly greater than 10 units
28. slightly less than 20 units
29. slightly greater than 20 units
30. $A B C D$ is a rectangle $P, Q$ and $R$ are the midpoint of $B C, C D$ and $D A$. The point $S$ lies on the line $Q R$ in such a way that $\mathrm{SR}: \mathrm{QS}=1: 3$. The ratio of the triangle APS and rectangle ABCD is
31. $36 / 128$
32. $39 / 128$
33. $44 / 128$
34. $48 / 128$
35. $64 / 128$

DIRECTIONS for question 63 to 64: Study the data given En the caselet below and answer the questions.

In an innings of a T20 cricket match (a team can bowl for 20 overs) 6 howlers bowled from the fielding side, with a bowler allowed maximum of 4 overs. Only the three specialist bowlers bowled their full quota of 4 overs each, and the remaining 8 overs were shared among three non-specialist bowlers. The economy rates of four bowlers were $6,6,7$ and 9 respectively. (Economy rate is the total number a/runs conceded by - a bowler divided by the number of overs bowled by that bowler). This however, does not include the dab of the best bowler (lowest economy rate) and the worst bowler (highest economy rate). The number of overs bowled and the economy rate of any bowler are in integers.
63. Read the two statements below;

S1: The worst bowler did not bowl the minimum number of overs.
S2; The best bowler is a specialist bowler.
Which of the above statements or their combinations can help arrive at the mini mum number of overs bowled by a non-specialist bawler?

1. S1 only.
2. S2 only
3. Either S1 or S2.
4. S1 and S2 in combination.
5. The minimum number of overs can be determined without using S1 or S2.

6. Read the two statements below:

S1. The economy rates of the specialist bowlers are lower than that of the non-specialist bowlers.
S2. The cumulative runs conceded by the three non-specialist bowlers were 1 more than those conceded by the three specialist bowlers.

Which of the above statements or their combinations can help arrive at the economy rate of the worst bowler?

1. S1 only.
2. S2 only
3. Either S1 or S2.
4. S1 and S2 in combination.
5. The economy rate can be calculated without using S1 or S2.

DIRECTIONS for question 65 to 68: Analyse tht graph talon and answer the question.
The grid below captures relationships among seven personality dimensions: "extraversion", "true_arousal_plac", "true_arousal_caff", "arousal_plac", "arousal_caff", "performance_plac", and "performance_caff". The diagonal represents histograms of the seven dimensions. Left of the diagonal represents scatterplots between the dimensions while the right of the diagonal represents quantitative relationships between the dimensions. The lines in the scatterplots are closest approximation of the points. The value of the relationships to the right of the diagonal can vary from -1 to +1 , with -1 being the extreme linear negative relation and +1 extreme linear positive relation. (Axes of the graph are conventionally drawn)

65. Which of the following is true?

1. "Extraversion" has two modes.
2. Median for "arousal _plac" is definitely the same as its average.
3. Median for "arousal_caff' is definitely higher than its average.
4. Median for "performance_plac" is definitely lower than its average.
5. Median for "performance_caff" is definitely lower than its average.

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66. Which of the scatterplots shows the weakest relationship?

1. Between "extraversion" and "performance_caff"
2. Between true_arousal_plac" and "arousal_plac"
3. Between "true_arousal_plac" and "performance
4. Between "true_arousal_caff" and "performance_caff"
5. Between "arousal_caff" and "performance_caff"
6. In which of the following scatterplots, the value of one dimension can be used to predict the value of another, as accurately as possible?
7. "extraversion" and "true_arousal_caff"
8. "true_arousal_plac" and "arousal_plac"
9. "true_arousal_plac" and "performance_plac"
10. "true_arousal_plac" and "performance_caff"
11. All the above are irrelevant relations
12. Which of the following options is correct?
13. 0.93 on the right side of the diagonal corresponds 10 the third scatterplot in the fourth row
14. 0.94 on the right side of the diagonal corresponds 10 the second scatterplot in the fourth row.
15. 0.38 is the relationship between "extraversion" and "true_arousal_plac"
16. "arousal_caff" and "performance_caff" are positively related.
17. The line that captures relationship between "arousal_caff" and "arousal_plac" can be denoated by equation: $y=a-b x$, where $b>0$.

DIRECTIONS for question 69 to 72: Study the paragraph below and answer the questions 69-72 thai follow:

Abdul has 8 factories, with different capacities, producing boutique kurtas. In the production process, he incurs raw material cost selling cost (for packaging and transportation) and labour cost. These costs per kurta vary across factories. In all these factories, $a$ worker takes 2 hours to produce a kurta. Profit per kurta $\backslash s$ calculated by deducing raw material cost, selling cost and labour cost from the selling price (Profit $=$ selling price - raw materials cost - selling cost - labour cost). Any other cost can he ignored.

Exhibit: Business Details of Abdul's 8 Factories

|  | Production <br> Capacity | Selling <br> Price/Kurta | Profit/Kurta | Selling <br> Cost/Kurta | Labour <br> Cost/Hour |
| :--- | :--- | :--- | :---: | :---: | :---: |
| \# | (No. of Kurtas) | Rs. | Rs. | Rs. | Rs. |
| Factory 1 | 2500 | 4800 | 775 | 60 | 450 |
| Factory 2 | 1500 | 5300 | 800 | 45 | 400 |
| Factory 3 | 800 | 5800 | 900 | 60 | 550 |
| Factory 4 | 1000 | 5500 | 800 | 68 | 450 |
| Factory 5 | 1500 | 5400 | 600 | 75 | 600 |
| Factory 6 | 1100 | 6000 | 875 | 65 | 400 |
| Factory 7 | 2500 | 4900 | 500 | 85 | 350 |
| Factory 8 | 2000 | 5300 | 600 | 70 | 420 |

69. Which of the following options is in decreasing order of raw materials coal?
70. Factory 3, Factory 4, Factory 7, Factory 5
71. Factory 4, Factory 3, Factory 2, Factory 5
72. Factory 6, Factory 3. Factory 5, Factory 7
73. Factory 6, Factory 8, Factory 7, Factory 2
74. Factory 8, Factory 3, Factory 2, Factory 4

75. Which of the factories listed in the options below has the lowest sales margin (salts margin = profit per kurta divided by selling price per kurta)?
76. Factory 2
77. Factory 4
78. Factory 5
79. Factory 6
80. Factory 7
81. Abdul has received an order for 2,000 kurtas from a big retail chain. They will collect the finished pre-packaged kurtas directly from the factories, saving him the selling cost. To deliver this order, he can use multiple factories production. Which of the following options will ensure maximum profit from this order?
82. Factory 1
83. Factories 2 and 3
84. Factories 4 and 6
85. Factories 3, 6 and 4
86. Factory I or Factory 7 or Factory 8
87. Abdul has introduced $s$ new technology in all his factories. As a result, a worker needs just 1.5 hours to produce a kurta. If raw materials cost and selling cost remain the same, which of the factories listed in the option below will yield the highest profit per kurta?
88. Factory 2
89. Factory 3
90. Factory 4
91. Factory 5
92. Factory 6
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## SECTION - IV

## GENERAL AWARNESS

Number of questions: $\mathbf{2 5}$
73. In which of the following countries is Tamil an official language?

1. Andaman
2. Burma
3. Singapore
4. Both C \& D above
5. Sri Lanka
6. The International Court of Justice is located in:
7. Geneva
8. The Hague
9. Munich
10. New York
11. Washington DC
12. Which of the following countries is not a member of SAARC?
13. Bhutan
14. Myanmar
15. Bangladesh
16. Nepal
17. The Maldives
18. Which of the following institutions are related to the Bretton Woods Agreement?
19. International Labour Organization
20. International Monetary Fund
21. World Bank
22. World trade Organization
23. Both B \& C
24. In India, February $28^{\text {th }}$ is celebrated as:

| 1. Army Day | 2. International Yoga Day |
| :--- | :--- |
| 3. National Integration Day | 4. National Science Day |
| 5. Sadbhavana Divas |  |

78. Barak 8 is:
79. The $8^{\text {th }}$ president of USA.
80. A surface-to-air missile jointly developed by India and Israel
81. A total of 8 mines of Coal and Iron Ore in Barakar, near Jharkhand.
82. 8 villages, where only renewable energy is used, at the bank of Barak river, South Assam.
83. Eight tribes, all living in Barak Valley of Assam
84. Which of the followings is the oldest mountain range?
85. Himalaya
86. Nilgiri Hills
87. Satpura
88. Karakoram
89. Aravalis
90. The words "Satyameva Jayate", inscribed on Indian currency are taken from:
91. Mahabharat
92. Mundak Upanishad
93. Rigveda
94. Shakuntala
95. A passage to India
96. Who directed the Oscar winning film "Gandhi"?
97. Ben Kingsley
98. Richard Attenborough
99. David Lean
100. Ritwik Ghatak
101. Frank Darabont

2067
82. Which of the following options is a MISMATCH?

1. Andersen Consulting::Accenture
2. Isis Chocolates::Libeert
3. Brad's Drink::Pepsi
4. Quantum Computer Services :: AOL Inc.
5. Bearing Point:: KPMG Consulting Inc.
6. Which of the following companies is listed in the Fortune Global 500 Companies, in 2016 ?
7. GAIL (India) Limited
8. Oil and Natural Gas Corporation Limited (ONOQ)
9. Patanjali
10. Rajesh Exports
11. Tata Consultancy Services
12. Which of the following brands is NOT currently owned by an Indian company?
13. Allen Solly
14. Dettol
15. La Opala
16. Monte Carlo
17. Royal Enfield
18. Some of the famous battles arc listed below:
19. The Battle of Cajamarca
20. The Battle of Huai-Hai
21. The Battle of Plassey
22. The Battle of Stalingrad
23. The Battle of Waterloo
24. The Battle of Yorktown

Which of the followings is the correct chronological order of the above battles?

1. 1-2-3-4-5-6
2. 1-2-6-3-5-4
3. 1-3-6-5-4-2
4. 2-1-3-6-4-5
5. 2-6-1-3-4-5
6. Which of the followings is a WRONG combination?
7. Maldives - Maldivian Rupee
8. Bangladesh - Bangladeshi Taka
9. Bhutan - Bhutanese Ngultrum
10. East Timor - US Dollar
11. Indonesia - Indonesian Rupiah
12. Which of the following is $a$ WRONG combination?
13. Willis Haviland Carrier- Microwave compatible Tiffin Carrier
14. Alexander Bell - Telephone
15. Alfred Nobel - Dynamite
16. Elisha Graves Otis - Safety Elevator
17. John Boyd Dunlop - Pneumatic Tyre
18. Which of the following banks is recently in the news because its employees opened Additional relationship accounts without its customer's permission?
19. Citibank
20. HSBC
21. Standard Chartered
22. Wells Fargo
23. Bank of Nova Scotia
24. Which of the followings is in the outermost reaches of the solar system?
25. Orion Nebula
26. Andromeda Galaxy
27. Oort Cloud
28. Asteroid belt
29. Interstellar wormhole
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30. Which Cult television series celebrated its $50^{\text {th }}$ anniversary in 2016 ?
31. Frasier
32. That 70's Show
33. Veep
34. Star Trek
35. Buniyaad
36. Bogota, Lima and Quito are the capitals of:
37. Colombia, Peru and Ecuador respectively
38. Warsaw, Madrid and Montevideo respectively.
39. Brazil, Paraguay, and Argentina respectively.
40. Nigeria, Sudan and Zimbabwe respectively.
41. None of the above
42. The Yazidis are:
43. Mythological creatures in the Bible
44. Mystery creatures sighted in the Greenland
45. Ethnic and religious minority in Iraq
46. Members of a Islamic sect in Hungary
47. Ethnic and religious minority in Pakistan
48. Where is Hadrian's Wall located?
49. China
50. Afghanistan
51. Rome
52. England
53. Ladakh
54. Which of the following animals' conservation status was changed from "endangered" to "vulnerable" by WWF recently?
55. Giant panda
56. Tigers
57. Orangutan
58. Asian Elephant
59. Blue Whale
60. In which of the following countries, both the tropic of Capricorn and the Equator pass through?
61. Brazil
62. Argentina
63. Peru
64. Chile
65. Venezuela
66. Which of the following novelists has won the Booker Prize?
67. Ruskin Bond
68. R.K.Narayan
69. Amitav Gosh
70. Anita Desai
71. Kiran Desai
72. Rodrigo Duterte is associated with which of the following nations?
73. USA
74. Russia
75. Philippines
76. Indonesia
77. Vietnam

| $\begin{gathered} \text { Set } \\ \text { an } \end{gathered}$ | Key | Explanations |
| :---: | :---: | :---: |
| 1. | D | The situation of Europe is explained in sentence 3; hence, it should be the opening line. In continuation to this, "North" takes the idea forward in sentence 1 . Sentence 2 talks about the specific range where Russians were held and in contrast to this, 4-5 explain how Russians dealt with the situation. The correct order is 31245 . |
| 2. | B | 1 Introduces the idea and 4-3 take it forward by citing an example. 2 explain the reason for the same. Hence, the correct order is 1432. |
| 3. | E | The author feels nostalgic about the days spent in and memories of the beloved house (of her parents) which is clearly expressed in option $E$. |
| 4. | D | The first paragraph talks about inflation and the second is demanding explanation from RBI which is best expressed by option D |
| 5. | C | The previous thought about dominant view has been rendered obsolete. The first hint is 'yet' so the new view is 'overstated'. Another hint is 'although' the critics are compelled to rationalize their 'liking for' or 'penchant for' action movies etc. The last blank should have 'investment in'. |
| 6. | E | As per the lines 'love binding them together' and the context of the passage the answer option that reflects this essence is option E . |
| 7. | A | As per the rule of grammar: with "not only", "but also" is used. Also, the subject should remain either before or after this mandatory pair. Hence, option A satisfies the above rule. |
| 8. | D | As they are hiring a commissioner to have second take on entire matter so option D seems to be appropriate. Also there is no mention of 'court', so option E is not implied. |
| 9. | C | As per the last few lines there is loss of cultivation area so per hectare production has decreased worldwide. |
| 10. | E | All the three given sentences are correct. |
| 11. | D | The 2 words in the question are synonyms and a similar relation is found in option D. |
| 12. | C | "Affect" is a verb and "effect" is a noun. The correct usage here in all of the blanks is for affect. Hence, option C is the correct answer |
| 13. | C | The central idea of the passage is that one has to keep improving in order to survive. Hence, option C is the answer. |
| 14. | B | As per the context of the passage and essence shown throughout the 'change 'seems to be inevitable. This is reflected in option B. |
| 15. | D | Only options $3^{\text {rd }}$ and $4^{\text {th }}$ highlight constant improvement, hence, option D is the correct answer. |
| 16. | D | The passage describes a pencil. Words like, graphite, lead etc. highlight it. So, answer is D. |
| 17. | B | The word, supercilious denotes an attitude which is demeaning. |
| 18. | C | It has been mentioned that in the longer run, the psychopaths fail to hide their lack of compassion as they are driven by instinct. So, option C is the correct answer. |
| 19. | A | Refer to the first two lines of the $2^{\text {nd }}$ paragraph which explains that compassion exists for a reason. |
| 20. | E | The behavior of the faculty is not empathy; however, he did show his concern. |
| 21. | E | A director who is existential in approach will negate conditioning and will focus on the current performance which makes E as the best choice. |
| 22. | C | Libertarianism is subsumed in existentialism and the latter cannot be extended to the former. |
| 23. | A | The author will most sympathetic to PETA activist as per the last paragraph. The author should be sympathetic to people who stand by the processes which advocate the ethical treatment of animals. Option 2 is too narrow to be considered the correct answer. |
| 24. | D | The mentioned sentence highlights the fact that "human nature and instinct" have been correlated unnecessarily. |
| 25. | E | Only the $3^{\text {rd }}$ and the $5^{\text {th }}$ options weaken the notion of Vimla's having stolen the money. |
| 26. | E | The most appropriate action is only confirming or questioning. Hence, our answer option should start with $5^{\text {th }}$ option. |
| 27. | D | Referring may not be considered as unethical. Further, Rahman should be paid his fee. Therefore, option 4 is the best choice. |
| 28. | D | It is understandable that the supervision by the family would ensure the best quality. Hence, option D is the best answer. |
| 29. | B | If the local contractor enjoys a good reputation, only then Mrs. Biswas will trust a local contractor to construct the house. |
| 30. | C | We need to with the least appropriate option. In that situation, blindly trusting a local contractor will be the worst possible option. Thus, the answer option has to start with option 3. |
| 31. | D | The passage highlights the unfair punishment as the cause of all the turmoil. Therefore, option D is the best answer. |
| 32. | B | Both parties have breached the code. Therefore, apologies by both should settle the dispute. Further, the reinstatement of the waitress would ensure that the public is also pacified. |
| 33. | B | This will take care of problems stated in the passage as pollution will be less, parking space can be managed and any emergency can also be taken care of. |
| 34. | A | Considerable collection from vehicles will certainly increase the revenue and decrease pollution inside the campus. Hence, A should be the best choice. |
| 35. | A | A lot of people from Karnataka and Andhra visit the place. Thus, option 1 should support the business as he does not have the resources to expand so best is option A as this can be managed within existing resources. |
| 36. | E | Because of the strength of Karnataka customers, this experiment is worthwhile being made. |
| 37. | A | An increase in sales percentage and overall sales would increase Girirajan's confidence in the business. |



| 38. | E | Since winning or losing in Snakes \& Ladder game is matter of luck, thus the coach can ignore the data in the table and randomly pick any 11 players. |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 39. | A | Since results of shooting are completely dependent on skills of a shooter, thus the results must be fair and the coach should select all students in 80-99 ranges. |  |  |  |
| 40. | E | In cricket, a batsman may or may not face all 100 balls (being out before completion of 100 balls). Thus a batsman, who is otherwise playing good, may be out before completion of 100 balls and his exact performance may not be evident from the table. Thus, nothing definite can be said regarding the selection of cricket players. |  |  |  |
| 41. | A | The first option denotes a step taken by the organization to ensure humility among employees. Hence, A is the correct option. |  |  |  |
| 42. | C | All the problems such as up gradation of syllabus, faculty development and also keeping the option of anonymous feedback open |  |  |  |
| 43. | C | We assume that 1st handi of subzi is sourced from home. Now this can cater to 12 customers but subject to how many puris can be made within the first hour. Now, after 30 min we need to reheat the subzi for 10 min . So in that time no puris can be made, hence decreasing the number of puris by 2 giving the maximum plates to be $12-2=10$ |  |  |  |
| 44. | B | Oven | Puri/Sabzi | Time Slot | No. of plates |
|  |  | 1 | Puri | 7:00 to 7:15 | 2 |
|  |  | 2 | Puri | 7: 00 to 7: 15 | 2 |
|  |  | 1 | Puri | 7:15 to 7:30 | 2 |
|  |  | 2 | Puri | 7:15 to 7:30 | 2 |
|  |  | 1 | Subzi (Reheat) | 7:30 to 7: 45 | - |
|  |  | 2 | Puri | 7:30 to 7: 45 | 2 |
|  |  | 1 | Subzi (Cook) | 7:45 to 8:30 | - |
|  |  | 2 | Puri | 7:45 to 8: 00 | 2 |
|  |  | First handi finished |  |  | 12 |
|  |  | 2 | Puri | 8:15 to 8:30 | 2 |
|  |  | 1 | Puri | 8:30 to 8:45 | 2 |
|  |  | 2 | Puri | 8:30 to 8:45 | 2 |
|  |  | 1 | Puri | 8:45 to 9:00 | 2 |
|  |  | 2 | Puri | 8:45 to 9:00 | 2 |
|  |  |  |  |  | 10 |
|  |  | Hence, grand total of plates $=12+10=22$ <br> Now, profit $=15 \times 22=330-50($ Transport cost $)=280$ |  |  |  |
| 45. | D | Since Aman is more efficient, thus he should make sabji while Shyam should make puri. Thus, for first 20 minutes, Aman will make sabji and Shyam will make puri in last 10 min , (of first 20 min . slot) so that reheating of puri is not required. Now, after this, both should simultaneously make puri in 2 ovens at their own rate for next 10 min . (because sabji is still available, no need to make more sabji). Thus, it can be safely concluded that to maximize profits, Aman should be doing both the jobs and hence the best choice will be option (D). |  |  |  |
| 46. | D | $(-100)+(-95)+(-90)+$ $110+115+120$ <br> Let the no. of terms be n <br> So $-100+(n-1) 5=120 \times \Rightarrow n=45$ <br> Hence sum $=\frac{45}{2}(-100+120)=450$ |  |  |  |
| 47. | B | Using the formula $\mathrm{AP} \times \mathrm{PB}=\mathrm{PM} \times \mathrm{PN}$ We get $12 \times 12=8 \times P N \Rightarrow P N=18 \mathrm{~cm}$ |  |  |  |
| 48. | B | $\begin{aligned} & 4(\mathrm{x}-2)^{2}+4(\mathrm{y}-3)^{2}-2(\mathrm{x}-3)^{2} \\ & \Rightarrow 4\left(\mathrm{x}^{2}+4-4 \mathrm{x}\right)+4(\mathrm{y}-3)^{2}-2\left(\mathrm{x}^{2}-6 \mathrm{x}+9\right) \end{aligned}$ |  |  |  |



|  |  | $\begin{aligned} & \Rightarrow 4 \mathrm{x}^{2}+16-16 \mathrm{x}+4(\mathrm{y}-3)^{2}-2 \mathrm{x}^{2}+12 \mathrm{x}-18 \\ & \Rightarrow 2 \mathrm{x}^{2}-4 \mathrm{x}-2+4(\mathrm{y}-3)^{2} \\ & \Rightarrow 2\left(\mathrm{x}^{2}-2 \mathrm{x}\right)+4(\mathrm{y}-3)^{2}-2 \\ & \Rightarrow 2\left(\mathrm{x}^{2}-2 \mathrm{x}+1\right)+4(\mathrm{y}-3)^{2}-4 \\ & \Rightarrow 2(\mathrm{x}-1)^{2}+4(\mathrm{y}-3)^{2}-4 \end{aligned}$ <br> This is minimum when $x=1 \& y=3$. Hence min value is -4 |
| :---: | :---: | :---: |
| 49. | A | $\mathrm{A} \rightarrow 4 \mathrm{~min}, \mathrm{~B} \rightarrow 10 \mathrm{~min}, \mathrm{C} \rightarrow 12 \mathrm{~min}, \mathrm{D} \rightarrow 20 \mathrm{~min}$ <br> Going by options, we see that $1^{\text {st }}$ option satisfies the given condition as $\frac{1}{4}-\frac{1}{10}-\frac{1}{12}-\frac{1}{20}$ $=\frac{15-6-5-3}{60}=\frac{1}{60}$. So tank is filled in 60 min . Hence it would be half-filled in 30 min |
| 50. | B | Let MP of shirt =x <br> So as per question, $(3 \mathrm{x}+100) 5=20000$ <br> $\Rightarrow 3 x+100=4000 \Rightarrow 3 x=3900 \Rightarrow x=1300$ |
| 51. | C | Volume of Pyramid $=\frac{1}{3} \times$ areaof base $\times$ height $\Rightarrow \frac{1}{3} \times \mathrm{a}^{2} \times \mathrm{h}=200 \Rightarrow \mathrm{a}^{2}=\frac{200 \times 3}{13}=\frac{600}{13}$ <br> Also, Area of square (base) $=a^{2}=\frac{1}{2} d^{2}$ $\begin{aligned} & \Rightarrow \mathrm{d}^{2}=2 \times \mathrm{a}^{2}=\frac{1200}{13} \\ & \Rightarrow \mathrm{~d}=\sqrt{\frac{1200}{13}} \Rightarrow \frac{\mathrm{~d}}{2}=\sqrt{\frac{1}{4} \times \frac{1200}{13}}=\sqrt{\frac{300}{13}} \\ & =\sqrt{13^{2}+\frac{\mathrm{d}^{2}}{4}}=\sqrt{169+\frac{300}{13}}=\sqrt{\frac{2497}{13}} \cong \sqrt{192} \cong 14 \mathrm{~cm} \end{aligned}$ |
| 52. | C | No. in the $2^{\text {nd }}$ roll higher than $1^{\text {st }}$. To satisfy this condition, we take any 2 nos. out of total 6 numbers on the dice. Hence favourable cases $={ }^{6} \mathrm{C}_{2}=15$. Total 36 cases possible in this case. So reqd. probability $=\frac{15}{36}$. |
| 53. | C | If $f(x)=a x+b$ <br> Then, $\mathrm{f}(\mathrm{f}(\mathrm{x}))=\mathrm{a}(\mathrm{ax}+\mathrm{b})+\mathrm{b}$ <br> Thus, $a^{2} x+a b+b=9 x+8$ <br> Comparing coefficients of x and constant term, we get $\mathrm{a}^{2}=9 \Rightarrow \mathrm{a}= \pm 3$ <br> and $\mathrm{ab}+\mathrm{b}=8 \Rightarrow \mathrm{~b}=2$ or -4 . <br> Thus , $\mathrm{a}+\mathrm{b}$ can be $3+2=5$ or $-3+(-4)=-7$. <br> Hence, option (c) is the correct answer |
| 54. | D | 2 km 4 km 20 km <br> walk boat car   <br> A   <br> Walking speed of A $=4 \mathrm{kmph}$   <br> Walking speed of $\mathrm{S}=5 \mathrm{kmph}$   <br> Time taken by A to walk $2 \mathrm{~km}=30 \mathrm{~min}$   |

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|  |  | Time taken by A to ride by car $=24 \mathrm{~min}$ <br> Let's consider person S <br> Time taken by S to walk $2 \mathrm{~km}=24 \mathrm{~min}$ <br> Time taken by $S$ to ride by car $=30 \mathrm{~min}$ <br> So Total journey time for both $=30+24+30=84 \mathrm{~min}$ <br> Hence they would be together at B at $9: 24$ AM |
| :---: | :---: | :---: |
| 55. | E | When Hari was born, let's assume age of father was F and mother was M. When Chari was born (after x years of Hari), the age of Hari $=x$ years $\Rightarrow x+(F+x)+(M+x)=70$ <br> When Gouri was born (further after 4 years), then Ages of 4 family members $=2 \times$ (Ages of father $\&$ mother at Hari's birth) $\begin{aligned} & (x+4)+4+(F+x+4)+(M+x+4)=2(F+M) \\ & \Rightarrow 3 x+16=F+M----(2) \end{aligned}$ <br> Putting value of $(F+M)$ from eqn. (2) to eqn (1), we get $\begin{aligned} & \Rightarrow 3 x+3 x+16=70 \\ & \Rightarrow 6 x=54 \Rightarrow x=9 \text { years } \end{aligned}$ <br> Thus difference in age between Hari and Chari is 9 years. |
| 56. | A | A \& B both score 35 marks <br> Let's say both got $x$ correct and $y$ wrong. <br> So $4 x-y=35 \& x+y=10 \Rightarrow x=9, y=1$ <br> So both A \& B got 9 questions correct and 1 question wrong. So we can see that C got 4 questions correct (Q1, 2, 3, 9) <br> Hence score of $\mathrm{C}=4 \times 4-6=10$. |
| 57. | D | Total strength $=60$ <br> Average marks in Math's $=45$ <br> Average marks in Biology $=60$ (Combined Average marks $=50$ ) <br> Let the no. of students in Maths \& Biology are in the ratio x :y <br> So $\mathrm{x}: \mathrm{y}=60-50: 50-45=10: 5 \Rightarrow 2: 1$ <br> So let's make venn diagram : <br> Since Math has twice the number of students as Biology. So Math's has $30 \&$ Biology has 15 people. Hence Physics only can have maximum $60-(30+15)=15$ people. |
| 58. | E | Let take x as $5^{0}$ <br> So $\cos 5^{0}$ would be very close to 1 and $\sin 5^{0}$ would be very close to 0 . So difference is a higher value ( $<1$ ) but close to it. When $\sin 30^{\circ}=\frac{1}{2}$ is added to this, the value crosse s 1 . <br> Hence none of the options match |
| 59. | E | $\mathrm{N}=\left(11^{\mathrm{P}+7}\right)\left(7^{\mathrm{q}-2}\right)\left(5^{\mathrm{r}+1}\right)\left(3^{\mathrm{s}}\right)$ <br> If $N$ is a perfect cube, then min. positive values of $p, q, r, s$ would be $p=2, q=2, r=2$ and $s=3$. So smallest value of $p+q$ $+r+s=2+2+2+3=9$ |
| 60. | C | For representation of minimum 5 students from atleast one department, assume that first 5 students are selected, one from each department. Similarly, next 3 sets of 5 students will be selected ( 3 from each department). Now, 4 students are selected from each department. As soon as one more student is selected from any department, the representation of that department will be of 5 students. Hence, minimum 21 students should be in the committee. |


| 61. | E | SR is least <br> If SR is least, it means $\mathrm{SR}=1$. Let's take $\mathrm{QS}=\mathrm{x}$. Also $\mathrm{PQ}=2$. Hence $\frac{1}{2} \times \mathrm{x} \times 2+\frac{1}{2} \times \mathrm{x} \times 1=30 \Rightarrow \mathrm{x}=20$. So $\mathrm{QR}=\sqrt{20^{2}+1^{2}}=\sqrt{401}$ <br> This value is slightly greater than 20 units. |
| :---: | :---: | :---: |
| 62. | A |  <br> Area of $\triangle \mathrm{APS}=$ Area of rectangle ABCD-Area $\triangle \mathrm{APB}$-Area $\triangle \mathrm{QPC}$-Area $\triangle \mathrm{DQR}$-Area $\triangle$ ARS-Area $\triangle P Q S$ Let's assume the dimensions of rectangle $A B C D$ as length, $A B=32$ and width $B C=24$ <br> Thus, Area $\triangle$ APS $=32 \times 24-\frac{1}{2} \times 32 \times 12-\frac{1}{2} \times 16 \times 12-\frac{1}{2} \times 16 \times 12-\frac{1}{4}$ Area $\triangle \mathrm{ARQ}-\frac{3}{4}$ Area $\Delta$ PRQ --- <br> (1) <br> Now, Area $\triangle A R Q=$ Area of rectangle $A D Q E-$ Area of $\triangle D R Q$-Area $\triangle A Q S$ $\begin{aligned} & =16 \times 24-\frac{1}{2} \times 16 \times 12-\frac{1}{2} \times 24 \times 16 \\ & =384-96-192=96 \end{aligned}$ <br> And Area $\triangle \mathrm{PRQ}=$ Area of rectangle CDRP-Area $\triangle \mathrm{DRQ}$-Area $\triangle \mathrm{PQC}=12 \times 32$ - $=12 \times 32-\frac{1}{2} \times 12 \times 16-\frac{1}{2} \times 12 \times 16=384-96-96=192$ <br> Thus, from equation (i), we have <br> Area $\triangle$ APS $=768-192-96-96-\frac{3}{4} \times 192-\frac{1}{4} \times 96=384-144-24=216$ <br> Thus required ratio $=\frac{\text { Area } \triangle \mathrm{APS}}{\text { Area } \triangle \mathrm{ABCD}}=\frac{216}{32 \times 24}=\frac{216}{768}=\frac{36}{128}$. Hence option $(\mathrm{A})$ |
| 63. | E | Overs bowled by specialist bowlers $=12$. Overs bowled by non specialist bowlers $=8$. <br> Since there are 8 overs, so maximum a bowler can bowl is 3 overs. So $3,3,2$ is the only breakup of 8 overs. Hence non specialist bowler can bowl a minimum of 2 overs. Hence statement $S_{1}$ or $S_{2}$ are not required. |
| 64. | D | Economy rates are $6,6,7,9$ which exclude worst bowler and best bowler. As per $S_{1}$, Economy rates of specialist bowlers are lower than that of non-specialist bowlers so let's take economy rates of specialist bowlers as 5, 6 and 6 . Hence their cumulative runs would be $(5 \times 4)+(6 \times 4)+(6 \times 4)=68$ <br> As per $S_{2}$, cumulative runs for non specialist bowlers $=69$. And their economy rates are 7, 9 . Let's take economy rate of worst bowler be x <br> So $(7 \times 3)+(9 \times 2)+(x \times 3)=69 \Rightarrow x=10$ <br> If we take economy rate of best bowler as 4 or less, then economy rate of worst bowler is obtained as less than 9 . This violates the given condition. Hence the case solved above is absolutely correct. <br> So we can find the economy rate of worst bowler using both the statements. Hence answer is option D. |



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| 65. | D | Option A is incorrect as "extraversion" has 3 modes instead of 2 and among the remaining options graph values of "performance plac" are very much clear and further its median is 1.75 and average is 2.55 . Hence median of this parameter is definitely lower than its average .Hence option D is the answer |
| :---: | :---: | :---: |
| 66. | A | The scatter plot is most scattered between "extraversion" and "performance caff" among the given options. Hence it shows the weakest relationship. Hence option A is the answer |
| 67. | C | Among the given option the scatter plot between "true arousal plac" and "performance plac" is least scattered and as we can clearly find the relation between these two parameters at any point. Hence the value of one dimension can be used to predict the value of another, as accurately as possible. Hence option C |
| 68. | B | .94 on the right side is between "true arousal plac" and "arousal plac" which on the left side correspond to the second scatter plot in the fourth row. Hence option B is the answer. |
| 69. | A | $\begin{aligned} & \text { Raw material cost for various factories are : } \\ & \mathrm{F}_{2}=5300-800-45-2(400)=3655 \\ & \mathrm{~F}_{3}=5800-900-60-2(550)=3740 \\ & \mathrm{~F}_{4}=5500-800-68-2(450)=3732 \\ & \mathrm{~F}_{5}=5400-600-75-2(600)=3525 \\ & \mathrm{~F}_{6}=6000-875-65-2(400)=4260 \\ & \mathrm{~F}_{7}=4900-500-85-2(350)=3615 \\ & \mathrm{~F}_{8}=5300-600-70-2(420)=3790 \end{aligned}$ <br> Hence option A is correct |
| 70. | E | Lowest sales margin(For each factory) $\mathrm{F}_{2}=\frac{800}{5300}, \mathrm{~F}_{4}=\frac{800}{5500}, \mathrm{~F}_{5}=\frac{600}{5400}, \mathrm{~F}_{6}=\frac{875}{6000}, \mathrm{~F}_{7}=\frac{500}{4900}$ <br> Out of all these values, the lowest value is of $\mathrm{F}_{7}$. Hence E option |
| 71. | D | Selling cost is not to be added. So that would also be added to the profit. So let's solve it by options. $\begin{aligned} & \mathrm{F}_{1} \rightarrow \text { Profit }=775+60=835 \\ & \mathrm{~F}_{2} \& \mathrm{~F}_{3} \rightarrow \text { Profit }=800+45=845\left(\mathrm{~F}_{2}\right) \\ & \text { Profit }=900+60=960\left(\mathrm{~F}_{3}\right) \\ & \mathrm{F}_{4} \& \mathrm{~F}_{6} \rightarrow \text { Profit }=800+68=868\left(\mathrm{~F}_{4}\right) \\ & \text { Profit }=875+65=940\left(\mathrm{~F}_{6}\right) \\ & \mathrm{F}_{3}, \mathrm{~F}_{6}, \mathrm{~F}_{4} \rightarrow \mathrm{~F}_{3}(\text { profit })=960 \\ & \mathrm{~F}_{6}(\text { profit })=940 \\ & \mathrm{~F}_{4} \text { (profit) }=868 \\ & \text { It can't be } \mathrm{F}_{1} \text { or } \mathrm{F}_{7} \text { or } \mathrm{F}_{8} \\ & \text { As profit for } \mathrm{F}_{7}=500+85=585 \\ & \text { Profit for } \mathrm{F}_{8}=600+70=670 \end{aligned}$ <br> Since the profit margins are highest in $\mathrm{F}_{3} \& \mathrm{~F}_{6}$ and together they can produce 1900 kurtas, thus the maximum profit will be from factories $\mathrm{F}_{3}, \mathrm{~F}_{4} \& \mathrm{~F}_{6}$. Hence option D |
| 72. | B | As per new technology, now worker needs 1.5 hrs to produce a kurta Since labour cost for half an hour is decreased, So that value can be added to net profit. So let's find net profit for these factories: $\begin{aligned} & \mathrm{F}_{2}=800+\frac{400}{2}=1000 \\ & \mathrm{~F}_{3}=900+\frac{550}{2}=1175 \\ & \mathrm{~F}_{4}=800+\frac{450}{2}=1025 \\ & \mathrm{~F}_{5}=600+\frac{600}{2}=900 \\ & \mathrm{~F}_{6}=875+\frac{400}{2}=1075 \end{aligned}$ <br> So highest profit per Kurta is for $\mathrm{F}_{3}$ |



General Awareness Section

| Set A | Key |
| :--- | :--- |
| $\mathbf{1 .}$ | E |
| $\mathbf{2 .}$ | B |
| $\mathbf{3 .}$ | B |
| $\mathbf{4 .}$ | E |
| $\mathbf{5 .}$ | D |
| $\mathbf{6 .}$ | B |
| $\mathbf{7 .}$ | E |
| $\mathbf{8 .}$ | B |
| $\mathbf{9 .}$ | B |
| $\mathbf{1 0 .}$ | B |
| $\mathbf{1 1 .}$ | B |
| $\mathbf{1 2 .}$ | B |
| $\mathbf{1 3 .}$ | C |
| $\mathbf{1 4 .}$ | A |
| $\mathbf{1 5 .}$ | A |
| $\mathbf{1 6 .}$ | D |
| $\mathbf{1 7 .}$ | C |
| $\mathbf{1 8 .}$ | D |
| $\mathbf{1 9 .}$ | A |
| $\mathbf{2 0 .}$ | C |
| $\mathbf{2 1 .}$ | C |
| $\mathbf{2 2 .}$ | A |
| $\mathbf{2 3 .}$ | A |
| $\mathbf{2 4 .}$ | E |
| $\mathbf{2 5 .}$ | C |

