

(Key and Solutions for AIMCAT1801)

Key

SECTION – I

1. C	8. A	15. A	22. C	29. 35214
2. D	9. B	16. B	23. A	30. 5
3. B	10. B	17. 5	24. B	31. 1532
4. C	11. D	18. B	25. 2415	32. 51324
5. D	12. B	19. B	26. 24153	33. 4
6. A	13. D	20. C	27. 3	34. 1
7. C	14. C	21. D	28. 5312	

SECTION – II

1. 38	8. D	15. C	22. D	29. B
2. 109	9. C	16. C	23. D	30. C
3. 144	10. A	17. C	24. A	31. B
4. 0	11. B	18. 95	25. D	32. D
5. B	12. A	19. 250	26. A	
6. 4	13. B	20. 99	27. B	
7. A	14. D	21. B	28. C	

SECTION – III

1. A	8. D	15. 5	22. D	29. A
2. C	9. A	16. 7733256	23. D	30. B
3. D	10. B	17. D	24. 15	31. C
4. A	11. 42	18. 2938	25. C	32. B
5. C	12. C	19. B	26. A	33. D
6. 36	13. C	20. D	27. C	34. D
7. C	14. 1214	21. B	28. 41	

Solutions

SECTION – I

Solutions for questions 1 to 6:

Number of words and Explanatory notes for RC:

Number of words: 699

1. Option A: In the first para, the author mentions "It is this mixture of pragmatism and nationalism, coupled with the complexity and financial commitment needed to build a fixed link ..." But there is no real focus on the need for building the Channel Tunnel. The first sentence of para 2 also helps clarify that "arguments for and against its construction are not a part of this segment." The third para focuses on proposals for the Channel Tunnel, the fourth para tells us that Napoleon liked the idea, the last para discusses architectural possibilities for the Channel Tunnel. Choice A is not the answer. The fifth para tells us that the Channel was stopped for political reasons in the 1880s and in 1974. We cannot infer that there was a political need behind the Channel Tunnel.
Option B: It is this mixture of pragmatism and nationalism, coupled with the complexity and financial commitment needed to build a fixed link, that makes the Channel Tunnel a fascinating case-study of Anglo-French relations in modern times. But choice B is not the answer. The author

does not focus on a communications perspective on Anglo-French Relations.

Option C: The passage traces the history of the making of the Channel Tunnel, telling us some important details upto the period, March 1986. Hence choice C is correct. Refer to the lines in the passage: A brief account of the historical evolution of the tunnel is provided in this segment. The rest of this work seeks to evaluate the major milestones in the history of the Tunnel and to clarify some of the arguments for and against its construction. So choice C is the answer.

Option D: The passage begins by saying: The Channel Tunnel has had an environmental and economical impact not just on Nord-Pas de Calais, France and Kent, Britain but also on other areas of Europe. But the author does not discuss the impact of the Channel Tunnel on Europe throughout the passage.

2. Option A: Choice A is out of scope. It sounds like a distortion of 'mere engineering project'.
Option B: Choice B is too specific as it is implied in the passage that the English did not wish to be connected directly to the whole European continent, not just to France. Refer to "UK's traditional ideological insularity" and "losing its 'island status'" given in para 1. Also "felt there would be an increasing influence of the French" is nowhere implied in the passage. So choice B is not the answer.

- Option C: Choice C does not specifically answer the question. For the UK, the Channel Tunnel amounted to more than a mere engineering project; it was a 'state of mind' describing the UK's traditional ideological insularity. In France, by contrast, the attitude towards the Tunnel has always been more pragmatic and supportive. Choice C does not specifically relate to 'state of mind' given in the question.
- Option D: No matter how elaborate the arguments for or against the Channel Tunnel, the United Kingdom has always had to grapple with the more profound, psychological question of losing its 'island status'. This led historians to observe that for the UK, the Channel Tunnel amounted to more than a mere engineering project; it was a 'state of mind'. Hence choice D is the correct answer.
Choice (D)
3. The passage is, most likely, an extract from a thesis or book. There are some clues in para 2: ..in the rest of this work, evaluate, and in this segment... A thesis is where writers go beyond mere presentation of facts, into analysis or evaluation, to be able to offer conclusions or findings. Hence choice B is the correct answer.
- Option A: An encyclopedia contains articles on various topics, often arranged in alphabetical order, dealing either with the whole range of human knowledge or with one particular subject. However, it offers information in varied detail, but does not get into analysis or evaluation. Hence choice A is not the answer.
- Options C and D: The purpose of a magazine is to report news of some kind, or even fiction, in a longer form than a newspaper but much more flexible than a book. A newspaper reports news, and may offer pieces with views on its centre pages. However, the use of the words 'work' and 'segment' in para 2 indicates that we are looking at something longer and more focused than would be found in a newspaper or a magazine. Choices C and D are not appropriate.
Choice (B)
4. Option A: In 1979 the European Channel Tunnel Group initiated studies for various private railway tunnel schemes. But choice A is not answer as it was not the first to propose a link between France and England. So choice A is not the answer.
- Option B: Desmaret's report suggested that a direct link between these two great European powers could be restored by building a bridge, a tunnel or a dike. However, Desmaret's ideas amounted to little more than an expression of interest. Hence choice B is not the answer.
- Option C: The first serious proposal to construct a fixed link between Britain and France was designed by Albert Mathieu-Favier in 1802. Both Napoleon and Fox supported Mathieu-Favier's project to build a Channel Tunnel. So choice C is the answer.
- Option D: The Peace of Amiens, signed on March 25, 1802, temporarily ended Britain's conflict with revolutionary and Napoleonic France and enabled Mathieu-Favier to pursue his plans for a tunnel under the Channel. Both Napoleon and Fox supported Mathieu-Favier's project to build a Channel Tunnel. So the credit goes to Mathieu-Favier.
Choice (C)
5. Refer to para 3 of the passage.
- Option A: The first part of choice A is correct but the second part sounds frivolous.
- Option B: A Frenchman named Nicholas Desmaret presented a report to Louis XV which claimed that Britain and France were at one time geographically linked by a spit of land. Desmaret's report suggested that a direct link between these two great European powers could be restored by building a bridge, a tunnel or a dike (raised causeway). It has not been mentioned in the passage that the spit of land that Desmaret was referring to is the same location identified by Mathieu-Favier. Hence choice B is not the answer.
- Option C: The Varne Sandbank was an area of shallow water halfway between England and France. 'That the Varne Sandbank facilitated the construction of the tunnel' as given in choice C implies that the tunnel was constructed. (This was only a proposal). Hence choice (C) is incorrect.
- Option D: Mathieu-Favier, a mining engineer, proposed a tunnel for stagecoaches to be built in two 15 km sections on either side of an artificial island (where coaches could change horses) constructed on the Varne Sandbank, an area of shallow water halfway between England and France. Hence choice D is the correct answer. Choice (D)
6. Statement (a): Mathieu-Favier proposed ventilation by a series of chimneys projecting above the surface of the Channel. So (a) is not true.
- Statement (b): A competition was organized by the French and British governments in 1865. Four main projects were submitted, one of which was by Transmanche Express – four bored tunnels allowing both railway and road traffics, and Eurotunnel. Statement (b) is correct.
- Statement (c): The project was abandoned following the resumption of war between England and France in 1803. In 1974, a tunnel scheme was stopped for political reasons on the British side. So statement (c) is incorrect.
- Statement (d): Mathieu-Favier proposed illumination by oil lamps and ventilation by a series of chimneys projecting above the surface of the Channel. Statement (d) is incorrect.
- Statement (e): Four main projects were submitted: Euroroute, a hybrid solution of a bridge-tunnel-bridge, Europont, a suspended bridge, Transmanche Express, four bored tunnels allowing both railway and road traffics, and Eurotunnel, a rail shuttle service for road vehicles with provision for through-trains, using three tunnels, two for rail and one for maintenance. So statement (e) is incorrect.
Choice (A)

Solutions for questions 7 to 9:

Number of words and Explanatory notes for RC:

Number of words: 478

7. Refer to the first para of the passage.
- Option A: GDP is an index of a country's entire economic output – a tally of manufacturers' shipments, farmers' harvests, retail sales and construction spending. It compresses the immensity of a national economy into a single data point of surpassing density. So the prices of goods and services are reflected in the GDP. Choice A is distorted.
- Option B: Choice B is far-fetched and cannot be ascertained from the passage.
- Option C: "If you want to know why GDP matters, you can just put yourself back in the 1930 period, where we had no idea what was happening to our economy," said William Nordhaus, a Yale economist. "There were people then who said things were fine and others who said things weren't fine. But we had no comprehensive measures, so we looked at things like boxcar loadings." It has failed to capture the well-being of a 21st-century society and has skewed global political objectives toward the single-minded pursuit of economic growth. Hence choice C correctly reflects the reason for GDP's paramount importance in the 1930s. Choice C is the answer.
- Option D: The first part of choice D has not been explicitly mentioned in the passage. But academics and gadflies have always been critical of the measure, suggesting that it is an inaccurate gauge of prosperity. It has failed to capture the well-being of a 20th-century society. So the second part of choice D is also incorrect.
Choice (C)
8. Option A: GDP has failed to capture the well-being of a 20th-century society and has skewed global political objectives toward the single-minded pursuit of economic growth. Criticisms of GDP go deeper than just its misuse by politicians. And we don't know if High-GDP Man is living beyond his means, so we can't predict his future quality of life. Hence choice A is the answer.
- Option B: The passage does not describe the function of the GDP as being commonly misunderstood. He does not point to any misconception related to the GDP of countries in the 1930s. Hence choice B is not the answer.

- Option C: There is no discussion in the passage as to how the GDP could be repackaged. Hence choice C is not the answer.
- Option D: The author does refer to the 1930s when he mentions: If you want to know why GDP matters, you can just put yourself back in the 1930 period, where we had no idea what was happening to our economy. But he does not discuss the origins of the GDP concept. Hence choice D is not the primary concern of the author. Choice (A)
9. Option A: Choice A sounds very definite. The passage does not say that GDP should be replaced by other economic indicators. Left unanswered, however, is the question of which indicators are the most suitable replacements for GDP. Should they measure educational attainment or employment; account for carbon emissions or happiness? However, a new panel of national measures won't necessarily settle such arguments.
- Option B: But academics and gadflies have been critical of the GDP, suggesting that it is an inaccurate gauge of prosperity. It has failed to capture the well-being of a 21st-century society and has skewed global political objectives toward the single-minded pursuit of economic growth. High-GDP Man is a bigger boon to his country. What we can't really say for sure is whether his life is any better. In fact, there seem to be subtle indications that various "goods" that High-GDP Man consumes should be characterized as "bads." And we don't know if High-GDP Man is living beyond his means, so we can't predict his future quality of life (economic wellbeing). Hence choice B is the correct answer.
- Option C: Choice C is incorrect. The passage does not indicate that GDP as a measure is prone to error because it underestimates relevant types of economic activity. The passage hints at the fact that GDP as a measure is prone to error because it underestimates the human aspect or element: What we can't really say for sure is whether his life is any better. It has failed to capture the well-being of a 20th - century society.
- Option D: The author does not say that more holistic and exact measures which are less likely to ignore human aspects exist. Choice D is not the answer.
- Choice (B)
- Solutions for questions 10 to 15:**
- Number of words and Explanatory notes for RC:**
- Number of words: 609
10. Refer to the first paragraph.
- Option A: Man is indifferent to pure knowledge, which has no consequences. The "thing in itself" is quite incomprehensible to the creators of language and not at all worth aiming for. Hence choice A is not the answer.
- Option B: In a similarly limited way man wants the truth: he desires the agreeable life-preserving consequences of truth. Hence choice B is correct.
- Option C: Man is even hostile to possibly damaging and destructive truths. So choice C would not be desired by man.
- Option D: If man does not wish to be satisfied with truth in the form of a tautology – that is, with empty shells – then he will forever buy illusions for truth. Hence we can say that man does not truly desire truth in the form of a tautology (the saying of the same thing twice over in different words, generally considered to be a fault of style (e.g. *they arrived one after the other in succession*). Periphrasis means tautology or iteration or redundancy. So choice D is incorrect.
- Choice (B)
11. Option D: If the **standpoint of certainty** had been decisive for designations, then how could we still dare to say "the stone is hard," as if "hard" were something otherwise familiar to us, and not merely a totally subjective stimulation! We separate things according to gender, designating the tree as masculine and the plant as feminine. How far this **oversteps the canons of certainty!** We speak of a "snake": this designation touches only upon its ability to twist itself and could therefore also fit a worm. What one-sided preferences, first for this, then for that property of a thing! Hence the author would term such kind of differentiation on our part as arbitrary. Arbitrary means inconsistent; based on random choice rather than on a system or reason. Choice D is the correct answer.
- Option A: Purposeless means done or made with no discernible point or purpose. 'Purposeless' is not the specific answer to the question. Choice A is not the answer.
- Option B: Conventional means typical or standard. Unconventional means not based on or conforming to what is generally done or believed. 'Unconventional' does not accurately suggest 'one-sided preferences' or 'overstepping the canon of certainty'. Hence choice B is not the answer.
- Option C: Impractical goes on a tangent and is not sufficient to describe 'overstepping uncertainty'. Impractical means not adapted for use or action; not sensible or realistic.
- Choice (D)
12. The author poses some important questions in para 1: Do the designations and the things coincide? Is language the adequate expression of all realities?
- Option A: Refer to some examples given in para 2: We separate things according to gender, designating the tree as masculine and the plant as feminine. We speak of a "snake": this designation touches only upon its ability to twist itself and could therefore also fit a worm. The author concludes here by saying: What one-sided preferences, first for this, then for that property of a thing! The different languages show that what matters with words is never the truth, never an adequate expression; else there would not be so many languages. The author answers the question in the last para: We believe that we know something about the things themselves when we speak of trees, colors, snow, and flowers; and yet we possess nothing but metaphors for things – **metaphors which correspond in no way to the original entities**. From the discussion in paras 2 and 3, we can say that one designates only the relations of things to man (and not the things themselves), and to express them one calls on the boldest metaphors. So the author answers the question in the negative in the passage. This makes choice A incorrect.
- Option B: From the explanation given for choice A, we can say that choice B is the correct answer.
- Option C: Choice C is not the answer. The author does answer the question in para 3.
- Option D: Choice D is incorrect. The author says that metaphors (of things) do not correspond in any way to the original entities. This means that the designations and things do not coincide. The author answers the question in the negative. He does not give examples and conditions as to when the answer to the question can be affirmative.
- Choice (B)
13. Option A: One can imagine a man who is totally deaf and has never had a sensation of sound and music. Perhaps such a person will gaze with astonishment at Chladni's sound figures. Choice A is beside the point and is not the answer to the question.
- Option B: Choice B is incorrect in its construction. The author is not proving in the passage. Also from the lines "In the same way that the sound appears as a sand figure, so the mysterious X of the thing in itself first appears as a nerve stimulus, then as an image, and finally as a sound. Thus the genesis of language does not proceed logically in any case," we can infer that choice B is inappropriate.
- Option C: A nerve stimulus, first transposed into an image – first metaphor. The image, in turn, imitated by a sound – second metaphor. And each time there is a complete overleaping of one sphere, right into the middle of an entirely new and different one. ... In the same way that the sound appears as a sand figure, so the mysterious X of the thing in itself first appears as a nerve stimulus, then as an image, and finally as a sound. Choice C which mentions "... directly translates" is incorrect
- Option D: It is this way with all of us concerning language; we believe that we know something about the things

themselves when we speak of trees, colors, snow, and flowers; and yet we possess nothing but metaphors for things – metaphors which correspond in no way to the original entities. Hence we can say that the author make a mention of Chladni's sound figures in the passage to reiterate that one designates only man's subjective perception of things (and not the things themselves), and to express them, uses allegories (symbols/metaphors).

Choice (D)

14. Option A: If truth alone had been the deciding factor in the genesis of language and if the standpoint of certainty had been decisive for designations.... The different languages, set side by side, show that what matters with words is never the truth, never an adequate expression; else there would not be so many languages. Hence we can infer that choice A is correct and is not the answer.

Option B: What is a word? The image of a nerve stimulus in sounds. But to infer from the nerve stimulus, a cause outside us, that is already the result of a false and unjustified application of the principle of reason. All the material within and with which the man of truth, the scientist, and the philosopher later work and build, if not derived from never-never land, is a least not derived from the essence of things. Hence choice B is also inferrable and is not the answer.

Option C: Choice C is incorrect. The author does not mention different languages in relation to different sounds. Many languages exist because the words by themselves are never adequate for the truth. Hence choice C is the answer.

Option D: A nerve stimulus, first transposed into an image – first metaphor. The image, in turn, imitated by a sound – second metaphor. The different languages, set side by side, show that what matters with words is never the truth, never an adequate expression; else there would not be so many languages. The "thing in itself" is quite incomprehensible to the creators of language and not at all worth aiming for. Choice D is correct and is not the answer.

Choice (C)

15. Option A: The different languages, set side by side, show that what matters with words is never the truth, never an adequate expression; else there would not be so many languages. The "thing in itself" is quite incomprehensible to the creators of language and not at all worth aiming for. Hence we can say that truth is valid universally, in all instances. It is a regularly valid and obligatory designation of things. Hence choice A is the answer.

Option B: Truth does not contradict itself. Language may be inadequate in describing truth. That does not and cannot make truth a 'fallacy' or a 'near-fallacy'. Choice B is absurd

Option C: The author does not say that truth is limited. He only says that language is inadequate in expressing the essence of truth. So choice C is not correct.

Option D: When the author mentions 'truth tautology' in the passage, we can infer that truth cannot be negated at times. So choice D which describes truth as controversial is incorrect.

Choice (A)

Solutions for questions 16 to 18:

Number of words and Explanatory notes for RC:

Number of words: 387

16. Statement (a): Traditional Chinese Medicine considers the repression of emotions such as anger, frustration and sorrow as contributing to many physical illnesses and ultimately more severe emotionally related disorders. But we cannot infer statement (a). 'Contributing to' cannot be read as 'main reason'. So statement (a) is not the answer.
- Statement (b): The key to resolving such patterns is to retrain the sub-conscious mind to express negative emotions correctly. In the clinic this process is often aided by the release of suppressed emotions. This explains the frequent occurrence where clients will often experience an emotional release during or shortly after an acupuncture treatment,

often without knowing where this emotion came from. Hence statement (b) is correct.

Statement (c): Lingering negative emotions mean persisting or intermittent negative emotions. It does not mean temporary and occasional emotions that are experienced by a depressed person. So statement (c) is wrong.

Statement (d): The secret is to chain and spiral positive emotions of confidence, self-worth and joy and in that process help the client to release and ultimately to collapse the negative emotional feelings. Statement (d) is incorrect. Hence statement (b) is correct.

Choice (B)

17. Statements 1, 2 and 3: If someone feels unreasonably frustrated or angry towards someone, whether they express or repress this emotion, they will often feel very upset afterwards. This will often lead to feelings of guilt and low self-worth where ultimately they redirect this anger towards themselves. If this chaining of negative emotions happens continuously over time it can often lead to severe anxiety or depression. Hence choices 1, 2 and 3 are correct and are not the answers.

Statement 4: Statement 4 is also true from the lines: Even a physically and emotionally destructive relationship can continue for a long period of time, and when the relationship finally comes to an end, the injured party will often feel guilty and reject future nurturing relationships, gravitating instead towards an equally abusive relationship.

Statement 5: Statement 5 is not correct and is the answer. When we suppress emotions with our conscious mind we are essentially training our sub-conscious mind to accept these negative emotional feelings as normal. If this is done continuously, the sub-conscious mind can become confused and polarised. Negative life events will often start to seem acceptable and normal to the individual.

Ans: (5)

18. Option A: A narrative passage tells a story, usually from one person's viewpoint. A narrative passage is a sequence of events and follows a story telling format. A narrative passage neither presents any analysis nor evokes any emotion. This is not a narrative passage. Hence choice A is not the answer.

Option B: Analysis involves examining aspects of a situation in its pluses and minuses, and making an evaluation at the end of it. In this passage, the author analyzes a situation and weighs it up. The author talks about repression of emotions causing physical illnesses and ultimately more severe emotionally related disorders. He suggests some ways of countering the effects. Hence choice B is the answer.

Option C: A descriptive passage makes a discussion vivid with detail. Here the author is not using a descriptive tone. So choice C is incorrect.

Option D: The passage is not argumentative. There is no debate i.e. the passage does not present arguments and counterarguments for any idea or concept. The author refrains from delivering an argument. The author does not try to convince people of an argument. Overall the style of the passage is analytical. Hence choice D is incorrect.

Choice (B)

Solutions for questions 19 to 24:

Number of words and Explanatory notes for RC:

Number of words: 684

19. Option A: The author says that Asia, if at all it were to match the United States, would take very long to do so. Goldman Sachs, for instance, expects that China will surpass the United States in economic output in 2027 and India will catch up by 2050. However, the author is not optimistic about Asia's rise at all. Hence 'great fascination' is not the correct answer.

Option B: But it's a gross exaggeration to say that Asia will emerge as the world's predominant power player. At most, Asia's rise will lead to the arrival of a multi-polar world, not another unipolar one. The author mentions various constraints and obstacles as to why Asia cannot be a single

entity of power, now or in the future. Hence we can infer that the tone of the author towards the rise of Asia can be termed as one of strong skepticism. Choice B is correct.

Option C: While reiterating his belief that Asia cannot be a superpower, the author acknowledges the advancements made by Asia since World War II. (Sustained, rapid economic growth since World War II has undeniably boosted the region's economic output and military capabilities.) So 'pointed criticism' is not the tone of the author.

Option D: Sustained, rapid economic growth since World War II has undeniably boosted the region's economic output and military capabilities. Given Asia's relatively low per capita income, its growth rate will indeed outpace the West's for the foreseeable future. But the region faces enormous demographic hurdles in the decades ahead. He mentions various other obstacles. Hence we cannot say that the tone of the author towards the rise of Asia can be termed as one of guarded appreciation. The focus is more on the improbability of true significance than on what the author considers limited achievement. Scepticism would be more appropriate. Choice D is not the answer.

Choice (B)

20. Option A: The two statements given in boldface are clichés. They do not serve to explain any common phenomena. The relationship between the boldface sentences and the rest of the passage is one of opposition or contradiction. Choice A is incorrect.

Option B: The boldface sentences do more than merely arrest the reader's attention. Hence choice B is incorrect.

Option C: The author's viewpoint has been mentioned in para 2: But it's a gross exaggeration to say that Asia will emerge as the world's predominant power player. The remaining paras of the passage serve to reinforce this view. The author of the passage provides information about the obstacles Asia faces today. Eg. Environmental and natural resource constraints could also prove crippling. The statements given in boldface are very positive about the rise of Asia. Hence we can say that the statements given in bold-face of the passage provide instances of the viewpoint that, according to the passage's author, is being superceded. Hence choice C is the answer.

Option D: The two statements in boldface don't challenge any theory. The rest of the passage attempts to question or negate the contents of the two sentences given in boldface. Hence choice D is distorted.

Choice (C)

21. Statement (a): Pax Americana was made possible not only by the overwhelming economic and military might of the United States but also by a set of visionary ideas: free trade, Wilsonian liberalism, and multilateral institutions. Unlike America, Asia does not seem to play an equally inspiring role as a thought leader. So statement (a) is a correct reason.

Statement (b): Statement (b) is not entirely true. Asia had a huge population and not America. Also 'dynamic economy capable of rising to the occasion when needed' may be true of any country, not only with the US. The second part of statement (b) has not been mentioned in the passage. (Although Asia today may have the world's most dynamic economies) So statement (b) is incorrect.

Statement (c): Asia is nowhere near closing its economic and military gap with the West. Pax Americana was made possible not only by the overwhelming economic and military might of the United States. So statement (c) is a correct reason.

Statement (d): Statement (d) has not been mentioned in the passage.

The correct answers are (a) and (c).

Choice (D)

22. Option A: Those who think Asia's gains in hard power will inevitably lead to its geopolitical dominance might also want to look at another crucial ingredient of clout: ideas. Pax Americana was made possible by a set of visionary ideas: free trade, Wilsonian liberalism, and multilateral institutions. Although Asia today may have the world's most dynamic economies, it does not seem to play an equally inspiring role as a thought leader. The Asian export-dependent

model of development will either disappear or cease to be a viable engine of growth. Hence choice A is true and is not the answer.

Option B: The fast ascent of one regional player will be greeted with alarm by its closest neighbors. China and Japan have fought repeatedly over Korea If Asia is becoming the world's center of geopolitical gravity, it's a murky middle indeed. Hence choice B can be a factor impeding the rise of Asia as a superpower. Choice B is not the answer.

Option C: Given Asia's relatively low per capita income, its growth rate will indeed outpace the West's for the foreseeable future. Choice C by itself is not a hurdle or stumbling block in Asia's rise. So choice C is the correct answer.

Option D: Environmental and natural resource constraints could also prove crippling. Pollution is worsening Asia's shortage of fresh water while air pollution exacts a terrible toll on health. But the region faces enormous demographic hurdles in the decades ahead. More than 20 percent of Asians will be elderly by 2050. Aging is a principal cause of Japan's stagnation. China's elderly population will soar in the middle of the next decade. Hence choice D is true and is not the answer.

Choice (C)

23. Option A: The author does not believe that Asia will emerge as the world's predominant power player. At most, Asia's rise will lead to the arrival of a multi-polar world, not another unipolar one. The author mentions statistics to drive home this point. He discusses economic, environmental and military parameters from para 3 onwards. Hence choice A is the answer.

Option B: The author refutes the view that Asia's rise is unstoppable. He provides evidence for his viewpoint. He does not use a scholarly approach to reveal a contradiction in an opposing viewpoint. So choice B is incorrect.

Option C: The author does not argue in circles in the passage. He has a viewpoint and he cites evidence for his view. So choice C is not the answer.

Option D: The author is not making a generalization. He is countering a view that exists by providing supporting details. Choice D is distorted.

Choice (A)

24. Option A: Choice A is incorrect. Choice A is insufficient. The big idea animating Asians now is empowerment; Asians rightly feel proud that they are making a new industrial revolution. But self-confidence is not an ideology....

Option B: If Asia is becoming the world's center of geopolitical gravity, it's a murky middle indeed.

Those who think Asia's gains in hard power will inevitably lead to its geopolitical dominance might also want to look at another crucial ingredient of clout: ideas. Pax Americana was made possible not only by the overwhelming economic and military might of the United States but also by a set of visionary ideas: free trade, Wilsonian liberalism, and multilateral institutions. Although Asia today may have the world's most dynamic economies, it does not seem to play an equally inspiring role as a thought leader, when it actually should, given the circumstances. Hence if Asia can address this lacuna, then it can rise to superpower status. Choice B is the answer.

Option C: Choice C is not enough. But self-confidence is not an ideology. The author does not actively advocate choice C in the passage. Hence choice C is not the answer.

Option D: The much-touted Asian model of development does not seem to be an exportable product. The Asian export-dependent model of development will either disappear or cease to be a viable engine of growth. But choice D has not been suggested in the passage.

Choice (B)

Solutions for question 25:

25. On a careful reading of the sentences, it can be observed that sentence 2 is a general sentence that begins the paragraph. It establishes the background or the topic of discussion: our response to what happens to us hurts us. Sentences 2 and 4 form a mandatory pair. "Of course, things can hurt us and can cause sorrow" in sentence 4 attempts to contrast "It's not what happens to us that hurts

"us" in sentence 2. So sentence 4 follows sentence 2. Sentence 1 follows sentence 4. "Our character does not have to be hurt at all" in sentence 1 links with "things can hurt us" in sentence 4. Sentence 1 is followed by sentence 5. "our most difficult experiences" in sentence 5 points to "things that can hurt us" in sentence 4. "crucibles that forge our character and develop the internal powers" in sentence 5 links with "our character, our basic identity, does not have to be hurt at all" in sentence 1. Sentence 5 concludes the para. So 2415. Sentence 3 is the odd sentence out. It can be a part of another para. It needs a precedent and further substantiation. "subordinate an impulse to a value" runs tangent to "how things that hurt us can forge our character".

Ans: (2415)

Solutions for question 26:

26. On a careful reading of the sentences, it can be observed that sentence 2 is a general sentence that begins the para. It introduces the topic of discussion: the Roaring Forties (the Westerlies.) Sentence 2 mentions that the vast ocean between Antarctica and Australia is rocked by the Roaring Forties. Sentence 2 is followed by sentence 4. "the Roaring Forties" in sentence 2 links with "these Westerlies" in sentence 4. Also "just a vast ocean stands between Antarctica and Australia's west coast" in sentence 2 is parallel with "powered ships sailing from Europe to Asia" in sentence 4. Sentence 4 is followed by sentence 1. "For centuries these Westerlies powered ships sailing from Europe to Asia" in sentence 4 links with "These days, they are also creating waves in the world of renewable energy" in sentence 1. Sentence 1 is followed by sentence 5. "creating waves in the world of renewable energy" in sentence 1 is followed by "demonstration project designed to use the ocean swell they produce" in sentence 5. The pronoun 'they' in sentences 1 and 5 refer to 'the Westerlies'. Sentence 3 follows sentence 5. Sentence 3 is a consequence of the point given in sentence 5. "Australia's naval base gets part of both its electricity and its fresh water courtesy of the 'Forties'" in sentence 3 links with "a demonstration project designed to use the ocean swell they produce went live in Sydney" in sentence 5. So, 24153.

Ans: (24153)

Solutions for question 27:

27. On a cursory reading of the paragraph, one can understand that the first paragraph talks about face recognition in general while the second para talks about three-dimensional face recognition in particular.

The highlighted sentence is a poor example of an upstream statement. The paragraph best begins with the general sentence: Some face recognition algorithms identify facial features This sentence introduces the topic of discussion. So (1) cannot be the blank where the highlighted sentence can be inserted.

The highlighted sentence cannot be a part of blank 2. "an algorithm may analyze the relative position, size, and/or shape of the eyes, nose, cheekbones, and jaw blank" as given in the sentence after blank (2) exemplifies what has been mentioned in the sentence preceding blank 2: Face recognition algorithms identify facial features by extracting landmarks from an image of the subject's face. "These features" given in the highlighted sentence does not exactly point to landmarks. (Eg. "Extracting landmarks" means recognizing a nose of a particular type, angle etc.)

The highlighted sentence can be a part of blank 3. "These features" as given in the highlighted sentence links with "position, size, and/or shape of the eyes, nose, cheekbones, and jaw" as mentioned in the sentence preceding blank 3. "search for other images with matching features" in the highlighted sentence runs parallel to "image is then compared with the face data" and "template matching techniques applied to a set of salient facial features" as given in the sentences following blank 3 in the first para. Hence (3) is the correct answer.

The highlighted sentence cannot be a part of blank 4. The plural "these features" does not gel with the singular

phrases "this technique", "shape of a face" and "this information" as mentioned in the sentences around blank 4. The highlighted sentence cannot be placed in blank 5. It has to be placed earlier in the text. So (5) is not the correct answer. All the given sentences of the second para which focuses on "three-dimensional face recognition" need to run continuously. The highlighted sentence would need other specific information along with it to be placed downstream of the paragraph. Hence (6) is not the answer.

Ans: (3)

Solutions for question 28:

28. On a careful reading of the sentences, it can be observed that sentence 5 is a general sentence that begins the paragraph. It has the proper noun "Marie Curie" and some introductory terms "radioactivity", "atomic energy". It states Marie Curie's hypothesis: radioactivity originated from inside the atom. Sentence 5 is followed by sentence 3. "Marie Curie surprised the scientific world" in sentence 5 links with "overturned the existing belief" in sentence 3. "radioactivity originated from inside the atom" in sentence 5 contrasts "atoms could not be broken into smaller components containing amazingly vast quantities of hidden energy" in sentence 3. "atomic energy" in sentence 5 links with "atoms hidden energy" in sentence 3. Sentence 1 follows sentence 3 in sequence. "quantified the newly discovered energy" in sentence 1 links with "amazingly vast quantities of hidden energy" in sentence 3. Sentences 1 and 2 form a mandatory pair. "asked rhetorically: If every gram of material contains this tremendous energy, why did it go so long unnoticed?" in sentence 1 links with "His answer: No one ever observed nuclear energy until Marie Curie systematically discovered radium" (sentence 2). "Marie Curie systematically discovered radium" in sentence 2 links with "Her systematic investigation of radium" in sentence 3. So 5312. Sentence 4 is a general sentence that runs tangent to the para. It can be a part of another para.

Ans: (5312)

Solutions for question 29:

29. On a careful reading of the sentences, it can be observed that sentence 3 is a general sentence that begins the para. It has some proper nouns: Emperor Augustus, Rome. Sentence 3 is followed by sentence 5. The pronoun 'he' in sentence 5 points to "Emperor Augustus" in sentence 3. "Emperor Augustus came to power in Rome with the help of a private army" in sentence 3 links with "ensure the loyalty of his soldiers to the Roman state" in sentence 5. Sentence 5 is followed by sentence 2. "understandably keen to ensure" in sentence 5 links with "his bright idea" in sentence 2. "loyalty of his soldiers to the Roman state" in sentence 5 links with "those in the army who had served for 16 years" in sentence 2. Sentence 2 is followed by sentence 1. "the promise was enormously expensive" in sentence 1 links with "pension equivalent in cash or land to 12 times their annual salary" in sentence 2. Sentence 4 summarizes the para (All told ...). "military wages and pensions" in sentence 4 points to "pension equivalent in cash or land to 12 times their annual salary" in sentence 2. So, 35214.

Ans: (35214)

Solutions for question 30:

30. The main points of discussion in the para are:
- There is growing pressure from some constituencies in the US to expand the use of polygraph testing.
 - It would be far wiser for law enforcement and security agencies to minimize use of polygraph tests.
 - Polygraphs were used in post-conviction sex-offender maintenance programmes.
 - Generalizing from the available scientific evidence of a particular polygraph examination is fraught with difficulty.
 - The courts have cast a skeptical eye on the relevance of polygraph tests and should extend their reluctance to rely on the polygraph for many quasi-forensic uses such as the sex-offender management programmes.

Option 1: Choice 1 is incorrect. The para says that it would be wiser for law enforcement and security agencies to

minimize use of the polygraph. Now 'intelligence communities' may be a sub-set of 'security agencies', but the passage does not say that they are speaking in favour of polygraphs. It says 'some constituencies in the US' meaning some segments. There isn't enough to say that these vocal segments include the security establishment. Also 'identifying and pinning down suspects' would be only a part of, and not all of, 'reducing threats...'. Hence choice A is not the answer.

Option 2: The first sentence in choice 2 is correct. But, there isn't enough to support the use of "always" as given in the second sentence. Further, choice 2 omits certain key points of the para.

Option 3: The term 'legal evidence' is a distortion. The para is referring to the doubt about legal acceptability of evidence. The reason for this (inadequacy) has been omitted. The second sentence in choice 3 is incomplete. Also 'post-conviction sex-offender maintenance programmes' is a quasi-forensic application and not a forensic application. So the word 'purported' is not relevant. Choice 3 is incorrect.

Option 4: Choice 4 distorts the source of the support for polygraphs, as choice 1 does. Also, there isn't enough to support the superlative, "the most desired method". The reason for doubt has been omitted here too. Choice 4 is incorrect.

Option 5: Choice 5 summarizes the para well. It is the only choice which mentions correctly the reason that the polygraph should not be relied on i.e. the inadequacy of the scientific evidence from such a test. Hence choice 5 is the correct answer.

Ans: (5)

Solutions for question 31:

31. On a careful reading of the sentences, it can be observed that sentence 1 is a general sentence that begins the paragraph. It introduces the topic of discussion: Cannabis. Sentence 1 is followed by sentence 5. "Cannabis once grew in secret" in sentence 1 is contrasted by "now countries all over the world have licensed the drug" in sentence 5. Sentence 5 is followed by sentence 3. "a few are going still further" in sentence 5 links with "legalised its recreational use" and "Canada joining Uruguay in the legal-weed club" in sentence 3. Sentence 2 concludes the para. So, 1532. Sentence 1 tells us of the shady past wrt Cannabis. Sentences 5 and 3 tell us of increased and even legalised acceptance of Cannabis in modern times. Sentence 2 closes by saying that though there's an acceptance of use, an accepted system of monitoring and regulation Cannabis is yet to be arrived at. Sentence 4 is the odd sentence out as it does not talk specifically about Cannabis. "That's because" in sentence 4 is a weak reason that does not seem connected with the remaining sentences. This point can be a part of another discussion and sentence 4 can belong to another para.

Ans: (1532)

Solutions for question 32:

32. On a careful reading of the sentences, it can be observed that sentence 5 is a general sentence that begins the para. It introduces the topic of discussion: America's (financial) sneezes can give the world a cold. Sentence 5 is followed by sentence 1. "Investors have long been wary" in sentence 5 links with "they now also fret about" in sentence 1. "America's sneezes" in sentence 5 is parallel to "Chinese rhinitis" in sentence 1. "can give the world a cold" in sentence 5 links with "proving just as contagious" in sentence 1. Sentence 3 follows sentence 1. "financial epidemiologists" in sentence 3 links with the epidemics: Cold and Chinese rhinitis (mentioned in sentences 5 and 1). "this is something of a puzzle" in sentence 3 links with "they now also fret about Chinese rhinitis" which is proving just as contagious" in sentence 1. Sentence 3 is followed by sentence 2. "this is something of a puzzle" in sentence 3 links with "It is to be expected but it is surprising" in sentence 2. Sentence 2 is followed by sentence 4. "quite how infectious they are proving" in sentence 2 runs parallel to "proving just as contagious" given earlier in sentence 5. "China's economy is in self-imposed quarantine, protected

by capital controls that limit its interactions with others" in sentence 4 justifies "it is surprising quite how infectious the germs (that can spread from China, Asia's biggest economy, to others in the region) are proving" given in sentence 2. Sentence 4 concludes the para. So 51324.

Ans: (51324)

Solutions for question 33:

33. The first paragraph of the passage begins by discussing how two black holes circle each other and coalesce to form a larger black hole.

We need to place the highlighted sentence ahead of a sentence which explains the whole being less than the sum of its parts. The highlighted sentence can be placed only in blank (4). "In under a second, a larger black hole has been born." in the sentence prior to blank 4 links with "It is, however, a hole that is less than the sum of its parts." as given in the highlighted sentence. The contrasting conjunction (conjunctive adverb?) 'however' helps to contrast 'larger' given in the sentence preceding blank 4 (i.e. last sentence of the first para) and "less than the sum of its parts" (given in the highlighted sentence). The sentence following blank (4) (Three suns' worth of mass has been turned into energy, in the form of gravitational waves) helps to explain what has been mentioned in the highlighted sentence. 'Three suns' refers to the energy that has been expelled and is no longer a part of the larger black hole. So, the highlighted sentence forms a bridge between the two paras. Hence (4) is the answer.

The highlighted sentence will disrupt the thought flow if it is placed in blank 2. The sentence "One contains 36 times as much mass as the sun; the other, 29." before blank (2) need to be immediately followed by the sentence: "They are locked in an orbital dance and finally their event horizons – the spheres defining their points-of-no-return – touch.". Hence (2) is not the answer.

Blank 3 is also not the correct location where the highlighted sentence can be inserted. "There is a violent wobble as, for an instant, quintillions upon quintillions of kilograms redistribute themselves." as given in the sentence after blank 3 has to immediately follow: They are locked in an orbital dance and finally their event horizons – the spheres defining their points-of-no-return – touch. In fact, the highlighted sentence can only come after the sentence: In under a second, a larger black hole has been born.

The highlighted sentence cannot be placed in blank 5. It has to be placed earlier in the text. So (5) is not the correct answer.

The highlighted sentence would need other specific information along with it to be placed upstream or downstream of the paragraph. Hence (1) and (6) are not the answers.

Ans: (4)

Solutions for question 34:

34. The passage mentions a problem: We see the world from our own perspective and see our own point of view as obvious and as the only possible one.

The para tells us how profound this problem is: The more our culture presumes its own perspective, the more our academic disciplines presume their own rectitude, and the more professors restrict students to their own way of looking at things, the less students will be able to escape from habitual, self-centered, self-reinforcing judgments.

The main message from the para is: We grow wiser, and we understand ourselves better, if we can put ourselves in the position of those who think differently.

The para cites the importance of literature: Literature, by teaching us to imagine the other's perspective, teaches the habits of mind that prevent the opposition of diverse opinion. Option 1: Choice 1 summarizes all the main points of the para and is the answer. Choice 1 is the only correct choice which captures the point: We see our own point of view as obvious and, if we are not careful, as the only possible one. It correctly indicates the role that literature can play in the situation.

Option 2: The second sentence of choice 2 (The more our literature allows diversity of opinion) has not been specifically mentioned in the para. The correct relationship between literature and culture is mentioned in the last sentence of the para: Great literature allows one to think and feel from within how other cultures think and feel. Choice 2 can be eliminated on careful reading. Choice 2 is worded in such a way as if there is no specific problem at all. But the para does discuss the problem: the prison house of self. Choice 2 fails to bring out the problem discussed in the para.

Option 3: Choice 3 seems to be a close answer choice but it is incomplete. The thought that this attitude can be perpetuated through opinionated teachers is omitted. Also, it does not indicate that we need to put ourselves in the position of those who think differently (hence enabling us to grow wiser, and understand ourselves better).

Option 4: Choice 4 goes beyond the para. "The greater the tendency to consider ourselves correct, the more the study of literature matters" is out of scope of the given para. Choice 4 also does not explain the problem discussed in

the para in sufficient clarity. It just mentions "self-centered, self-reinforcing judgments". Choice 4 also omits how literature can help.

Option 5: "the perfect way" in choice 5 is extreme. Choice 5 does not cover all the main points of the para. The para does not mention "explore the similarities and differences between the viewpoints of different persons". Hence choice 5 is out of scope.

Ans: (1)

Difficulty level wise summary - Section I	
Level of Difficulty	Questions
Very Easy	-
Easy	-
Medium	1, 4, 5, 6, 7, 8, 10, 14, 15, 16, 24, 25, 28, 31
Difficult	2, 3, 9, 11, 12, 17, 18, 19, 20, 21, 22, 23, 26, 29, 33
Very Difficult	13, 27, 30, 32, 34

SECTION – II

Solutions for questions 1 to 4:

Let C, SL, BH, BA and P represent the set of persons who visited China, Sri Lanka, Bhutan, Bangladesh and Pakistan respectively.

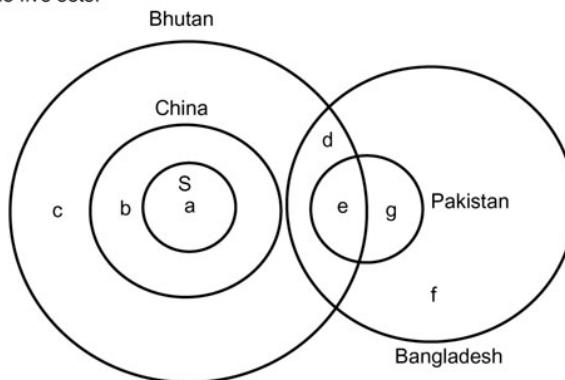
All the persons who visited China also visited Bhutan. Hence, C is a subset of BH.

All the persons who visited Sri Lanka also visited China. Hence, SL is a subset of C.

All the persons who visited Pakistan also visited Bangladesh. Hence, P is a subset of BA.

None of the persons who visited Bangladesh visited China. Hence, there will be no overlap between BA and C (since P is a subset of BA, there will be no overlap between P and C as well).

The following diagram represents the five sets:



From (i), $a = 2f$

From (ii), $c = c + f - 20 \Rightarrow f = 20$

Hence, $a = 40$

From (iii), $e + g = 3 + a + b \Rightarrow e + g = b + 43$

From (iv), $a + e = 145 \Rightarrow e = 105$

Hence, $105 + g = b + 43 \Rightarrow b = g + 62$

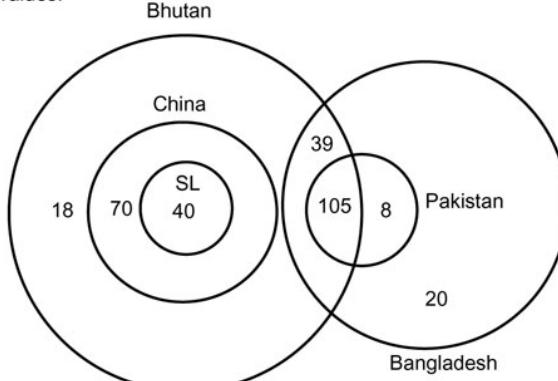
From (v), $a + b = 90 + f \Rightarrow b = 70$

Hence, $g = b - 62 \Rightarrow g = 8$

From (vi), $a + b + c + d + e = 100 + d + e + g + f \Rightarrow c = 18$

Since the total number of persons was 300, $d = 300 - (a + b + c + e + f + g) = 39$

The following diagram presents the values:



1. The number of persons who visited exactly one country
= $20 + 18 = 38$ Ans: (38)
2. The number of persons who visited Bhutan and exactly one other country = $70 + 39 = 109$. Ans: (109)
3. Among the persons who visited Bhutan, $39 + 105 = 144$ persons visited Bangladesh. Ans: (144)
4. None of the persons visited both Pakistan and China. Ans: (0)

Solutions for questions 5 to 8:

For A, the CTC is 22 lakh. Also, it is given that the revenue generated by C is ₹36 lakh. On observing the graph, we can see that the size (diameter) of the bubble for C occupied six gridlines. It is given that the area of the bubble represents the revenue generated.

Since the diameter of the bubble for A occupies four gridlines, the revenue generated by A must be ₹16 lakh. Hence, the Year-end Bonus for A is $16 \times 0.2 = ₹3.2$ lakh.

If we remove this from the CTC, the remaining amount includes Annual Salary and Annual Incentive. Hence, for A, an amount of ₹18.8 lakh represents the sum of Annual Salary and Annual Incentive.

Since A received 25% of the salary as Annual Incentive, 18.8 must be 1.25 times the Annual Salary. Hence, the Annual Salary of A must be ₹15.04 lakh.

Similarly, we can calculate the Annual Salary of the eight persons:

Sales Person	Total CTC	Revenue	Year-end Bonus	% Incentive	Annual Salary	Annual Incentive
A	22	16	3.2	20%	15.04	3.76
B	14	4	1	15%	11.3	1.70
C	12	36	7.2	25%	3.84	0.96
D	24	4	1	5%	21.9	1.09
E	14	16	3.2	20%	9	1.8
F	12	16	3.2	30%	6.77	2.03
G	10	4	1	15%	7.83	1.17
H	18	16	3.2	10%	13.45	1.35

5. Among the given persons, the Annual Salary is the least for C. Choice (B)
6. For four persons, A, B, D, G, the Annual Incentive is greater than the Year-end Bonus. Ans: (4)
7. The minimum difference in the Annual salary of any two persons = 1.06 lakh(for F & G) Choice (A)
8. By observation, we can see that the minimum ratio is for C, which is approximately 2.67%. Choice (D)

Solutions for questions 9 to 12:

Given that there is one liar, one alternator and one person who spoke exactly one lie.

Let Pavan be the liar.

From Pavan's three statements, Pavan did not come by Bus. Lohit brought the Photo frame. Kiran is not the alternator. Since Kiran is not the alternator, Lohit must be the alternator.

Lohit's first statement is false (since Pavan spoke three lies). Hence, Lohit's second statement must be true. Therefore, Lohit came in a bike. His third statement must be false and therefore, Kiran brought the dinner set.

Since Pavan did not come by bus, he must have come in a Car and Kiran must have come in Bus.

But Kiran's first statement and second statement are false. In this case, Kiran could not have spoken only one lie. Hence, this case is not possible.

Let Kiran be the liar.

From Kiran's three statements, Pavan came by Bike. Kiran did not buy the bouquet. Lohit is not a liar. However, Pavan's first statement and last statement are false. Hence, Pavan must be the alternator. From his second statement, Lohit did not bring the photo frame. In this case, Lohit must be the one who spoke only one lie. But Lohit's first and second statements are both false. Hence, this case is also not possible.

Let Lohit be the liar.

From Lohit's first statement, Pavan did not speak exactly one lie. Pavan could have spoken no lies. But this is not possible as there are no truth tellers among the three. Pavan could have spoken two lies, in which case he must be the alternator whose first statement is a lie. Pavan could have spoken three lies, which again is not possible as Lohit is the only liar among the three. Hence, Pavan must be an alternator, with his first statement and third statement being lies.

From Lohit's second statement, Lohit did not come in a bike. From his third statement, Kiran brought the dinner set.

Since Pavan is the alternator with first and third statements being lies, Lohit did not bring the Photo Frame. Therefore, Pavan brought the Photo Frame and Lohit brought the bouquet. Pavan did not come by Bus.

Since Kiran brought the dinner set, his second statement is false. Hence, his other two statements must be true. Since Pavan did not come by Bike, he must have come by Car. Since Lohit did not come in Bike, Lohit must have come in a Bus and Kiran, in the Bike.

The following table provides the vehicles that each person came in and the gift that each person brought along with whether each person is a liar (L), Alternator (A) or the person who speaks only one lie (1L):

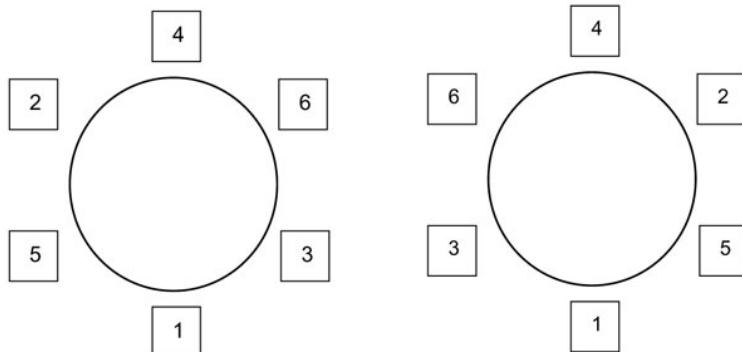
Person	Pavan	Kiran	Lohit
Role	A	1L	L
Vehicle	Car	Bike	Bus
Gift	Photo Frame	Dinner Set	Bouquet

9. Lohit is a liar. Choice (C)
10. Lohit came in the Bus. Choice (A)
11. Kiran brought the dinner set. Choice (B)
12. Pavan, the alternator, brought the Photo Frame. Choice (A)

Solutions for questions 13 to 16:

From (ii), the person opposite F was ranked first. Also, F was ranked 4th. Let F be at 1. The person ranked first must be at 4. Hence, the persons who were ranked 3rd and 5th cannot be adjacent to F. Hence, the persons who are ranked 3rd and 5th must be adjacent to the person opposite F. The persons ranked 2nd and 6th must be adjacent to F.

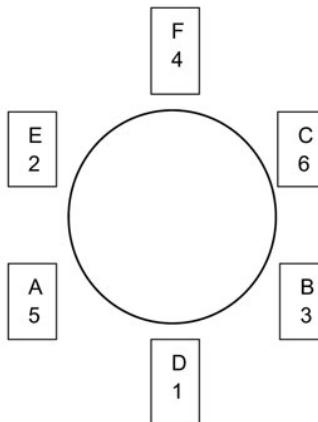
The following diagrams provide the two possible cases for the ranks of the persons:



In the first case, B is ranked third. D must be ranked first (since D is heavier than F). From (iv), E must be to the left of A but must be heavier than A. Hence, E must be ranked 2 and A must be ranked 5. C must be ranked 6.

In the second case, B is ranked third. D must be ranked first. However, E cannot be to the left of A and be heavier than A. Hence, this case is not possible.

The following diagram provides the arrangement (along with the ranks):



- | | | |
|--|------------|------------|
| 13. C was sitting to the right of B. | Choice (B) | Ans: (250) |
| 14. A was sitting opposite the person ranked sixth. | Choice (D) | |
| 15. B and E were sitting opposite each other. | Choice (C) | |
| 16. Three persons were sitting between F and A in the clockwise direction. | Choice (C) | |

Solutions for questions 17 to 20:

17. Since ES is greater than 95 and IS is greater than 50 but PS is less than 50, he will be hired and offered a salary of ₹30k per month.
Choice (C)

18. The IS of candidate is greater than 70. Since this candidate was rejected, his ES cannot be less than 90. Hence, the ES is greater than 90. However, the PS is less than 50. If his ES was greater than 95, he will be offered a job. Since he was not offered a job, the maximum possible ES of this candidate is 95.
Ans: (95)

19. To get a salary of 30k per month, his ES must be greater than 90. Hence, the maximum possible ES is 100. His PS must not be more than 50. Hence, the maximum possible PS is 50.
His IS can be a maximum of 100. Hence, the maximum possible sum of the three scores is 250.

20. The minimum IS for a candidate who was offered 30k per month is 51 and the maximum is 100.
The minimum IS for a candidate who was offered 40k per month is 1 and the maximum is 50.
Hence, the maximum difference is 99.
Ans: (99)

Solutions for questions 21 to 24:

From condition (i) and (iv), B is from Upper Pradesh and is connected to I and not connected to C.

From (i), B and D are from Upper Pradesh and I and C are from South Nadu.

From (ii), F is from Upper Pradesh (since it is not in the same state as C) and J is from South Nadu.

From (iii), A and D are from Upper Pradesh and E and J are from South Nadu.

City	C	E	I	J	H/G
A		X		X	
B	X		Road		
D		X	Air	X	
F	X			Sea	
G/H					

A and D should have routes to C, I and H/G. A and I are connected by Sea, since I already has Road and Air routes.

J should be connected to B and G/H. The route from J to B cannot be a Road route or a Sea route (Since B already has a Road route and J already has a Sea route). Hence, J to B should be an Air route. Also, J to G/H should be a Road route.

Similarly, E to B should be a Sea route (Since B already has Road and Air routes).

City	C	E	I	J	H/G
A		X	Sea	X	
B	X	Sea	Road	Air	X
D		X	Air	X	
F	X		X	Sea	
G/H			X	Road	

E should be connected to F and G/H by Air and Road routes. But E to G/H cannot be Road route and hence should be an Air route. Therefore, E to F should be Road route.

F to H/G should be an Air route. A to H/G cannot be Sea or Air route and should be Road route. A to C should be Air route.

C should be connected to D and G/H. C to G/H should be a Sea route since G/H already has an Air route and a Road route. Hence, C to D should be Road route.

D to H/G is a Sea route and G/H to H/G is not connected. The following table shows the complete information.

City	C	E	I	J	H/G
A	Air	X	Sea	X	Road
B	X	Sea	Road	Air	X
D	Road	X	Air	X	Sea
F	X	Road	X	Sea	Air
G/H	Sea	Air	X	Road	X

21. City E and City F are connected by a Road route.
Choice (B)
22. City I and City J are connected only through City B.
When travelling between City C and City D, it is not possible to visit only one city in between.

Solutions for questions 29 to 32:

The following table presents the marks of the top three students in each section, the total marks obtained by the six students (calculated from the percentage of marks of top three students) and the marks scored by the students other than the top three students in the section:

Student	Mathematics	Physics	Chemistry
A	55		
B	55	35	
C		40	
D	45		70
E	50		80
F			60
Total Marks	240	200	350
Marks scored by Bottom 3	90	70	140

The maximum marks scored by any of the bottom 3 students in Mathematics has to be 40 (since D scored 45 and no two students have the same marks).

If the minimum marks scored by any student in bottom 3 is 0, then one of the other two students in the bottom 3 should score at least 50 (because the sum of the marks of the two students will be 90 and they cannot have equal marks). But the maximum marks scored by any student in the bottom 3 is 40. Hence, this is not possible.

City A and City F are connected only through City H/G.
City B and City F are connected through Cities E and J.
Choice (D)

23. Cities A, B, D, and F definitely belong to Upper Pradesh.
Choice (D)
24. From the given information, City H is connected by Sea route to City C.
Choice (A)

Solutions for questions 25 to 28:

25. Let the total number of days that A went to the office be a . On May, he worked on $0.29a$ days. However, there are only 31 days in May.
Hence, the maximum possible number of days that he could have worked during the given period = $31/0.29$
= 106.897
However, if he worked on 106.897 days, in February, he must have worked on $106.897 \times 0.27 = 28.862$ days. Since there are only 28 days in February, this is not possible.
On February, he went to the office on $0.28a$ days. Hence, he must have worked on 100 days during the given period.
Similarly, B must have worked on $31/0.5 = 62$ days during the given period.
C must have worked on $28/0.4 = 70$ days during the given period.
D must have worked on $30/0.45 = 66.67$ days during the given period.
Hence, the maximum number of days that any person could have worked is 100.
Choice (D)

26. The maximum number of days that A would have worked in March = 18
The maximum number of days that B would have worked in February = $62 \times 0.25 = 15.5$
Required difference = 2.5
Choice (A)
27. In February, D could have worked for a maximum of 6.67 days.
In March, everyone could have worked on at least 10 days.
In April, B could have worked for a maximum of 62×0.1
= 6.2 days.
In May, B could have worked for a maximum of 62×0.15
= 9.3 days.
Hence, only in March, everyone could have worked on at least 10 days.
Choice (B)
28. In February, A and C could have worked on all the days.
In March, B could have worked on all the days.
In April, D could have worked on all the days.
However, in May, each person would not have worked on at least 1 day.
Choice (C)

Similarly, if the minimum marks scored by any student in the bottom 3 is 5, then one of the other students will have to score at least 45. This is also not possible.

If the minimum marks scored by any student in the bottom 3 is 10, then one of the other students will have to score 45 (since 40 each is not possible). This is also not possible.

If the minimum marks scored by any student in the bottom 3 is 15, then the other two students can score marks less than 45. Hence, this case is possible.

Therefore, the marks scored by the students in the bottom 3 places will be in the range 15-40. The possibilities for the marks are (15, 35, 40); (20, 30, 40); (25, 30, 35).

Similarly calculating for Physics, we can find this range to be 15-30. The only possibility for the three marks is (15, 20, 35).

For Chemistry, this range will be 35-55. The possibilities can be (35, 50, 55) OR (40, 45, 55). However, B cannot score 35 or 55 in Chemistry (since he scored these marks in the other subjects). Further, A cannot score 55 in Chemistry (since he scored 55 in Physics). Hence, in either of the two cases mentioned above, C is the only person who could have scored 55 in Chemistry. Since in each case, one student scored 55 marks, C must have scored 55 marks in Chemistry.

Also, B cannot score 35 or 55 in Chemistry. Hence, in the first case, B can only score 50 marks. Hence, A cannot score 50 marks (as no one scored 50 in the second case).

A can score 35/40/45 in Chemistry. B can score 40/45/50.

The following table gives the range of marks scored by each student:

Student	Mathematics	Physics	Chemistry
A	15-40	55	35/40/45
B	55	35	40/45/50
C	15-35	40	55
D	45	15/25/30	70
E	50	15/25/30	80
F	15-40	15/25/30	60

29. The minimum and maximum marks that can be obtained by B will be 130 and 140 (since the total marks scored by each student is at least 100).

The minimum and maximum marks that can be obtained by E will be 145 and 155.

The minimum and maximum marks that can be obtained by F will be 95 and 130.

Hence, between the three students, the highest marks would have been obtained by E. Choice (B)

30. C scored 55 marks in Chemistry. Choice (C)

31. The maximum marks that A can score in Mathematics is 40. The minimum marks that A can score in Chemistry is 35. If A scored more in Mathematics as compare to Chemistry, A must have scored 40 in Mathematics and 35 in Chemistry. Since A scored 35 in Chemistry, B must have scored 50 in Chemistry. Choice (B)

32. For B to score the least among the six students, B must have scored 40 marks in Chemistry. A would have scored 45 marks in Chemistry. Choice (D)

$$= 5 : 6$$

\therefore For 12 litres of milk solution, 10 litres of water are to be added
Choice (A)

2. Let the marked price and the cost price be Rs.4x and Rs.3x respectively.

Let the discount percentage and the profit/loss percentage be 3y% and 4y% respectively.

$$S.P. = M.P. - D = C.P. \pm P$$

$$4x \left(1 - \frac{3y}{100}\right) = 3x \left(1 \pm \frac{4y}{100}\right) \dots\dots\dots(1)$$

$$\text{If profit is made } x = \frac{24xy}{100}, y = \frac{25}{6}$$

If loss is made, L.H.S. of (1) exceeds R.H.S. of (1)
 \therefore loss cannot be made.

$$\text{The percentage profit is } 4y\% = \frac{100}{6}\% = 16\frac{2}{3}\%$$

Alternative solution:

Since discount percentage = $\frac{\text{discount}}{\text{market price}} \times 100$ and profit

percentage = $\frac{\text{profit}}{\text{cost price}} \times 100$, ratio of discount percentage

$$= d : \frac{p}{CP} .$$

When $d = p$, the ratio becomes MP : CP.

In this case, ratio of discount % to profit % = 3 : 4 and ratio of MP to CP is 4 : 3. \therefore Discount = Profit.

\therefore Say marked price is 8 \Rightarrow Cost price = 6

$$\Rightarrow \text{Selling price} = \frac{6+8}{2} = 7$$

$$\therefore \text{Profit \%} = \frac{1}{6} = 16\frac{2}{3}\% \quad \text{Choice (C)}$$

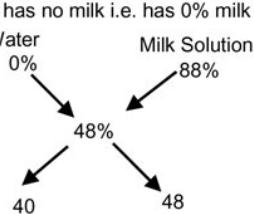
3. Counting the final number of terms,
 $P + 240 + P + 17 = 473$

$\Rightarrow P = 108 \Rightarrow 47^{\text{th}}$ term of the old series becomes 155th term (from the start) of the new series, while the 211th term becomes the 319th term, i.e., the 155th term from the end.

SECTION – III

Solutions for questions 1 to 5:

1. Pure water has no milk i.e. has 0% milk

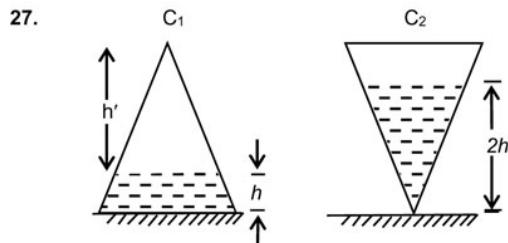


Solutions for question 24:

24. If Bunny receives exactly 5 mangoes, then $12 - 5 = 7$ mangoes need to be distributed among Honey, Sunny and Moni.
- The possible ways of dividing 7 mangoes in 3 parts and the corresponding number of ways of distributing the parts among the children are given below.
- $7 = 1 + 1 + 5 \rightarrow 3$ ways
 $7 = 1 + 2 + 4 \rightarrow 6$ ways
 $7 = 1 + 3 + 3 \rightarrow 3$ ways
 $7 = 2 + 2 + 3 \rightarrow 3$ ways
- Hence a total of $3 + 6 + 3 + 3 = 15$ ways are possible.
 Alternatively, 7 mangoes can be distributed among 3 children in ${}^{(7-1)}C_{(3-1)} = {}^6C_2 = 15$ ways (where each child gets at least one mango). Ans: (15)

Solutions for questions 25 to 27:

25. Let a w pound water-melon cost ₹c.
 Given that
 $c \propto \sqrt{w} \Rightarrow c = k\sqrt{w}$
 when $w = 16$, $c = 50$
 $\Rightarrow 50 = k\sqrt{16} \Rightarrow k = 12.5$ and $\therefore c = 12.5\sqrt{w}$
 $\therefore \sqrt{w} = \frac{37.5}{12.5} = 3 \Rightarrow w = 9$
 \therefore It weighs 9 pounds. Choice (C)
26. Let Govind Lal transfer x fraction of the petrol in the first operation and y fraction of the petrol in the second operation.
 Then concentration of petrol in first tank = $(1 - x)$, $(1 - y) = C$ and concentration of petrol in second tank = $1 - C$.
 Now, also known that $x + y = 1$ (since second tank is full)
 \therefore Maximum possible value of $C = \left(1 - \frac{1}{2}\right) \left(1 - \frac{1}{2}\right) = \frac{1}{4}$
 (i.e., when $x = y = \frac{1}{2}$)
 and similarly minimum possible value of $(1 - C)$
 $= 1 - \frac{1}{4} = \frac{3}{4}$
 Clearly only II is correct and I and III are incorrect. Choice (A)



Let $V = 1$ unit and height of cone also be 1 unit.
 Then, empty volume above the water in $C_1 = 1 - p$
 $\Rightarrow h' = \sqrt[3]{1-p}$ (see note below) and $h = 1 - h'$
 $= 1 - \sqrt[3]{1-p}$ ——— (1)

In C_2 , we have the volume of water = $p \left(\because \frac{V}{V} = p \right)$

Hence $2h = \sqrt[3]{p}$ ——— (2).

From (1) and (2)

$$2\left(1 - \sqrt[3]{1-p}\right) = \sqrt[3]{p} \Rightarrow \sqrt[3]{p} + 2\sqrt[3]{1-p} = 2$$

Choice (C)

Note: If the linear dimensions of the bigger cone (container) are k times the linear dimensions of the similar smaller cone (the empty volume in C_1), the volume of the big cone is k^3 times the volume of the small cone.

\therefore As the empty volume in C_1 is $(1 - p)$ times the volume of C_1 , the linear dimensions (height, radius etc.) of this small cone are $\sqrt[3]{1-p}$ times the linear dimensions of C_1 .

Solutions for question 28:

28. Let the number of stones be $2n + 1$.



Let A and B be the ends of the road and let M be the location of the middle stone.

Suppose Ajay started from A. Total distance to be covered to assemble all the stones to the left of M in metres

$$= 10n + 2[10(n-1) + 10(n-2) + \dots + 10]$$

Total distance to be covered to assemble all the stones to the right of M

$$= 2[10(1) + 10(2) + \dots + 10(n-2) + 10(n-1) + 10n]$$

Total distance covered

$$= 4[10(1) + 10(2) + \dots + 10(n-1) + 10n] - 10n$$

$$= 20n(n+1) - 10n = 20n^2 + 10n = 8200 \text{ (Given)}$$

$$\Rightarrow 2n^2 + n - 820 = 0$$

$$\Rightarrow (2n+41)(n-20) = 0$$

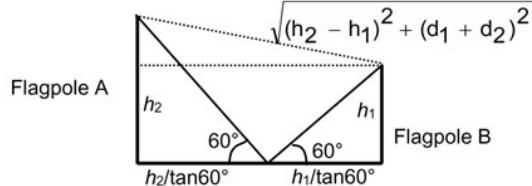
$$\therefore n = 20$$

$$\text{Hence } 2n + 1 = 41$$

Ans: (41)

Solutions for questions 29 to 34:

29. If there is only point on the ground from which each flagpole subtends 60° , then the flagpoles must be exactly at a distance equal to the sum of the distances from which they respectively subtend 60° (i.e. when the condition is that the poles are as far away from each other as possible. The other case that is possible is that the poles are at a distance equal to the difference of the distances from which they respectively subtend 60°).



$$\text{Hence } \frac{15\sqrt{3}}{\tan 60^\circ} + \frac{30\sqrt{3}}{\tan 60^\circ} = 45 \text{ m}$$

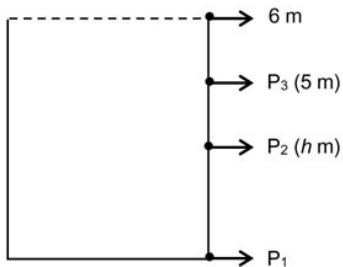
The distance between their tops

$$= \sqrt{45^2 + (30\sqrt{3} - 15\sqrt{3})^2} = 30\sqrt{3} \text{ m}$$

Choice (A)

30. Since it seems from the question, and the answer choices that the sum required is a unique value without regard to the manner in which the coins are divided, we can try any particular manner of dividing the coins and still arise at the same unique answer.
 \therefore Let the first division be
 $50 + 1 \rightarrow$ product is $50 \times 1 = 50$
 Then $50 \rightarrow 49 + 1 \rightarrow$ product is $49 (1) = 49$ and so on till we have 51 bags of 1 coin each
 \therefore The sum = $50 + 49 + \dots + 2 + 1$
 $= \sum_{k=1}^{50} k = \frac{(50)(51)}{2} = 1275$. Choice (B)

31. Let h be the height (in m) at which the pipe P_2 is fitted to the tank. Since the height of the cylindrical tank is 6 m and each pipe takes T minutes to empty the full tank, each pipe, by itself, take $T/6$ minutes to bring down the water level by 1 m.



All the three pipes are involved in emptying the top 1 m of the tank. Only P_1 and P_2 are in action in emptying the next $(5 - h)$ m and the bottom h m is emptied by P_1 alone.

$$\begin{aligned} & \Rightarrow \frac{T}{6} \left(\frac{1}{3} \right)(1) + \frac{T}{6} \left(\frac{1}{2} \right)(5-h) + \frac{T}{6} \left(\frac{1}{1} \right)(h) = \frac{2T}{3} \\ & \Rightarrow T(2 + 15 - 3h + 6h) = 24T \\ & \Rightarrow 3h = 24 - 17 = 7 \Rightarrow h = \frac{7}{3} \text{ i.e., } 2\frac{1}{3} \text{ m} \end{aligned}$$

Choice (C)

32. The difference in the C.I is the S.I on C.I in the 2nd year.

$$\Rightarrow \text{The required value} = \frac{3456 - 2880}{2880} \times 100 = 20\%.$$

Choice (B)

$$\begin{aligned} 3 + \frac{1}{3 + \frac{2}{3}}}}}}} &= 3 + \frac{1}{3 + \frac{11}{3}}}}}}} \\ &= 3 + \frac{1}{3 + \frac{159}{42}}}}}}} \end{aligned}$$

$$\begin{aligned} &= 3 + \frac{1}{3 + \frac{126}{159}} \\ &= 3 + \frac{159}{603} = \frac{1968}{603}. \end{aligned}$$

Choice (D)

Alternative Solution:

This question may also be attempted using the basic on-screen calculator provided. However, given that the answer choices are very close to each other, an accuracy of atleast upto the fourth decimal place would be necessary to identify the correct answer through calculations.

34. Let the larger number be a .

$$\begin{aligned} \text{Smaller number} &= a - 22. \\ \text{The difference between their squares} &= a^2 - (a - 22)^2 \\ &= (a + (a - 22))(a - (a - 22)) \\ &= (2a - 22)(22) = 1100 \\ &\Rightarrow 2a - 22 = 50 \\ &\Rightarrow a = 36 \text{ and the other number} = 14. \\ \therefore \text{The required value} &= 36^3 - 14^3 \\ &= (36 - 14)(36^2 + (36)(14) + 14^2) \\ &= (22)(1296 + 504 + 196) \\ &= (22)(1996) = 43912. \end{aligned}$$

Choice (D)

Difficulty level wise summary - Section III	
Level of Difficulty	Questions
Very Easy	-
Easy	1, 3, 12, 18, 19, 22, 25, 32, 33, 34
Medium	2, 4, 6, 7, 8, 9, 11, 13, 14, 15, 17, 20, 21, 23, 24, 28, 30, 31
Difficult	5, 10, 16, 26, 27, 29
Very Difficult	