JMET 2007 Paper with answers

JMET is over. For thousands of engineers who have been toiling for months to get through their choice institute, the wait has begun. So much of speculation is doing the rounds as to what the scores, cutoffs and corresponding ranks will be, till what rank each institute will give its calls and so on…

The quest for the analysis and answers has come to an end. As usual, Career Forum pipped the rest to be the first to upload the analysis and answer key, as in CAT, where we were the first to upload the analysis and key, to repeat the feat of being the closest to the actual cutoffs and answers.

Read on for the complete solution of JMET 2007:

SECTION 1: VERBAL COMMUNICATION (1-40)

Directions: Questions 1 to 4 relate to the following article:

Pick up a glossy magazine or newspaper supplement and there will almost certainly be at least one double page spread that looks like a regular editorial page but is headed up either 'promotion' or 'advertisement'. These hybrids — unattractively but aptly called advertorials -- are being used with increasing frequency by a growing number of companies. Traditionally the preserve of high-technology clients with a complicated message to get across to potential customers, the use of this technique has now spread to sectors like financial services, alcohol and automobiles.

One major reason why marketing departments are becoming more receptive to ideas for advertorials is that publishers are pursuing them more aggressively at a time of shrinking ad budgets, while they are being treated far more professionally in a bid to persuade clients that this is a creative opportunity to spread their message to their target audiences. Pouring more imagination into them allied with raising production standards has also been a means whereby the commercial executives of magazines and newspapers can try to convince skeptical editors who strongly disapprove of blurring the advertising / editorial line of their worth.

What advertorials are about is control — controlling the message in an editorial format. Positive editorial coverage of a company and / or its products in credible publications is the best publicity any company can hope for, but often proves elusive. A successful advertorial can pinpoint the way the company delivers its message to the heart of its target audience.

High technology was one of the main sources of early advertorials — unsurprising]y, the products are complex and need to be explained with some technical detail to get the story across.

That is not so easy with traditional advertising.

Advertorials can also to some degree circumvent journalistic indifference to what a company is doing because editorial coverage has already been so extensive. For example, in the case of a company like Compaq, whose swift growth in the computer market attracted many inches of editorial space, that very success can lead to journalists wondering how they can write something different about Compaq. There can be diminishing returns from an editorial point of view. So advertorials let the company present things editorially but with bought space. While they should be strongly labeled, information is being given to readers in a format that looks familiar.

Q.1 In the light of your reading of the passage above, identify the option that contains the set of words CLOSEST in meaning to the set of words in CAPITALS

SCEPTICAL: CIRCUMVENT: ELUSIVE
(A) incredulous : surround: baffling (B) doubtful : avoid: evasive
(C) thoughtful : deceit : illustrative (D) philosophical : revolve : deceptive

Solution:
1. The answer is option (B). Skeptical means marked by or given to doubt; questioning. Circumvent means avoid. Elusive means eluding clear perception or complete mental grasp. All the other options except (B) don't give the same meaning.

Q.2 In the above passage, the phrase "blurring the advertising / editorial line of their worth" implies
(A) diluting the perceived quality of their editorials
(B) hiding the actual value of the paper
(C) obscuring the actual facts in the paper
(D) devaluing the advertising potential of the editorials

Solution:
2. The answer is option (A). All other options are irrelevant.

Q.3 The passage DOES NOT discuss
(A) attitude of journalists towards advertising
(B) advertorials and the publishing industry
(C) use of advertorials in industries
(D) impact of new technologies on advertorials

Solution:
3. The answer is option (A).The passage does not discuss the attitude of journalists towards advertising but only mentions their 'indifference to what a company is doing'(refer first 2 lines of the 5th paragraph). For option B refer 2nd paragraph, first 5 lines. For option (C) refer to the last paragraph. For option (D) refer to the 4th paragraph.

Q4 According to the passage,
(A) high technology does not support traditional advertising

(B) traditional journalists are indifferent to advertorials
(C) advertorials facilitate advertising of complex products in a professional manner
(D) advertorials occupy double-page spreads in magazines

Solution:
4. The answer is option (C). Because of the complexity of the products they needed to be explained with some technical detail to get the story across. This could be done only by non traditional advertising by using high technology in advertorials.(Refer paragraph 4).Option (A) is incorrect because though everyone is using high technology in advertising it does not mean that it does not support traditional advertising. Option (B) is not mentioned anywhere. The passage does not mention about 'traditional' journalists. Option (D) can be ruled out as we cannot 'categorically' state that advertorials occupy double page spreads in magazines. The passage states that you will most certainly find one double page which means it may run in to many more pages.

Directions: In Questions 5 and 6, choose from the respective options the CORRECT PASSIVE form of the active sentence:

Q5 She resembles a Greek goddess.
(A) A Greek goddess resembled her
(B) A Greek goddess resembles her
(C) She is resembled by a Greek goddess
(D) None of the above

Solution:
5. The answer is (D). The verb 'resemble' is a transitive verb i.e. it needs an object. 'Is resembled by' is inappropriate.

Q6 Mr. Sullivan made a major error in the estimate.
(A) A major error was made in the estimate by Mr. Sullivan
(B) A major estimate was made in the error by Mr. Sullivan
(C) A major error was being made in the estimate by Mr. Sullivan
(D) A major error was estimated by Mr. Sullivan

Solution:
6. The answer is (A). The passive form for 'made' is 'was made' since the object in the active voice is singular (a major error).

Directions: In Questions 7 and 8, select the set of words from the given options that BEST expresses a relationship SIMILAR to the set in CAPITALS

Q7 LIONS : PRIDE : FOREST
(A) geese : gaggle : sky (B) houses : colony : city
(C) fish : shoal : ocean (D) paper : ream : press

Solution:

7. The answer is option (C). A group of lions is known as pride and they live in a forest. Similarly a group of fish is known as shoal and they live in ocean. Other options don't share a similar relationship.

Q8. POET: VISION : PROPHET
(A) politician : constituency : voter (B) killer : violence : terrorist
(C) student : school : principal (D) plant : herbivore : food-chain

Solution:
8. The answer is option (B). A poet and a prophet both have to have vision. A similar relationship exists between a killer and a terrorist. They both use violence as their tool. Others don't share this relationship.

Directions: In Question 9, choose the option which is CLOSEST in meaning to the sentence given below:

He was convinced that it would take at least fifty years before a few men would understand what he had accomplished; and he feared that even then his teachings would he misinterpreted and misapplied.

Q.9 (A) He was convinced that his teachings would be misinterpreted and misapplied after fifty years.
(B) He was convinced that after misinterpreting and misapplying his teachings for fifty years, they would he appreciated.
(C) He was convinced that understanding his teachings would lead to their misinterpretation and misapplication.
(D) He was convinced that understanding and applying his teachings would take at least fifty years.

Solution:
9. The answer is option (D). We cannot infer from the given paragraph that he was convinced about his teachings being misinterpreted and misapplied after fifty years as given in (A). Nor do we know whether he was sure of the appreciation part mentioned in (B). Option (C) categorically states he was convinced about his teachings being understood would definitely lead to their being misunderstood. But we only know that he was convinced that it would take at least 50 years for a few men to understand his teachings.

Directions: Read the passage carefully and answer the Questions 10 to 12 that follow.

I feel that this award was not made to me as a man, but to my work — a life's work in the agony and sweat of the human spirit, not for glory and least of all for profit, but to create out of the materials of the human spirit something which did not exist before. So this award is only mine in trust. It will not be difficult to find a dedication for the money part of it commensurate with the purpose and significance of its origin. But I would like to do the same with the acclaim too, by using this moment as a pinnacle from which I might be listened to by the young men and women already dedicated to the same anguish and travail, among whom is already that one who will

some day stand here where I am standing.

Our tragedy today is a general and universal physical fear so long sustained by now that we can even bear it. There are no longer problems of the spirit. There is only the question: When will I be blown up! Because of this, the young man or woman writing today has forgotten the problems of the human heart in conflict with itself which alone can make good writing because only that is worth writing about, worth the agony and the sweat.

He must learn them again. He must teach himself that the basest of all things is to be afraid; and, teaching himself that, forget it forever, leaving no room in his workshop for anything but the old verities and truths of the heart, the old universal truths lacking which any story is ephemeral and doomed — love and honor and pity and pride and compassion and sacrifice. Until he does so, he labors under a curse. He writes not of love but of lust, of defeats in which nobody loses anything of value of victories without hope and, worst of all, without pity or compassion. His grief's grieve on no universal bones, leaving no scars. He writes not of the hearts but of the glands.

Until he relearns these things, he will write as though he stood among and watched the end of man. I decline to accept the end of man. It is easy enough to say that man is immortal simply because he will endure: that when the last ding-dong of doom has clanged and faded from the last worthless rock hanging tideless in the last red and dying evening, that even then there will still be one more sound: that of his puny inexhaustible voice, still talking. I refuse to accept this. I believe that man will not merely endure: he will prevail. He is immortal, not because he alone among creatures has an inexhaustible voice, but because he has a soul, a spirit capable of compassion and sacrifice and endurance. The poet's, the writer's, duty is to write about these things. It is his privilege to help man endure by lifting his spirit, by reminding him of the courage and honor and hope and pride and compassion and pity and sacrifice which have been the glory of his past. The poet's voice need not merely be the record of man, it can be one of the props, the pillars to help him endure and prevail.

Q.10 The phrase "labors under a curse" in paragraph 3 means that the young writer
(A) is under a curse, so to speak
(B) continues to work though he is cursed
(C) is condemned to be abject
(D) is given to lusts

Solution:
10. The answer is option (C). Paragraph 3, lines 5 to 8 make it clear that until and unless the writer represents the 'truths of the heart' through his writing , he will be doomed because then, his work will be without any hope, pride or respect for himself. Option (A) can be eliminated as it's just a literal translation. Option (B) doesn't make any sense. Option (D) is just an example given in the passage and not comprehensive enough.

Q. 11 Which of the following inferences CANNOT be drawn from the passage?
(A) Good writing is always about the conflicted human heart
(B) A writer should overcome his fear and advocate the universal truths
(C) A writer should not seek money or fame

(D) A writer should espouse the immortality of the human soul

Solution:
11. The answer is option (C). For option (A) refer last 2 lines of paragraph 2. For option (B) refer the first 3 lines of the 3rd paragraph. For option (D) refer to lines 6 to 8 of the 4th paragraph. C is not stated anywhere.

Q. 12 Which of the following is the MOST APT title for this passage?
(A) The Tragedy of Mankind (B) Human Heart in Conflict
(C) The Writer's Duty (D) The Spirit of Man

Solution:
12. The answer is option (C). The most apt title should be 'The writer's duty' as the author through out the passage discusses the need for good writing which will represent the human heart in conflict with itself as well as the soul , spirit capable of compassion, sacrifice, endurance. All the other options are not comprehensive enough.

Directions for Questions 13 to 15: Identify the grammatically CORRECT AND APPROPRIATE option.

Q.13 (A) As the boys approached the swamp, frogs could be heard croaking
(B) She put her car in the garage because she never leaves it out when it is bad weather
(C) In early colonial villages, you had to depend on wood for fuel
(D) Many students who major in mathematics today find employment with computer companies

Solution:
13. The answer is option (D). Option (A) is wrong because the structure of the 1st part and that of the 2nd part are different. So there is an error of parallelism here. It should have been 'they could hear frogs croaking'. Option (B) is not correct because of the ambiguous usage of the pronoun 'it'. Option (C) is wrong because instead of the pronoun 'you', it should be 'one'.

Q.14 (A) Because we put a wire fence around the chicken yard, the chickens cannot escape
(B) The disadvantages of credit cards can offset the advantages, which merits careful consideration
(C) When Madhuri visited her mother, she had a cold
(D) These sort of things happen

Solution:
14. The answer is option (A). The usage of 'chickens' is correct since we are not referring to food; only when we refer to chicken as food, we cannot use 'chickens', as living beings it is fine. Option (B) is ambiguous; we are not sure what the relative pronoun 'which' refers to. It should have been 'the disadvantages of credit cards can offset the advantages is a fact which merits careful consideration'. Option (C) is incorrect because of the usage of ambiguous pronoun (whether the pronoun 'she' refers to Madhuri or her mother is not clear). Option (D) is incorrect as sort should be 'sorts' as 'things' is plural.

Q.15 (A) The school is opposite to the township building
(B) In chapter 1, she accepts her first job as a kitchen maid, but by chapter 3, she is cooking for an Indian prince
(C) Hold the rifle firmly against your shoulder, and then you should take careful aim
(D) I like an occasional cup of coffee, for they give me an added lift

Solution:
15. The answer is option (B). Option (A) is ruled out because of the wrong usage of the preposition 'to'. Option (C) is incorrect as the comma and the conjunction 'and 'are used together. In option (D), the personal pronoun 'they' should be replaced by 'it' (third person singular pronoun) as it refers to 'cup of coffee'.

Directions: In Question 16, identify the option with CORRECT punctuation.

Q.16 (A) The people of this company, have, always been aware of the need, for product's of better quality and lower prices.
(B) The new residents of Canada faced still more hardships; loneliness, life in a wilderness, even death.
(C) In April 1789 the ship left Ceylon with its cargo.
(D) A fairy story as distinct, from a merry tale or an animal story, is a serious tale with a human hero and a happy ending.

Solution:
16. The answer option (D). Option (A) is incorrect because there are unnecessary punctuations throughout the sentence. Option (B) has an unnecessary semicolon after 'hardships'- either a colon or a comma can be used there. In option (C), a comma is missing after the year '1789'.

Directions: Questions 17 and 18 relate to the passage given below.

With each passing day, it is getting easier to believe that the acceleration in India's economic growth from around 6% to 8% is here to stay. The hard part is trying to explain why this has happened. How this is explained is important since it has a bearing on our future policy.

As per conventional wisdom, India's growth accelerated to around 6% in the nineties from the historical rate of 3.5% because 'reforms' had unleashed the pent-up energies of India entrepreneurs long shackled by the socialist raj. It slowed subsequently because 'reforms' had lost momentum. The last three years' spurt in growth is the fortuitous result of a global economic boom. Once the world economy slows down, we will he back to 6% growth–unless we proceed with 'second generation' reforms.

However, each of these propositions bristles with problems. It is not true that economic growth rate accelerated to 6% in the nineties. In fact, research has shown that the 'structural break' in India's economic growth occurred not in the early nineties but in the eighties, when economic growth accelerated to close to 6%. The growth in the first decade after reforms was not significantly different from the growth rate in the eighties. The 'reforms' in the sense of market-oriented or even pro-business policies did not commence overnight in 1991, but had commenced

earlier. Economic policies in the nineties merely helped consolidate an underlying trend.

Subsequently, the world economy slowed down in 2001–03, which put the brakes on Indian economy. Then came the crucial change , an acceleration to 8% in 20010–06. This cannot be ascribed to any fresh bout of 'reforms' or even to the global boom. There have been important structural changes in the economy. One is the rise in the savings rate from 23.5% in 2000–01 to 29.1% in 2004–05. Most of this increase has come from the turnaround in public savings. Thanks to the rise in the savings rate, the economy has moved on to an altogether higher investment rate. The second structural change is enhanced export competitiveness, reflected in the rising share of exports. the Total exports (trade plus invisible receipts) / GDP ratio has risen sharply from 16.9% in 2000–01 to 24.6% in 2005–06. A third, less noticed change in recent years is financial deepening. The bank assets / GDP ratio rose from 48% in 2000–01 to 80% in 2005–06 on the back of a surge in bank credit.

One factor is common to these three structural changes: lower interest rates. The decline in interest rates has helped fiscal consolidation, it has boosted firms' competitiveness and it has led to a huge increase in retail credit. Lower interest rates have been made possible by the rise in inflows on both current and capital accounts. The rise in inflows, in turn. reflects growing overseas confidence in India's economic potential — confidence created by two decades of economic growth of 6%. The sharp depreciation in the rupee in the nineties undoubtedly helped but it is worth recalling that a trend towards rupee depreciation was underway in the eighties itself.

Q. 17 Which of the following statements is INCOREET according to the passage?
(A) Growth rate after reforms was similar to that in the eighties
(B) Reforms in economic policies had started prior to the nineties
(C) Structural changes in the Indian economy have helped lower interest rates
(D) Increase in public savings rate has contributed to higher investment rates

Solution:
17. The answer is option (C). Nowhere in the passage is it mentioned that structural changes have helped lower interest rates. 'Lower interest rates' is the feature of the structural changes (Refer the first line of the 5th paragraph). All the other options are there in the passage. (A) is in 3rd paragraph (refer 4th and 5th lines). (B) is in 3rd paragraph, lines 3 and 4. (D) is in the fourth paragraph, line 5.

Q18. The passage DOES NOT discuss
(A) factors contributing to lower interest rates
(B) the importance of world economy on India's reform rates
(C) dimensions of structural changes in India's economic reforms
(D) the role of the public sector in India's reforms

Solution:
18. The answer is option (D). The role of public sector in India's reforms is not mentioned in the passage. (A) is mentioned in the last paragraph, lines 3 and 4. (B) is mentioned in paragraph 2, lines 4 and 5. (C) is mentioned in paragraph 4.

Directions: Question 19 consists of four groups of jumbled phrases, of which only ONE is grammatically correct. Identify the CORRECT option.

Q19 (A) those command of the language are poor / other thing being equal / themselves effectively are sure to succeed / more rapidly than / people in any fields who can express
(B) for whatever effects they may create / in analyzing prose rhythms or sentence movement / length, and interrelations of rhythmical units / it is always necessary to take into account not only the number, / but also the patterns of stressed and unstressed words
(C) credence to our own recollections of events / accompanied by vivid compelling details / readily spring to mind and is / than other's when our memories / we are likely to give more
(D) what time is left for living / than to see peoples working from morn till night / in cafes and small-talk / and then proceed to fritter away at card-tables / certainly is common nowdays

Solution:
19. The answer is option (B).The sentence is 'In analyzing prose rhythms or sentence movement length, and interrelations of rhythmical units it is always necessary to take into account not only the number, but also the patterns of stressed and unstressed words for whatever effects they may create'. In option (A), there are many errors; 'Other thing being equal' should be 'other things being equal' and 'those command of the language are poor' should be 'those, whose command of the language is poor'. Option (C), when unscrambled, is 'We are likely to give more credence to our own recollections of events than other's when our memories readily spring to our mind and is accompanied by vivid compelling details.' Here the use of 'is' is wrong; it should be 'are' since the subject is 'memories' which is plural. Option (D) does not make sense.

Directions: In Questions 20 to 22, choose the option which is OPPOSITE in meaning to the CAPITALIZED word.

Q.20 ANATHEMA
(A) Salubrious (B) Feral (C) Benediction (D) Curse

Solution:
20. The answer is option (C). Anathema means a person or thing detested or loathed. Benediction means blessing; approval.

Q.21 FECUND
(A) Barren (B) Fertile (C) Auspicious (D) Stolid

Solution:
21. The answer is option (A). Fecund means producing or capable of producing offspring, fruit, vegetation, etc., in abundance; prolific; fruitful. The word which is opposite in meaning is barren.

Q.22 CONCINNITY
(A) Congruity (B) Mismatch (C) Deceit (D) Harmony

Solution:

22. The answer is option (B). Concinnity means close harmony of tone as well as logic among the elements of a discourse. Mismatch is the word opposite in meaning.

Directions: In Question 23, identify the grammatically INCORRECT option.

Q.23 (A) The meeting has been preponed by a week
(B) Either you or Ram is going to look after it
(C) The argument explains neither what went wrong nor how it should be put right
(D) Customers want not only good service but also courtesy

Solution:
23. The answer is option (B). If the element (the words that follow neither or either) is singular, then the verb needs to be singular; if one or both of the elements is plural, then the verb needs to be plural. Here 'you' is plural. Therefore, the verb should have been 'are' instead of 'is'. All the other statements are correct.

Directions: Question Nos. 24 to 26 relate to the passage given below.

As a memory researcher, I have long been intrigued by the phenomenon of memory failures. What are the different ways that memory can get us into trouble? Bringing together everything I knew of memory's imperfections, lapses, mistakes and distortions, I hit on a way of thinking that helped to make things fall in place. I propose that memory's malfunctions can be divided into seven fundamental transgressions or "sins", which I call transience, absent-mindedness, blocking, misattribution, suggestibility, bias, and persistence. Just like the ancient seven deadly sins, the memory sins occur frequently in everyday life and can have serious consequences for all of us.

Transience, absent-mindedness and blocking are sins of omission: we fail to bring to mind a desired fact, event or idea. Transience refers to a weakening or loss of memory over time. It is probably not difficult for you to remember now what you have been doing for the past several hours. But if I ask you about the same activities six weeks, six months, or six years from now, chances are you will remember less and less. Transience is a basic feature of memory, and the culprit in many memory problems.

Absent-mindedness involves a breakdown at the interface between attention and memory. Absent-minded memory errors — misplacing keys or eye-glasses, or forgetting a lunch appointment — typically occur because we are preoccupied with distracting issues or concerns, and do not focus attention on what we need to remember. The desired information is not lost over time; it is either never registered in memory to begin with, or not sought after at the moment it is needed, because attention is focused elsewhere.

The third sin, blocking, entails a thwarted search for information we may he desperately trying to retrieve. We have all failed to produce a name to accompany a familiar face. This frustrating experience happens even though we are attending carefully to the task at hand, and even though the desired name has not faded from our minds — as we become acutely aware when we unexpectedly retrieve the blocked name hours or days later.

In contrast to these three sins of omission, the next four sins of misattribution, suggestibility, bias, and persistence are all sins of commission: some form of memory is present, but it is either incorrect or unwanted. The sin of misattribution involves assigning a memory to the wrong source: mistaking fantasy for reality, or incorrectly remembering that a friend told you a bit of trivia that you actually read about in a newspaper. Misattribution is far more common than people realize, and has potentially profound implications in legal settings. The related sin of suggestibility refers to memories that are implanted as a result of leading questions, comments, or suggestions when a person is trying to call up a past experience. Like misattribution, suggestibility is especially relevant to – and can sometimes create havoc within – the legal system.

The sin of bias reflects the powerful influences of our current knowledge and beliefs on how we remember our pasts. We often unknowingly or unconsciously edit or rewrite our previous experiences in light of what we now know or believe. The result can be a skewed rendering of a specific incident, or even an extended period of our lives, which says more about how we feel now than about what happened then.

The seventh sin – persistence – entails repeated recall of disturbing information or events that we would prefer to banish from our minds altogether: remembering what we cannot forget, even though we wish that we could. Everyone is familiar with persistence to some degree: recall the last time that you suddenly awoke at 3:00 AM, unable to keep out of your mind a painful blunder on the job or a disappointing result on an important exam. In more extreme eases of serious depression or traumatic experience, persistence can be disabling and even life-threatening.

Q.24 The above passage DOES NOT mention
(A) impact of memory malfunctions on daily lives
(B) reasons for memory malfunctions
(C) relationship between seven memory sins and seven deadly sins
(D) lapses and distortions of memory

Solution:
24. The answer is option (C). Though the author says that' just like the ancient seven deadly sins, he does not delve in to the details of relationship between the two. All the other options are mentioned in the passage.

Q.25 The above passage implies that
(A) sins of commission are more serious memory malfunctions than sins of omission
(B) the sin of bias arises as a result of misattribution
(C) the sin of persistence most frequently occurs when we are asleep
(D) sins of omission involve presence of memory in some form or other

Solution:
25. The answer is option (D). Though the author has not specifically given that the sins of omission involve presence of memory in some form or other, it is very clear from the passage that any sort of memory loss be it sins of omission or commission involves presence of memory

in some form or the other. Option (A) is incorrect as nowhere in the passage sins of commission are compared to that of the omission. Option (B) is incorrect as it is clearly stated that these are two different sins. Option (C) is just an example given to show how memory persists and it need not happen only when we are asleep.

Q.26 In the passage, the term "transience" refers to
(A) transference (B) truculence (C) ephemeral (D) epiphanic

Solution:
26. The answer is option (C). Transient means lasting for short time. Ephemeral means lasting a very short time; short-lived; transitory. Both the words are used for describing memory (refer paragraph2, line 2).

Directions: In Questions 27 and 28, select the pair of words from the given options that best expresses a relationship SIMILAR to the pair in CAPITAL letters:

Q.27 OBJURGATE: OBSECRATE
(A) abdicate : abrogate (B) renegade : relegate
(C) chide : supplicate (D) obfuscate : obligate

Solution:
27. The answer is option (C). Objurgate and obsecrate have the relationship of that of antonyms. Of the four options, only chide and supplicate have the relationship of that of antonyms.

Q.28 RESTLESS : RESTIVE
(A) flammable : inflammable (B) imminent : eminent
(C) haunted : hunted (D) oculist : occultist

Solution:
28. The answer is option (A). Restless and restive have the relationship of synonyms. Among the options, only option (A) has the relationship of synonyms.

Directions: In Questions 29 and 30, fill in the blanks with the option that has the MOST APPROPRIATE set of words.

Q.29 Children whose _____ survives parental discipline and who manage to grow up before they blow up are invited to _____ the university faculty.
(A) inquisitiveness, visit (B) interest, address
(C) curiosity, join (D) inquiry, join

Solution:
29. The answer is option (A). Children cannot normally address the university faculty, so option (B) can be ruled out. Option (C) and option (D): 'Join' the university faculty- children cannot be invited to join the university faculty. Had there been a mention of 'join for lunch' etc, it could have been considered, but not in this context.

Q.30 For years, nuclear-power advocates have claimed that nuclear power is the most _____ form of energy available; but in light of a few facts, one begins to _____ this claim.
(A) cheap, support (B) useful, question
(C) expensive, contest (D) economical, doubt

Solution:
30. The answer is option (D).Using 'most' as a clue we can eliminate (A). Most cheap is a wrong usage. Between option (B) and option (C): Saying that nuclear power is the most 'useful' form of energy is a little outrageous in most contexts while saying that it is economical holds water. Whether a thing is useful or not depends on its application whereas being economical does not, in the context 'economical' is an appropriately neutral word. Option (D), 'contest the claim' is not appropriate.

Directions: Questions 31 to 33 relate to the passage given below.

Dear Friend, your letter gently but unmistakably intimates that I am a slacker, a slacker in peace as well as in war: that when the World War was raging bitterly I dawdled my time with subjects like symbolic logic, and that now when the issues of reconstructing a bleeding world demand the efforts of all who care for the future of the human race, I am shirking my responsibility and wasting my time with Plato and Cicero. Your sweetly veiled charge is true, but I do not feel ashamed of it. On the contrary, when I look upon my professional colleagues who enlisted their philosophies in the war, who added their shrill voices to the roar of the cannons and their little drops of venom to the torrents of national hatreds, I feel that it is they who should write apologies for their course. For philosophers, I take it, are ordained as priests to keep alive the sacred fires on the altar of impartial truth, and I have but faithfully endeavored to keep my oath of office as well as the circumstances would permit. It is doubtless the height of the unheroic to worship truth in the bombproof shelter of harmless mathematics when men are giving their lives for democracy and for public order which is the basis of civilization. But it would be sad if all the priests deserted their altars and became soldiers, if the Sermon on the Mount were utterly erased to give place to manuals of bayonet practice or instructions on the use of poison gas. What avails it to beat the enemy if the sacred fires which we are sworn to defend meanwhile languish and die for want of attendance?

Q.31 Which of the following is the MOST APPROPRIATE title for the passage?
(A) Philosophy in wartime: An Apologia (B) Philosophy versus War
(C) In defence of Philosophy (D) Philosophy's quarrels with War

Solution:
31. The answer is option (A). This is a letter written by the author to a person who questions the author about being a passive philosopher. The author takes a very dignified stand and writes a very sensitive apologia justifying his position in not participating in the war. Apologia means a work written as an explanation or justification of one's motives, convictions, or acts. It does not mean apology.

Q.32 According to the passage, a philosopher should
(A) always shun action and privilege speculation
(B) at all times promote the disinterested inquiry of his discourse
(C) stay away from ideologues
(D) support anti-war activism

Solution:
32. The answer is option (B). The author in this passage is supporting the philosopher's detached observation of the events like a priest to keep alive the sacred fires on the altar of impartial truth. Refer lines 10, 11, 14 and 15.

Q.33 Which of the following statements CANNOT he directly inferred from the passage?
(A) The writer has disagreements with his professional colleagues
(B) The writer is aware of the sacrifices made in a war
(C) The writer considers philosophy a sacred calling
(D) The writer is a pacifist

Solution:
33. The answer is option (D). Pacifist means a person who believes in pacifism or is opposed to war or to violence of any kind. It is very clear that the author is not opposed to war. (Refer lines 11 to 14). All the other options are referred to in the passage. For (A), refer lines 5 and 6. For (B), refer lines 12 and 13. For (C), refer lines 9 and 10.

Directions for Question 34: Sentences in the following passage have been variously combined in the options given below. Choose the MOST APPROPRIATE AND CONCISE option.

Keepers of private notebooks are a different breed altogether. They are lonely and resistant rearrangers of things. They are anxious malcontents. They are children afflicted at birth with some presentiment of loss.

Q.34 (A) Keepers of private notebooks are a different breed altogether, lonely and resistant rearrangers of things, anxious malcontents, children afflicted at birth with some presentiment of loss
(B) Keepers of private notebooks, who are lonely, resistant rearrangers and anxious malcontents, are children afflicted at birth with some presentiment of loss
(C) Keepers of private notebooks, a different breed in being lonely, resistant rearrangers of things and anxious malcontents, are children afflicted at birth with some presentiment of loss
(D) None of the above

Solution:
34. The answer is option (D). Option (A) is not concise. It is just a repetition where separate sentences are fused and given as a single sentence. Option (B) is not right because the comma after notebooks makes the following part a non essential clause whereas it is an essential clause. Option (C) says 'a different breed in being lonely' meaning they are different because they are lonely which is not the case.

Directions: In Question 35, choose the option which DOES NOT have a similar meaning to the sentence given below:

Some of the students reflect a growing confidence in their ability to manage successfully the demands placed upon them by their own ambitions, by their ability to construct intelligent messages, and by their listeners' often irascible modes of responding.

Q.35 (A) Listeners' response modes and their own personal ambitions place great demands on students
(B) Students construct intelligent messages to cope with listeners' demands
(C) Students are becoming increasingly capable of managing multiple demands placed on them
(D) Ability to construct intelligent messages helps students cope with increasing demands arising from personal ambitions and listeners' responses

Solution:
35. The answer is option (B). The meanings of all the other options are in line with the question statement. Option (B) says 'students construct intelligent messages to cope with listeners' demands' whereas students reflect confidence in their ability to construct intelligent messages and to cope with listeners' modes of responding. It is mentioned nowhere that these two are related.

Directions: In Questions 36 to 38, choose the option that is CLOSEST in meaning to the CAPITALIZED word.

Q.36 MIRIFIC
(A) Marvellous (B) Mundane (C) Mystical (D) Morbid

Solution:
36. The answer is option (A). Mirific means working wonders; wonderful. The only word closest in meaning is marvellous (wonderful, amazing). Mundane means dull; ordinary. Mystical means spiritual. Morbid means morose.

Q.37 PLEBEIAN
(A) Vulgar (B) Aristocratic (C) Prophetic (D) Certainty

Solution:
37. The answer is option (A). Plebeian means commonplace or vulgar.

Q.38 FIDUCIAL
(A) Official (B) Deceit (C) Trustworthy (D) Parochial

Solution:
38. The answer is option (C). Fiducial means based on or having trust. Official means administrator; authorized. Deceit means dishonesty. Parochial means narrow- minded. The only word closest in meaning is trustworthy.

In Question 39, identify the option with INCORRECT spellings.

Q.39 (A) On the twelfth of every month, the psychiatrist visits the organization
(B) Entering the sanctum of South Indian temples dressed in western clothes is considered sacreligeous
(C) We try to accommodate as many students as possible in our hostels
(D) We received the mattress after repeated requests

Solution:
39. The answer is option (B). The spelling of sacreligious is wrong. It should be sacrilegious.

Directions: The direct speech in Question 40 is rewritten as reported speech (indirect form) in the options below. Identify the grammatically CORRECT option.

Q.40 The President said to the General. "Is your army well supplied? Is it ready for battle."?
(A) The President asked the General whether his army was well supplied and whether it was ready for battle
(B) The President asked the General whether his army was well supplied and is it ready for battle
(C) The President asked the General if his army is well supplied and if it is ready for battle
(D) The President asked the General whether his army is well supplied and was ready for battle

Solution:
40. The answer is option (A). When you convert a question in direct speech to indirect speech, yes/no questions (whose answer is 'yes' or 'no') will have 'whether' or 'if' in the statement. In this case, both (A) and (C) have whether/if. Option (A) is the answer because in the 1st part (the President said to the General) the verb is in past tense. Therefore the reported speech will be in past tense.

SECTION 2: Logical Reasoning

Q.1 The mushrooming of business schools in the country is a cause for shortage of faculty with Ph.D qualification. In addition, the higher pay and generous fringe benefits given by industry has encouraged qualified people to not seek academic positions. Which of the following statements, if true, would tend to STRENGTHEN the argument?

(A) The average salary for industry positions in Gujarat is more than the average salary for faculty positions in some business schools in Ahmedabad by around 30%.

(B) The average salary for industry positions in Gujarat is less than the average salary for faculty positions in a top business school in Ahmedabad by around 30%.

(C) The average salary for recent Ph.D graduates in the industry is 20% higher than that in academics.

(D) The rate of growth of salaries for the industry positions has been higher than the rate of growth of salaries for academic positions for the past three years.

Solution 1. In the question, the argument gives information above the country but the statements A and B are about the state Gujarat only which is irrelevant. In statement D the information about rate of growth of salaries is given. Only statement C implies about the average salary of Ph. D graduates. Hence, the correct option is (C).

Q.2 You have five balls that look alike. Four of them have the same weight and are lighter than the fifth ball. What is the minimum number of times you need to weigh to identify the heavier ball with certainty?
(A) 1 (B) 2 (C) 3 (D) 4

Solution 2. If n is the minimum number of times needed to weigh to identify the heavier ball with certainty then for n > 1

Number of balls lie $2^n + 1$ to 2^{n+1}

i.e., here number of balls is 5 i.e. equal to $2^n + 1$

n = 2

Hence, the correct option is (B).

Q.3 A pair of grouping of **symbols** is given below. Choose a pair of symbols that best expresses the relationship closest to the original pair LLI : UQR.
(A) DEF : ABC (B) AXE : TIX (C) AEF : BGO (D) LMN : AEF

Solution 3. There is same number of alphabets (8) between (L, U) and (I, R). Only option (B) is following the same pattern. The same number of alphabets (18) between first and third pair of symbols i.e. (A, T) and (E, X). Hence the correct answer option is (B).

Q.4 *Sanjay:* I just heard that Sachin got out for zero (0) runs in the first innings of the second test against Bangladesh .
Rajeev: That can't be true. He had scored two centuries in the last two innings that he had played. From the conversation above it can be inferred that
(A) Rajeev thinks that Sanjay is lying.
(B) Rajeev thinks that no one who had scored two centuries in the last two innings could possibly get out for zero runs in the next innings.
(C) Rajeev concludes that Sachin is inconsistent since he got out for zero after scoring two hundreds in the last two innings.
(D) Sanjay knows Sachin got out for zero runs.

Solution 4. (A) Rajeev's statement conveys that fact heard by Sanjay is not correct. It does not imply that Sanjay is lying. Hence, this not the correct option.
(C) Rajeev's statement does not imply that Sachin is inconsistent or consistent. He is only saying

that the statement made by Sanjay is not true because of his past records. Hence, this option is also incorrect.

(D) Sanjay did not know he has only heard the fact, so this option is also not correct.

Hence, the correct option is (B).

Directions for Questions 5 to 8: These questions are presented with three true statements: Fact 1, Fact 2 and Fact 3. Then, you are given three more statements (labeled I, II and III), and you must determine which of these, if any, is also a fact.

Q.5 Fact 1: A project team consisting of males and females has four members.
Fact 2: Two of the members are proficient in mathematics and the other two are proficient in computer programming.
Fact 3: Half the members are female.
If the first three statements are facts, which of the following statements must also be a fact?
I. At least one female member is proficient in mathematics.
II. Two of the members are male.
III. The male members are proficient in computer programming.
(A) II only (B) I and III only (C) II and III only (D) None

Solution 5. From the facts 1 and 3 we can say that there are 2 male and 2 female members in the team. But from facts 2 it is not clear that who is proficient in mathematic and in computer programming. So, only statement II must also be a fact. Hence, the correct option is (A).

Q.6 Fact 1: Manoj said. "Anush and I both went to a movie last night."
Fact 2: Anush said, "I was only studying last night."
Fact 3: Manoj always tells the truth, but Anush sometimes lies.
If the first three statements are facts, which of the following statements must also be a fact?
I. Anush went to a movie last night.
II. Manoj went to a movie last night.
III. Anush was studying last night.
(A) II only (B) I only (C) I and II only (D) I, II and III

Solution 6. According to fact 3: Manoj always tells the truth but Anush sometimes tells lies. So, Manoj and Anush both went to a movie by fact 1. So, statement I and II only must be facts. Hence, the correct option is (C).

Q.7 Fact 1: Chairs cost between Rs. 200 to Rs. 2000.
Fact 2: Some chairs are made of aluminum.
Fact 3: Some chairs are made of plastic.
If the first three statements are facts, which of the following statements must also be a fact?
I. Aluminum chairs cost more than plastic chairs.
II. Expensive chairs last longer than cheap chairs.
III. Plastic chairs costs around Rs. 200 and aluminum chairs costs around Rs. 2000.
(A) I only (B) II only (C) I and III only (D) None

Solution 7. In fact 1, the cost of chairs is given but we don't know what kind of chairs i.e. aluminum or plastic. So none of the statements must be true. Hence, the correct option is (D).

Q.8 Fact 1: All metros have ring roads.
Fact 2: Delhi is a metro.
Fact 3: Delhi has a population of more than 5 million.
If the first three statements are facts, which of the following statements must also be a fact?
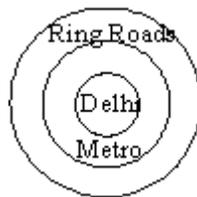I. Delhi has a ring road.
II. All metros have a population more than 5 million.
III. All cities with a ring road are metros.
(A) I only (B) I and II only (C) I and III only (D) I, II and IIII

Solution 8. By fact 1, fact 2 and fact 3 we can draw the Venn diagram

So from the Venn Diagram given above we can say that Only I is a fact. Hence the correct option is (A).

Directions for Questions 9 to 11: On the basis of the given two facts, determine which of the conclusions marked A, B, C, or D can be most logically drawn.

Q.9 Fact 1: Some musicians play tabla.
Fact 2: All the tabla players need to be trained for at least 10 years.
(A) Children of tabla players may require less than 10 years of training.
(B) All the musicians who have trained for at least 10 years are tabla players.
(C) Some of the musicians may have been trained for at least 10 years.
(D) All the musicians are tabla players.

Solution 9. Given, two facts can be represented by Venn-diagram
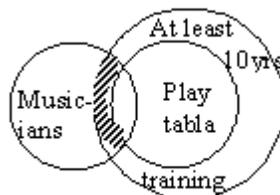
The shaded portion represents the statement C. So, only statement C can be logically drawn. Hence, the correct option is (C).

Q.10 Fact 1: Cloudy days tend to be windier than sunny days.
Fact 2: Foggy days tend to be less windy than cloudy days.
(A) Sunny days tend to be less windy than foggy days.
(B) Sunny days tend to be windier than foggy days.
(C) Foggy days and cloudy days tend to be windier than sunny days.
(D) Foggy and sunny days tend to be less windy than cloudy days.

Solution 10. According to fact 1, cloudy days are windier then sunny days. By fact 2 foggy days tend to be less windy than cloudy days. We don't have any fact regarding the relation between foggy and sunny days. So, statement D can be most logically drawn from the facts. Hence, the correct option is (D).

Q.11 Fact 1: At a parking lot, a car is parked to the right of a truck and to the left of a van.
Fact 2: A jeep is parked to the right of the truck.
(A) The car is to the left of the jeep.
(B) The jeep is to the right of the van.
(C) The jeep is parked between the car and the truck.
(D) The truck is to the left of the jeep.

Solution 11. By fact 1 and 2, we can say that the car is between the truck and the van. The position of jeep is to right side of truck. So, only statement (D) can be logically drawn. Hence, the correct option is (D).

Q.12 Five people witnessed a thief leaving a house that was locked. Each gave the following description of the thief in the court.
Witness 1: He was short, thin and old.
Witness 2: He was tall, thin and young.
Witness 3: He was short, stout and young.
Witness 4: He was tall, stout and old.
Witness 5: He was tall, stout and young.

Which of the following descriptions of the thief is *probably* correct?
(A) Tall, stout and old (B) Short, thin and old
(C) Short, stout and young (D) Tall, stout and young

Solution 12. By observing the 5 statements, we can say that tall, stout and young appeared maximum number of times. Hence, the correct option is (D).

Q.13 Ravi has scored over sixty percent marks in his High School Examination. This statement can he logically deduced from which of the following statements?
(A) The average marks for the class is 60%, and his rank in the class is 46 out of 91.
(B) He is admitted to a prestigious college where nobody with a second class is admitted.
(C) Indira has scored less than 60% and also did not qualify for the scholarship. Ravi has been selected for the scholarship.
(D) Every one scoring less than 60% must appear for re-examination for improving their marks. Ravi is not required to appear for re-examination.

Solution 13. Only from the option (D) it can be logically deduced that Ravi has scored over sixty percent in the High School examination because Ravi is not required to appear for a re-examination. Other options do not give any information about marks obtained by Ravi .

Q.14 Four people Ahmed, Burman, Chhaya and Deepak in that order occupy the four corners of a square of side a in clockwise order. Ahmed and Burman simultaneously start walking at the same speed towards Burman and Chhaya respectively. Both of them stop walking when Burman reaches Chhaya. What is the distance between Ahmed and Burman?

(A) a (B) 0 (C) $a(\sqrt{2}-1)$ (D) $> a(\sqrt{2}-1)$

Solution 14. According to question the order of four people will be as:
The path followed by A will be like a parabola. So the path followed will be less than $a(\sqrt{2}-1)$ Hence, the correct option is (D).
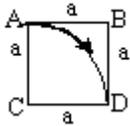
Q.15 If you get a JMET rank of better than 500, then you will get an admission in your preferred institute.
If the statement above is true, which of the following must also be true?
I. If you do not get a JMET rank of better than 500, then you will not get an admission in your preferred institute.
II. If you get an admission in your preferred institute, then you must have got a JMET rank of better than 500.
III. If you did not get an admission in your preferred institute, then you did not get a JMET rank of better than 500.
(A) II only (B) III only (C) I and III only (D) I, II and III

Solution 15. The format of the statement given is like:-
If X then Y and the solution for this is if not Y then not X. So, only statement III is the possible answer. Hence, the correct option is (B).

Directions: Questions 16 to 21 are based on the following passage:

There are six blocks of rooms along a straight corridor in a hotel with each block containing two rooms facing each other.

|					
Corridor					
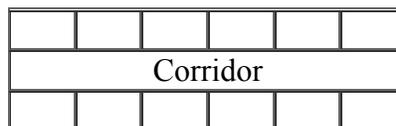
The following group of twelve people, Jitender, Lakshman, Mary, Narayan, Pankaj, William, Chandra, Ahmed, Balu, Ferosh, Esha and Rajender has occupied some of these rooms. There are a maxmium of two people in a room, and some rooms may be empty.

• Lakshman and his room-mate stay two blocks to the right of Ahmed and his room-mate Chandra.
• Jitender stays alone, three blocks to the left of William and two blocks to the left of Esha.
• Mary stays one block to the left of Ahmed and Chandra.
• Narayan stays three blocks to the right of the block on which Balu and Ferosh have single rooms.
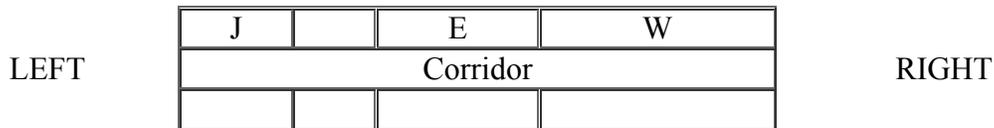• Rajender and Pankaj stay in single rooms two blocks to the left of Mary.

Solutions 16 to 21.

It is clear from fact 1 that Lakshman has a room-mate and they stay two blocks to the right of Ahmed and Chandra.
From condition 1 we can draw the figure as:

A & C		L & Room-mate
	Corridor	
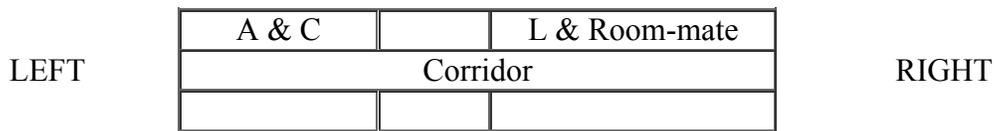
LEFT   RIGHT

Now, from condition 2, we can draw the figure as:

J		E	W
	Corridor		

LEFT   RIGHT

From condition 3, we get the figure as:

M	A & C
Corridor	
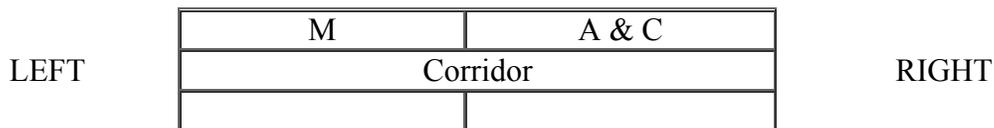
LEFT   RIGHT

From condition 4, we get the figure as:

B			N
	Corridor		
F			
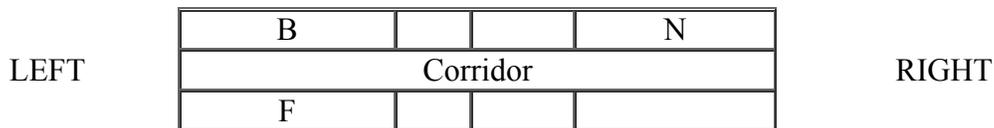
LEFT   RIGHT

From condition 5, we get the figure as

R		M
	Corridor	
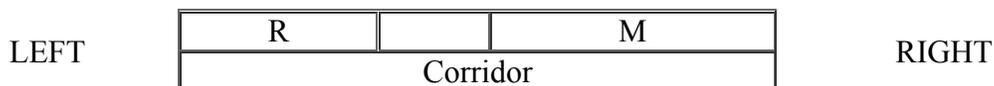
LEFT   RIGHT

P		

Now combining conditions 1, 3 and 5 we get,

LEFT

R		M	A &C		L & Room-mate
Corridor					
P					

RIGHT

Combining with condition 4.

LEFT

R	B	M	A &C	N	L & W
Corridor					
P	F	J		E	

RIGHT

Q.16 Which of the following lists the persons in the correct order, going from the left most block to the right?
(A) Rajender, Balu, Mary, Ahmed, Lakshman, Narayan
(B) Rajender, Ferosh, Narayan , Esha, Lakshman , Chandra
(C) Pankaj, Balu, Jitender, Chandra, Narayan, Lakshman
(D) Lakshman, Esha, Ahmed, Mary, Ferosh, Rajender

Solution 16. From the above figure we can say that the correct option is (C).

Q.17 Which of the following pairs must stay on the same block?
I. Narayan and Esha
II. Jitender and Mary
III. Ahmed and Lakshman
(A) I only (B) III Only (C) I and II only (D)) II and III only

Solution 17. Only Narayan and Esha, Jitendra and Mary. Hence, the correct option is (C).

Q.18 Lakshman's room-mate, assuming that he or she is one of the persons mentioned, is
(A) Esha (B) William (C) Mary (D) Narayan

Solution 18. From the figure, William is the room-mate of Laskhman. Hence, the correct option is (B).

Q.19 Rajender stays on the
(A) First block, and to the left of Balu or Ferosh.
(B) Second block, and to the left of Jitender or Ahmed and Chandra.
(C) Third block, and to the right of Mary or Esha.
(D) Fourth block as Ahmed and Chandra.

Solution 19. Rajender stays in the first block. Hence, the correct option is (A).

Q.20 An empty room or empty rooms may be found in the
(A) Second block only. (B) Fourth block only.
(C) Third or sixth block, but not both. (D) Fourth or sixth block or both.

Solution 20. An empty room or empty rooms may be found in 4 th or 6 th block or both. Hence, the correct option is (D).

Q.21 Jitender arranges to move into a room two blocks to the left, whose occupant moves into a room one block to the right. In turn, the occupant of this room moves into a room three blocks to the right, whose occupant takes Jitender's old room. The new occupant of Jitender's old room is
(A) Balu or Ferosh (B) Narayan or Esha
(C) Mary (D) Rajender

Solution 21. According to the new arrangement, Narayan or Esha are the occupants of Jitender's old room. Hence the correct option is (B). So, only statement I is a fact. Hence, the correct option is (A).

Q.22 The following information is given about a four-sided polygon.
I. The polygon is a rectangle.
II. The area of the polygon is given to be 100m 2.
III. One side of the polygon is 8 m.
IV. All the adjacent sides are at right angles to each other. Which of the above facts are *sufficient* to determine the dimensions of the polygon?
(A) II and III (B) II, III and IV (C) I, III and IV (D) I and II

Solution 22. The information given in the question is about a four-sided polygon. When we are given three facts such as area, one side and angle between the adjacent sides we can determine the dimensions of the polygon. So, II, III and IV facts are sufficient. Hence, the correct option is (B).

Directions: Questions 23 and 24 are based on the following passage:

Gopal: My father insists that the only way to get a good rank in the JMET examination is to work much harder than what I do at present. However, Alok and Raju, my two college seniors whom he coached for JMET last year got good ranks with less effort than what I am putting in.

Q.23 Gopal's primary purpose for making his point is to
(A) Present the ideal method to prepare for JMET examination.
(B) Present evidence that was previously overlooked.
(C) Point out a logical flaw in his father's reasoning.
(D) Draw an analogy to justify his method of preparation.

Solution 23. Ans is option (c). The question states that according to Gopal's father there is only one way to get a good rank in the JMET exam and that is for Gopal to work much harder. Gopal has contradicted his father's argument by giving the example of his two seniors. Thus, the answer

is option (c) as according to Gopal, working hard and getting a good rank are not directly co - related. Option (A) is incorrect because Gopal is not presenting a method of his own. We have no information whether the evidence was overlooked or not, so we can also eliminate option (B). Gopal is talking about how Alok and Raju prepared and not about his own method of preparation, thus option (D) can also be eliminated.

Q.24 Which of the following statements would be the most effective rebuttal by Gopal's father to his arguments?
(A) Your two college seniors did not have to put in more effort as they had been preparing for this examination for a longer duration.
(B) I have been coaching students for this examination since its inception, and hence I feel that you need to put in more effort.
(C) You need to provide much more detailed data to support your argument.
(D) My suggestion is not obviously wrong. There is only one way to find out if it is wrong, and that is to try it.

Solution 24. Ans is option (C). Option (A) mentions the "duration", but we have no information about this in the question, thus it can be eliminated. Option (B) is not the answer as Gopal's father has not provided any concrete proof for his argument. Option (D) is incorrect as it is not a rebuttal, where Gopal's father is trying to prove his argument is right. Option (C) would be the best answer here as Gopal has given the example of only two students and this is a very low number to prove his argument.

Directions: Questions 25 and 26 are based on the following passage:

It is important for companies to motivate their employees to stay fit. Therefore, employees should he provided with gymnasium facilities.

Q.25 Which of the following, if true, **most strengthens** the above argument?
(A) Only those employees who use gymnasium facilities are fit.
(B) The employees who use gymnasium facilities are fit.
(C) The employees who are fit use gymnasium facilities.
(D) Some employees who use the gymnasium facilities are fit.

Solution 25. Ans is option (B). Option (A) is wrong because it is an extreme answer. option (C) is incorrect because it is not necessary that if an employee is fit it is only because he/she uses the gymnasium; there could be other reasons for this. Option (D) is wrong because it includes only "some" employees, which would mean that it is not necessary that is one uses the gym one will be fit. Option (B) would best support the given argument as it reiterates the purpose of the argument.

Q.26 Which of the following, if true, **most weakens** the above argument?
(A) All those employees who undergo a dieting program are fit.
(B) Not all those employees who undergo a dieting program are fit.
(C) Not all those employees who use gymnasium facilities are fit.
(D) All of those employees who use gymnasium facilities are fit.

Solution 26. Ans is option (C). This answer option is a contradiction to the argument given in the question. Thus, it would weaken the argument. Option (A) and (B) are wrong as they mention a dieting program, which has not been mentioned in the given argument. Option (D) would strengthen the argument.

Q.27 *He must be an IIT student; he is wearing a shirt with the IIT logo on it.*

This conclusion is valid only if it is true that
(A) All IIT students wear shirts with IIT logo on it.
(B) IIT students never wear any shirt without IIT logo on it.
(C) IIT students are required to wear shirts with IIT logo on it.
(D) Only IIT students wear shirts with IIT logo on it.

Solution 27. Ans is option (D). The conclusion co - relates wearing the T - Shirt with the logo and being an IIT student. This will be true only if IIT students were to wear such T - shirts, otherwise reaching a definite conclusion would not be possible. Option (A) does not specify that non - IIT students may or may not wear such T - shirts. Option (B) is a contradiction to the given statement. Option (C) says that the students are required to wear the T - shirts but this does not mean that they will necessarily wear them.

Q.28 In recommending a salary cut of five percent to the board of directors, the CEO of a company said: "There were no worker demonstrations over the previous salary cuts of three percent last year and two percent the year before."

If the CEO's statement is accurate, which of the following can be validly deduced from the information given?
I. Most workers in the previous years felt that the salary cuts were justified because of increased operating costs.
II. Workers' apathy was responsible for the failure of the workers to protest the previous salary cuts.
III. Workers are not likely to demonstrate over the new salary cuts.
(A) I and III only (B) II and III only
(C) I, II and III (D) Neither I, II nor III

Solution 28. Ans is option (D). Statement I cannot be concluded as it is outside the scope of the passage because it mentions the operating costs. Statement II can be eliminated as we do not know whether the workers were apathetic or not. This would be a judgement. Statement III can also be eliminated as we do not know what the workers' reaction will be.

Directions for Questions 29 to 34: The sentences given below when properly sequenced form a coherent paragraph. Each sentence is numbered. Select the most logical order of the sentences in each case.

Q.29 (i) Liberalization of the aviation sector has led to the arrival of many private carriers in the domestic market. (ii) The railways have introduced some very ingenious schemes to retain their customers. (iii) The lower airfares have cannibalized the first class travelers in the railways due

to the parity in fares and the reduction of travel times. (iv) This situation of having choices in the mode of transportation is of delight to the customers.
(A) (i)-(iv)-(ii)-(iii) (B) (i)-(iii)-(ii)-(iv) (C) (i)-(iv)-(iii)-(ii) (D) (i)-(iii)-(iv)-(ii)

Solution 29. Ans is option (D). Sentence (i) introduces the main point of the paragraph i.e. the effects of liberalization on the aviation sector, thus it has to be the first sentence. Sentence (iii) can be related to the first because they are both referring to the aviation sector (sentence iii talks about the airfares). Sentence (iii) and (ii) can b linked through common terms i.e. the railways. Sentence (ii) talks about the effect the low airfares have had on the railways and the resultant action taken by them. Sentence (iv) concludes the paragraph as it talks about the choices of modes of transportation as a result of the reduced fares. Also it has the pronoun "this" which refers to the situation mentioned earlier.

Q.30 (i) The ongoing war in Iraq is perceived by many as a serious threat to world peace. (ii) The real benefit of the war is yet to be realized, but the losers have been the people of Iraq . (iii) The supporters of the war point out that human rights violation is serious enough to have warranted the war in Iraq , in spite of the increased risk to world peace. (iv) Both who support and oppose the war have valid points to bolster their arguments.
(A) (i)-(iii)-(iv)-(ii) (B) (iii)-(i)-(iv)-(ii) (C) (ii)-(i)- (iii)-(iv) (D) (ii)-(iii)-(i)-(iv)

Solution 30. Ans is option (A). sentence (i) opens the paragraph as it mentions the scope of the paragraph i.e. the war in Iraq . Sentence (iii) can be connected to the first with common terms i.e. they both discuss "world peace". Sentence (iv) refers to the arguments made in the previous sentences of the paragraph hence it should follow (iii). Sentence (ii) refers to the future, hence it should conclude the paragraph.

Q.31 (i) The history of civilization had to he rewritten in the 19 th and the 20 th century after it was established that these paintings were produced by Stone Age dwellers. (ii) The owner of the animal rescued it, but in the process discovered those caves. (iii) Discovered in 1865, the cave paintings popularly referred to as the 'Sistine chapel' of the stone age are estimated to have been created around 12000 B.C. (iv) The discovery of the stone age paintings was made possible when a hunting dog got trapped in the cave.
(A) (i)-(iii)-(iv)-(ii) (B) (iii)-(i)-(iv)-(ii) (C) (iv)-(ii)-(i)-(iii) (D) (iii)-(iv)-(ii)-(i)

Solution 31. Ans is option (D). Sentence (iii) introduces the cave paintings that the rest of the sentences talk about, hence it is the opening sentence. Sentence (iv) is next as it talks about how the paintings were discovered. Also sentence (ii) has the pronoun "it" which refers to the "dog" in sentence (iv), so it has to come after this sentence. Sentence (i) concludes this paragraph as it talks about the consequences of this discovery.

Q.32 (i) Aggressive play may not be instigated in captivity because the development of hunting skills is irrelevant in captivity. (ii) However, tiger cubs born in captivity never engage in aggressive play. (iii) The cubs' parents generally instigate the aggressive play between the cubs. (iv) Young tiger cubs in the wild are often found to engage in aggressive play with their siblings.

(A) (i)-(ii)-(iv)-(iii) (B) (i)-(ii)-(iii)-(iv) (C) (iv)-(iii)-(i)-(ii) (D) (iv)-(iii)-(ii) -(i)

Solution 32. Sentence (iv) introduces the main point of the paragraph i.e. aggressive play between cubs. Sentence (iii) explains how this aggressive play is initiated, thus it follows (iv). Sentence (ii) starts with the conjunction "however" and gives a contrasting idea to the one mentioned in the previous sentence i.e. it talks about tigers in captivity. Sentence (i) relates to (iii) on the basis of common terms i.e. "captivity".

Q.33 (i) If a new list of the world's wonders was necessary, it should have been compiled by UNESCO, and not by any private organization. (ii) The electronic media had relentlessly campaigned for the cause of the Taj Mahal, motivating all the Indians to vote for the monument so that it would be included in the new list of the Seven Wonders of the World . (iii) The Taj does not require any campaign to prove its timeless beauty. (iv) It was a totally unnecessary campaign.
(A) (ii)-(i)-(iv)-(iii) (B) (ii)-(i)-(iii)-(iv) (C) (ii)-(iv)-(iii)-(i) (D) (i)-(ii)-(iii)- (iv)

Solution 33. Ans is option (C). Sentence (ii) introduces the main idea of the paragraph i.e. the campaign. Sentence (iv) refers to the campaign again, thus it can be connected to sentence (ii). Sentence (iii) explains why the campaign was necessary so it follows (iv). Sentence (i) provides a alternative to the campaign, thus it should conclude the paragraph.

Q.34 (i) It is more than a budgetary move for Nepal's interim government to strip the royal family of its annual allowance. (ii) To make the monarchy irrelevant is the next logical step forward for the government. (iii) Monarchs do not draw all their powers from their purses; though they do not like being deprived of the funds. (iv) To carry the palace's expenses is a big burden for a small country. (A) (i)-(iii)-(iv)-(ii) (B) (iii)-(iv)-(i)-(ii) (C) (iii)-(i)-(iv)-(ii) (D) (i)-(iii)-(ii)-(iv)

Solution 34. Ans is option (C). Sentence (iii) introduces the general scope of the paragraph that is depriving the monarchy of their funds. Sentence (i) explains this general idea with the example of Nepal . Sentence (iv) provides an explanation for the move made in the previous sentence, thus it follows (i). Sentence (ii) talks about the future consequences of this action thus it concludes the paragraph.

Q.35 Charu is a person of regular habits. One day Charu saw that her clock had stopped working. She changed the battery and set it to some arbitrary time. Immediately after that, she walked to her friend Paru's house. On entering Paru's house, she glanced at the clock that showed the correct time. Charu also noticed the time when she left Paru's place. As usual, she walked back to her house and reset her clock. If the time set by Charu is correct, which of the following assumptions have to be made?
(A) Charu knows the exact distance to Paru's house.
(B) Charu passed by a clock store on the way back to her house.
(C) She walked at the same speed while going to and returning from Paru's house.
(D) Charu knows the average time it takes to walk to Paru's house.

Solution 35. The time taken by Charu to reach the home of Paru can't be derived from given situation.
So, we have to assume it. Hence, correct option is (D).

Directions: Questions 36 to 39 are based on the following passage:

Amit, Balvinder, Chetan and Deepak are employed in a company, where they have to share among themselves the work load that consists of six tasks A, B, C, D, E and F. The following statements identify their preferences for the different tasks.
• All those who like task B also like task E.
• All those who like task C also like task D.
• All those who like task E do not like task C, and vice-versa.
• Some of those who like task E also like task A.
• Some of those who like task D also like task E.
• All those who like task D also like task F.

Solution for questions 36 to 39:

Venn diagrams (VD) corresponding to given statements (with corresponding numbering) are drawn. And now conclusions related to particular question are discussed.
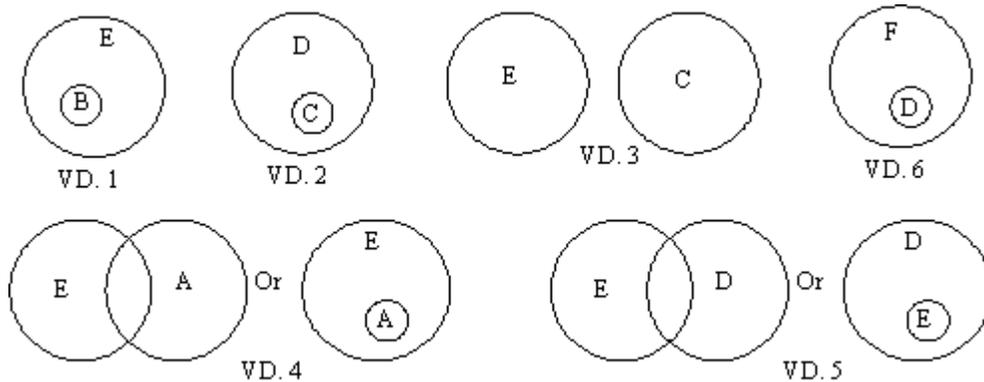
Q.36 Amit enjoys the task D. Which of the following must he true?
(A) He may or may not like the task C. (B) He does not like the task B.
(C) He likes the task A. (D) He likes the task C

Solution 36. As Amit likes task D. Thus, he also likes task F (VD. 6.). While those who likes task D, may or may not like task C or E. (VD. 2 and 5)
Hence, answer is (A)

Q.37 Balvinder likes the task B. He may also like any of the following tasks, except
(A) Task A (B) Task C (C) Task D (D) Task E

Solution 37. As Balvinder likes task B. Thus, he also likes task E (VD. 1.). Also, he may or may not like task D or E (VD.4 and VD.5). But, he does not like task C. (VD.3)
Hence, answer is (B).

Q.38 Chetan likes the task C. Which of the following must he false?
(A) He does not like the task A. (B) He likes the task F.
(C) He does not like the task B. (D) He may like the task E.

Solution 38. As Chetan likes task C. Thus, he also likes task D (VD. 1.) and F (VD.6). But, he does not like task E. (VD.3). Hence, answer is (D)

Q.39 Based on the information provided, which of the following statements must be true?
(A) All those who like the task E also like the task B.
(B) None of those who do not like the task F like the task A.
(C) Those who like the task A may or may not like the task C.
(D) None of those who like the task B do not like the task D.

Solution 39. We can't say anything accurately by the options (A), (B) and (D). From option (C), we can see by the Venn-diagrams that those who like the task A may or may not like the task D. Hence, correct option is (C).

Q.40 Students rank the business schools based on the following factors: Average salary of a fresh graduate, student to faculty ratio, terminal degree of faculty members, and institutional facilities. In their final ranking school A is ranked higher than school B. Which of the following will ensure that school A is ranked higher than school B?
(A) The average salary of fresh graduates from school A is 60% less than the average salary of fresh graduates from school B.
(B) The average salary of fresh graduates from school A is 80% more than the average salary of fresh graduates from school B.
(C) All the faculty members in school A have a doctoral degree while in school B only 50% of the faculties have a doctoral degree.
(D) In all the factors school A is marginally better than school B.

Solution 40. The factors which are considered for the ranking of business schools are marginally better in the school A than school B. Hence, the correct option is (D).

SECTION 3: Quantitative Ability

Directions: Questions 1 to 4 relate to the AIRCRAFT PURCHASE problem given below:

India's national airline 'INDIAN' is considering purchase of new aircraft to meet an estimated demand of 4600 seats. The table below presents the relevant data.

Aircraft	Seats	Price ($ millions)
B747	400	250

B777	300	150
A321	200	100

It has planned to buy three B777s and five A321s for every B747.

Q.1 How many of each aircraft should the company purchase?
(A) B747 = 2; B777 = 6; A321 =10 (B) B747 = 4; B777 = 6; A321 = 6
(C) B747 = 3; B777 = 8; A321 = 5 (D) B747 = 1; B777 = 6; A321 = 12

Solution 1. It is given that, for every B747 there will be 3-B7777 and 5-A321
Only answer option (A) satisfies this condition. Hence, the correct option is (A).

Q.2 However, INDIAN's budget is limited to $2000 million for this purchase. Given this constraint, it is willing to be flexible on the proportion of aircraft types to be purchased.

How many aircraft should it purchase such that both budget utilization and meeting the estimated seat demand are simultaneously maximized?
(A) B747 = 2; B777 = 4; A321 = 9 (B) B747 = 2; B777 = 6; A321 = 6
(C) B747 = 2; B777 = 5; A321 = 7 (D) B747 = I; B777 = 5; A321 = I

Solution 2. For options A, C and D the price of aircrafts is $ 2000 million. As price per seat for B747 is higher than A321 and B 777. Therefore we try to minimize the number of B747 aircrafts. So option (D) gives maximum number of seats. Hence, the correct option is (D).

Q.3 How many different alternatives for aircraft purchase are possible for full use of the budget?
(A) 5 (B) 6 (C) 3 (D) 4

solution 3. Here full use of the budget means both budget utilization and meeting the estimated seat demand are simultaneously maximized. To maximize it, we should purchase minimum number of B747 aircrafts various combinations can be calculated by equation.
$250C + 150B + 100A = 2000$
Þ $5C + 3B + 2A = 40$

B777	A721	B747
1	16	1
3	13	1
5	10	1
7	7	1
9	4	1
11	1	1

Hence, the correct option is (B).

Q.4 If a deviation of at most $50 million below the budget is permitted, how many additional alternatives for aircraft purchase are possible?
(A) 5 (B) 3 (C) 4 (D) 6

Solution 4. Now the equation becomes,
$5C + 3B + 2A = 39$

B747	B777	A321
1	2	14
1	4	11
1	6	8
1	8	5
1	10	2

Hence, the correct option is (A).

Directions: Questions 5 and 6 relate to the DISTRIBUTION CHANNEL problem given below:

There are two markets for selling a product, and two channels for distribution of the product to these markets. The cost of distribution per unit of the product through Channel 1 and Channel 2 are f 1 and f 2 respectively. The total cost incurred by the seller for Market 1 and Market 2 are F 1 and F 2 respectively. Let q 1 and q 2 be the quantities of product distributed to Market I and Market 2 through Channel 1. Let q 3 and q 4 be the quantities of product distributed to Market 1 and Market 2 through Channel 2.

Q.5 Which of the following linear equations in matrix form correctly represents this problem?

(A) $\begin{bmatrix} q_1 & q_2 \\ q_3 & q_4 \end{bmatrix} \begin{bmatrix} f_1 \\ f_2 \end{bmatrix} = \begin{bmatrix} F_1 \\ F_2 \end{bmatrix}$
(B) $\begin{bmatrix} q_1 & q_2 \\ q_3 & q_4 \end{bmatrix} \begin{bmatrix} f_2 \\ f_1 \end{bmatrix} = \begin{bmatrix} F_2 \\ F_1 \end{bmatrix}$

(C) $\begin{bmatrix} q_1 & q_3 \\ q_2 & q_4 \end{bmatrix} \begin{bmatrix} f_2 \\ f_1 \end{bmatrix} = \begin{bmatrix} F_1 \\ F_2 \end{bmatrix}$
(D) $\begin{bmatrix} q_3 & q_1 \\ q_4 & q_2 \end{bmatrix} \begin{bmatrix} f_2 \\ f_1 \end{bmatrix} = \begin{bmatrix} F_1 \\ F_2 \end{bmatrix}$

Solution 5. With the given conditions in question, relation formed will be: $q * f = F$

Moreover, equation formed will be
$q_1 f_1 + q_3 f_2 = F_1$ ------(1)

$q_2 f_1 + q_4 f_2 = F_2$ ------(2)

When it is converted in matrices form, answer option (D) is followed.

Q.6 Given $q_1 = 2$, $q_2 = 4$, $q_3 = 4$, $q_4 = 8$. $F_1 = 10$, and $F_2 = 20$, which of the following is true?

(A) $f_1 = 1$ and f $f_2 = 2$ is one of the possible solutions (B) $f_1 = I$ and $f_2 = 2$ and it is unique
(C) $f_1 = 2$ and $f_2 = 1$ and it is unique (D) $f_1 = 2$ and $f_2 = 1$ is one of the possible solutions
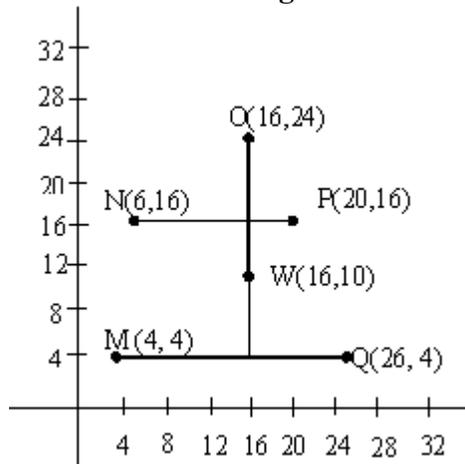
Solution 6. Putting all values of q, f and F in equation (1) and (2), two equations formed are identical.
$f_1 + 2f_2 = 5$
Thus, $f_1 = 1$ and $f_2 = 2$ is one of the possible solutions.
Hence, answer is (A)

Directions: Questions 7 to 9 relate to the locations of WAREHOUSE AND SUPERMARKETS given below:

A retail major has a warehouse (W) located at (16, 10) in a town having roads laid on a square grid parallel to the x and y axes. There are five retail supermarkets (M, N, 0, P and Q) located respectively at (4, 4), (6, 16), (16, 24), (20, 16) and (26, 4).

Q.7 What is the ordering of the supermarkets from the nearest to the farthest from the warehouse?
(A) P, M, N and Q, O (B) P, N and Q, 0, M
(C) P, O, N and Q, M (D) P, O, M, N and Q

Solution 7. According to given coordinates of warehouse and supermarkets the locations will be as follows. The distance of supermarkets from warehouse will be given by
M = (16 - 4) + (10 - 4) = 12 + 6 = 18
N = (16 - 6) + (16 - 10) = 10 + 6 = 16
O = (16 - 16) + (24 - 10) = 0 + 14 = 14
P = (20 - 16) + (16 - 10) = 4 + 6 = 10
Q = (26 - 16) + (10 - 4) = 10 + 6 = 16

So, the correct order from nearest to farthest from ware house will be: P, O, N and Q, M.
Hence, the correct option is (C).

Q.8 Suppose each square block in the grid has sides of length 2 km. The minimum length of a

round trip starting from M and moving through N, 0, P, Q and returning to M will be
(A) 84 km (B) 42 km (C) 80 km (D) 40 km

Solution 8. Here, in the grid each block corresponds to 2 km, so each unit corresponds to 1km,
now, the minimum length of the round trip to all supermarkets is
MN + NO + OP + PQ + QM = 12 + 2 + 8 +10 + 8 + 4 + 12 + 6 + 12 = 84.
Hence, the correct option is (A).

Q.9 Five trucks are used, one each to travel from the warehouse to the supermarkets M, N, 0, P
and Q. Suppose their average speeds are respectively 54, 50, 42, 25 and 40 kmph. Assume that
the trucks are identical and their drivers have identical driving skills and styles. If five trucks
start simultaneously from the warehouse, which truck will reach its destination the earliest?
(A) W to M (B) W to O (C) W to P (D) W to N

Solution 9. We have the distance traveled by trucks from warehouse to the supermarkets and the
speed of each truck. SO, time taken will be given as:
From W to M = 18/54 = 0.33
From W to O =14/42 = 0.33
From W to Q = 10/25 = 0.40
From W to N = 16/50 = 0.32

Hence, the correct option is (D).

Directions: Questions 10 to 12 relate to the EXCHANGE RATES problem given below:

The official 'buy' and 'sell' exchange rates for the US $, UK £, and EU €, with reference to the
Indian INR are presented in the table below:

Bank BUYS		BUYS SELLS	
You sell	Bank Pays You	You pay bank	You buy
$1	INR40	INR42	$1
£1	INR77	INR79	£1
€1	INR60	INR62	€1

Your local bank agrees to sell $ 0.023 or £ 0.012 or € 0.015 for INR 1.

Q.10 You wish to buy foreign currency with INR I lakh. Based on the values of each foreign
currency you will receive from the bank, arrange them in the descending order. (Please note:
1/42 = 0.024; 1/79 = 0.013; 1/62 = 0.016)
(A) $ > € > £ (B) € >£ >$
(C) £ > € > $ (D) all are equal

Solution 10 . From 1 INR we can buy 1/42 $

∴ From 100,000 INR we can buy 100,000/42 $
= 2400 $ (Given:1/42=0.024)
Similarly;
From 100,000 INR we can buy 100,000/79 £
= 1300£ (Given:1/79=0.013)
From 100,000 INR we can buy 100,000/62€
= 1600 € (Given:1/62=0.016)

∴ The descending order of currency we will receive
=$ > € > £. Hence the correct answer option is (A).

Alternate solution:

Number of unit buy = 1/Buying price ;
Buying price of $ < € < £;
Ratio of number of unit from fixed amount of INR = $ > € > £ Hence the correct answer option is (A).

Q.11 When you buy foreign currency from your local bank, it will levy a transaction fee equivalent of INR 500 and an additional INR 500 to deliver the exchanged money to the branch of your choice. This total amount of INR 1000 will be deducted from the foreign currency payable to you. At the airport, the money changer is willing to offer $ 0.022 for INR I.

What is the range of values of INR that can be exchanged for buying the $ which will get you a better deal at the airport than the bank?
(A) INR 0 to 1000 (B) INR 1000 to 23000
(C) INR 0 to 23000 (D) INR > 23000

Solution 11 . From x INR we can get (x-1000) * 1/42 $,
= [(x-1000) 0.023] $,
= (0.023x-23) $ from the bank and 0.022x $ from airport.
For better deal;
=› 0.022x > 0.023x - 23;
=› 23 > 0.023x - 0.022x;
=› 23 > 0.001x;
=› 23000 > x.

∴ Answer is option (c) INR 0 to 23000.

Q.12 The £ to € 'buy' rate is £ I = € 1.222. Using the INR as the reference currency, determine by what percentage this 'buy' rate should change such that there is no arbitrage (or, differences among the three pair-wise exchange rates) across the three currencies?
(A) approx. 5% (B) approx. 36%
(C) approx. 4.25% (D) approx. 35.75%

Solution 12. 1 INR = 1/79 £ = 1/62 €;

$1 £ = 79/62 €$;

=1.274 €;

But the buy rate given is 1.222 € ;

∴ Difference = 1.274 - 1.222

= 0.052

∴ % change = 0.052 / 1.222 ´ 100

= 4.25 % (approx...)

∴ Answer option is (C).

Directions: Questions 13 and 14 relate to the BPO HR FLOWS problem described below:

Three BPOs, X, Y and Z have 500, 650 and 800 permanent employees respectively on 1st January 2006. The table below provides data on the average number of employees who quit one BPO and join another in a month.

To → FROM ↓	X	Y	Z
$1	0	5	3
£1	8	0	1
€1	10	12	0

The second table below provides data on the retirements and retrenchments from X, Y and Z (these people are not re-employed in any of these three companies), and the additional fresh recruitments made by the three BPOs per month.

	X	Y	Z
Retirements and Retrenchments	3	6	10
Fresh Recruits	10	12	20

All the joining or leaving events happen at the end of each month.

Q.13 What will be the employee strengths of the three companies on 31st December 2006?
(A) X = 704; Y = 818; Z = 704 (B) X = 687; Y = 804; Z = 712
(C) X = 610; Y = 738; Z = 602 (D) X = 620; Y = 746; Z = 584

Solution 13. Initial values are: X = 500, Y = 650, Z = 800.

	Left	Joint	Retired	Fresh Recruits
X	8	18	3	10
Y	9	17	6	12

Z	22	4	10	20

Variation per month in X, Y, Z
Variation in X = 18 + 10 - (8 + 3) = 17
Variation in Y = 17 + 12 - (9 + 6) = 14
Variation in Z = 4 + 20 - (22 + 10) = -8
Thus, employee strength in three BPOs
X = 500 + (17 x 12) = 704
Y = 650 + (14 x 12) = 818
Z = 800 + (-8 x 12) = 704
Hence, answer is (A)

Q.14 In which month will the sum of the absolute value of differences in employee strengths between X and Y, and Y and Z be the least?
(A) June (B) July (C) August (D) September

Solution 14. Strength table in different months

	June	July	August	September
X	602	619	636	652
Y	734	748	762	776
Z	752	744	736	728

Difference table for these corresponding months

	June	July	August	September
X-Y	132	129	126	124
Y-Z	18	4	26	48

of sum in these months:
June = 150, July = 133, August = 152, September = 172
The sum is least in July. Hence, answer is (B).

Directions: Questions 15 to 17 relate to the CAMPUS PLACEMENT description given below:

Three companies, Muck-In-Sea (MIS), Cold Man's Axe (CMA), and Bark Laze Bank (BLB) are scheduled, in that order, to interview 8 young MBA wizards at Hogwarts for offering career placements on Day minus 15/8. Each company can select at most 3 students. Once a student receives an offer from a company, that student is not allowed to appear in any more interviews.

Q.15 How many possible combinations of student selections are there for MIS?
(A) 4 (B) 93 (C) 92 (D) 3

Solution 15. There are four ways of selection by MIS: selecting 1 student, 2 students, 3 students or no student.
Possible combinations = ${}^8C_0 + {}^8C_1 + {}^8C_2 + {}^8C_3 = 1 + 8 + 28 + 56 = 93$
Hence, answer is (B)

Q.16 What is the probability that CMA also does not select any student if MIS does not select any student?
(A) 1/4 (B) 1/3 (C) 1/92 (D) 1/93

Solution16. Number of ways of not selecting any student = $8C\,0$
And the total number of ways = ${}^8C_0 + {}^8C_1 + {}^8C_2 + {}^8C_3$
Therefore, Probability = 1/93
Hence, answer is (D)

Q.17 Considering all the options (0, 1, 2 or 3 students) exercised by MIS and CMA, how many options does BLB have to make its selection?
(A) 3 (B) 4 (C) 63 (D) 64

solution.

No. of candidates available for BLB	No.of ways BLB can select these candidates	Options available	Number of options	Total number of options
3	15	0, 1, 2, 3	4	60
2	1	0, 1, 2	3	3

Thus, total options = 60 + 3 = 63
Hence, answer is (C)

Directions: Questions 18 to 21 relate to the HOSPITAL SERVICES SURVEY given below:

You have conducted a survey among patients in a large hospital and developed a 'dissatisfaction index' (DI) for:
(a) Patients who are waiting for consultation with doctors, DI wc, and
(b) Patients who are in consultation with the doctors, DI ic.

Consider that there are only two patients in the system. At time $t = 0$, one goes in for consultation, and the other begins waiting. Using the survey data, you have developed the following two mathematical models for representing the dissatisfaction among the two patients as a function of time 't':
$DI_{wc} = (t\,2/75) + 0.lt$
$DI_{ic} = 10 - 0.5t$

Q.18 What is the optimal time 't' (in minutes) that a doctor should spend offering consultation to the patient such that the total dissatisfaction of the two patients is minimized? The two indices

are additive.
(A) 12.75 min (B) 0 min (C) 15 min (D) 10 min

Solution 18. For minimum total dissatisfaction index
d (DI)/dt = d (t^2/75 - 0.4t + 10) / dt = 0
2t/75 - 0.4 = 0
t = 15 min
Hence, answer is (C)

Q.19 What is the value of the total dissatisfaction index at this point?
(A) 7 (B) 7.07 (C) 10 (D) 7.33

Solution 19. Putting t = 15 in the equation of total dissatisfaction.
Total DI = 15^2/75 - 0.4 (15) + 10 = 7.00
Hence, answer is (A)

Q.20 At what point of time will a patient waiting for consultation have the same DI as a patient in consultation? (Use 0.89 1/2 = 0.94)
(A) approx. 15 min (B) approx. 12.75 min
(C) approx. 10 min (D) approx. 7.5 min

Solution 20.

S.No	DI Type	15 min	12.75 min	10 min	7.5 min
1	WC	1.5	3.4425	0.33	1.5
2	IC	2.5	3.625	5	6.25

Hence, answer is (B)

Q.21 Given the following functions of time t, for any value of the parameters a and b, rank them in the ascending order of function values as t $\xrightarrow{}{\infty}$?
1. f(t) = a^2 bt
2. f_2(t) = a + bt
3. f_3(t) = ae^{bt}
4. f_4(t) = at^2 + bt
(A) f_3(t), f_1 (t), f_4(t), f_2(t) (B) f_4(t), f_1(t), f_3(t), f_2(t)
(C) f_1(t), f_3(t), f_4(t), f_2(t) (D) f_2(t), f_4(t), f_1(t), f_3(t)

Solution 21. Among four given functions f_2 is linear, $f_4$is quadratic, and f_1 and $f_4$are exponential. Moreover, value of 'e' is greater than 2. Therefore, f_3 > $f_1$for higher powers of t.
Thus, ascending order formed will be f_2, f_4, f_1, f_3.
Which answer option (D)

Directions: Questions 22 and 23 relate to the COMPANY REVENUE MODELING problem given below:

A company's analytics team has modeled its Total Revenue (TR) as TR = $3W^{1.2} A^{3.6}$, where W is its wage payments and A is its advertising expenditure.

Q.22 The approximate change in TR, if wages are increased by 5% will be
(A) 3.15% (B) 5% (C) 3.18% (D) 6%

Solution 22. TR = $3W^{1.2}A^{3.6}$
= $3[WA\ 3]^{1.2}$
On increasing wages by 5%, TR becomes -
TR1 = $(1.05)^{1.2}$ TR
Change = $[(1.05)^{1.2} - 1]$ x 100 = 6%
Hence, answer is (D)

Q.23 In addition to the said wage increase, if A is decreased by 2% the net change in TR will be
(A) 3% (B) -1.2% (C) -0.04% (D) -1.4%

Solution 23. On increasing wages by 5% and decreasing A by 2%.
Net TR change will be:
TR2 = $(1.05)^{1.2}$ x $(0.98)^{3.6}$ TR
Change = {[(1.05) 1.2 x (0.98) 3.6] - 1} x 100 = - 1.4%
Hence, answer is (D).

Directions: Questions 24 and 25 relate to the PROJECT INVESTMENT DECISIONS given below:

A project requires an initial capital investment of Rs. 2 lakh which yields a one-time benefit at the end of the second year.

Q.24 If the cost of capital is 10%, what should be the minimum yield that would justify an investment in this project?
(A) Rs. 2, 42,000 (B) Rs. 2, 40,000 (C) Rs. 2, 20,000 (D) Rs. 2, 22,000

Solution 24. Initial capital investment of Rs. 2, 00,000. If the cost of capital is 10%, the minimum yield that would justify an investment in this project is 2, 00,000 * (1+10/100) * (1+10/100) = 2, 42,000. Hence, the correct option is (A).

Q.25 Suppose the investment of Rs. 2 lakh in the above project can be made in two equal installments of Rs. 1 lakh in the beginning of the project and the other Rs. 1 lakh at the beginning of the second year. From the beginning of the third year, the project will generate revenues of Rs. 1.5 lakhs every year. Using the same cost of capital of 10%, what should be the minimum life of the project inclusive of the project implementation phase? (Use the 'beginning of the year' convention)
(A) 3 years (B) 5 years (C) 4 years (D) 6 years

Solution 25. From the given data we make table

Year	Beginning (Inv.)	INT (10%)	Total (End)	Profit
1 st	1,00,000	10,000	1,10,000	-
2 nd	1,00,000	(over 2,21,000) 21,000	2,21,000	-
3 rd	2,31,000	(over 2,31,000) 31,000	2,54,100	1.5
4 th	1,04,100	(over 1,04,100) 1,04,10	1,14,510	1.5

According to the table the minimum life of the project is 4th year. Hence the correct option is (C).

Q.26 A worker working under a bonus scheme saves 10 hours in a job for which the standard time is 60 hours. A bonus of 10% of the hourly rate is payable when he reaches 100% efficiency. An additional bonus of 2% of the hourly rate for each 1% in excess of 100% efficiency is given. If the normal wage rate is Rs. 2 per hour, find the wages payable to the worker.
(A) Rs. 120 (B) Rs. 130 (C) Rs. 150 (D) None of the above

Solution 27. The worker has done the job of 60 hrs. in 50 hrs. The efficiency of worker can be given as
E = 60 / 50 * 100 = 120%
When the worker works with 100% efficiency he is paid 110% and for the extra 20%he will be paid 2% more than 110 + 40 = 150%. The normal wage will be 3 Rs. So, for 50 hrs. The wage payable is 50*3 = 150 Rs. Hence, correct option is (C).

Q.27 The return levels and associated probabilities of two securities are given below:

Security X	Return (%)	9	12	15
	Prob.	0.3	0.4	0.3
Security Y	Return (%)	12	15	16
	Prob	0.7	0.2	0.1

What are their respective expected values and variances of returns?
(A) X: E(X) = 12 and V(X) = 0 (B) X: E(X) =12 and V(X) = 5.4
Y: E(Y) = 13 and V(Y) = 2.4 Y: E(Y) = 13 and V(Y) = 2.4
(C) X: E(X) = 12 and V(X) = 3 (D) X: E(X) = 12 and V(X) = 4.5
Y: E(Y) = 14.3 and V(Y) = 4.13 Y: E(Y) = 14.3 and V(Y) = 6.19

Solution 27 . The values expected and variances of returns for the two securities can be given by:
X: E(X) = 9*0.3+12*0.4+15*0.3
E(X) = 2.7+4.8+4.5
E(X) = 12
$V(X) = 9^2*0.3+12^2*0.4+15^2*0.3-12^2$
V(X) = 24.3+57.6+67.5-144
V(X) = 5.4
Y: E(Y) = 12*0.7+15*0.2+16*0.1
E(Y) = 8.4+3+1.6

$E(Y) = 13$

$V(Y) = 12\ 2*0.7+15^2\ *0.2+16^2\ *0.1-13^2$

$V(Y) = 100.8+45+25.6-169$

$V(Y) = 171.4-169=2.4$

Hence, correct option is (B).

SECTION 4: Data Interpretation

Directions: Questions 1 to 6 are based on the information given below:

The Market Share of five types of products manufactured by a company in the year 2006-07 is plotted against their Business Strength and Industry Attractiveness Indices (read at the centre of each bubble) in the graph below. Both indices range from 0.0 (minimum) to 1.0 (maximum). The size of each bubble is representative of the Market Share of each product (printed beside the respective bubble) as a percentage of the Total Market Size in the year 2006-07.
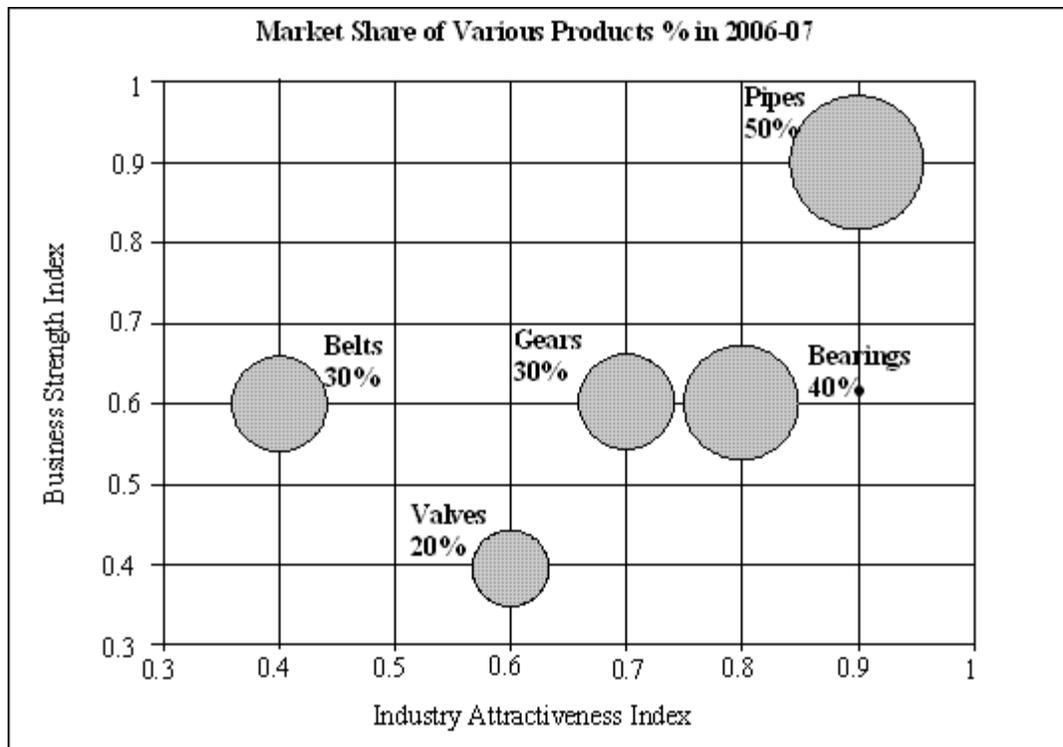
The Total Market Size for various products in 2006-07 and their Profit % are given below:

Product	Total Market Size in million Rs.	Profit%
Bearings	2200	40
Valves	1100	60

Pipes	3000	30
Belts	2500	30
Gears	5000	20

The Total Market Size of a product is estimated to increase yearly at the same rate as its Industry Attractiveness Index. That is, an Industry Attractiveness Index of 0.6 would imply that Total Market Size will be 60% more than that of the previous year. A Business Strength Index of 0.4 would imply that the Market Share of the company will increase by 40% of the total Market Share held by other companies during the previous year.

Solutions 1 to 6:

Product	2006-07				2007-08			
	Total Market Size (in million Rs)	Market Share	Profit %	Profit	Total Market Size (in million Rs.)	Market Share	Profit %	Profit
Bearing	2200	880	40	352	3960	2534.4	40	1013.6
Valves	1100	220	60	132	1760	492.8	60	295.68
Pipes	3000	1500	30	450	5700	5415	30	1624.5
Belts	2500	750	30	225	3500	1680	30	504
Gears	5000	1500	20	300	8500	4080	20	816

Q.1 The combined profit (in million Rs.) of the three most profitable products in the year 2006-07 is approximately
(A) 1092 (B) 1102 (C) 1233 (D) 1328

Solutions 1. For the year 2006-07 the three most profitable products are Bearings, Pipes and Gears and their approximately combined profit is 352 + 450 + 300 = 1102.
Hence the correct option is (B).

Q.2 Which is the most profitable product in the year 2006-07?
(A) Bearings (B) Pipes (C) Belts (D) Gears

Solutions 2. The most profitable product in the year 2006-07 is Pipes with the profit 450 million Rs. Hence the correct option is (B).

Q.3 Which product would be least profitable in the year 2007-08?
(A) Bearings (B) Valves (C) Pipes (D) Belts

Solutions 3. According to the above table least profitable product in the year 2007-08 is Valves with the profit 295.68 million Rs. Hence the correct option is (B).

Q.4 The Company decided to discontinue the production of valves and belts. The total profit (in million Rs.) of the company from the remaining three products in 2007-08 would be approximately
(A) 3164 (B) 3454 (C) 3844 (D) 4052

Solutions 4. According to the above table the sum of the profit for the companies except Valves and Belts in the year 2007-08 are 1013.6+1624.5+816 = 3454 million Rs.
Hence the correct option is (B).

Q.5 The total market size (in million Rs.) for all products put together in the year 2007-08 is approximately
(A) 17555 (B) 19230 (C) 21350 (D) 23420

Solutions 5. Total market size for the product Bearing, Valves, Pipes, Belts and Gears in the year 2007-08 is 3960, 1760, 5700, 3500 and 8500. Therefore, total market size for the all products put together would be 3960+1760+ 5700+3500+8500=23420 million Rs.
Hence the correct option is (D).

Q.6 The total market size for gears is assumed to continue to grow every year by 70%. What will be the approximate total market size for gears (in million Rs.) in the year 2008-09?
(A) 14450 (B) 15550 (C) 16550 (D) 17450

Solutions 6. According to the above table the total market size for Gears in year 2007-08 is 8500 million Rs. and its total market size would be increase according to the Industry Attractiveness which is 70% for the GEARS. Therefore total market size for the gears in 2008-09 would be 8500 + 70 % of 8500 = 8500 + 5950 = 14450 million rupees.
Hence the correct answer option is (A).

Directions: Questions 7 to 12 are based on the information given below:
A company manufacturing and selling vacuum cleaners started operations with cash in hand of Rs. 5 million at the beginning of 2002-03. The table below gives the production, sales, price and costs of the company over the next five years.

Year	2002-03	2003-04	2004-05	2005-06	2006-07
Production (units)	14000	18000	20000	17000	15000
Sales (units)	12000	17000	16000	19000	19000
Price (Rs./unit)	10000	11000	11000	11000	12000
Fixed cost (million Rs.)	18	30	30	40	40
Total variable cost (million Rs.)	84	122	141	161	172

Solutions 7 to 12:

Year	2002-03	2003-04	2004-05	2005-06	2006-07
Production(units)	14000	18000	20000	17000	15000
Sales	12000	17000	16000	19000	19000

Price(Rs./unit)	10000	11000	11000	11000	12000
Fixed cost (in million)	18	30	30	40	40
Total Variable cost (in million)	84	122	141	161	172
Total Production cost (in million)	102	152	171	201	212
Revenue(in million)	120	187	176	209	228
Cumulative unsold stock	2000	3000	7000	5000	1000

Q.7 At the end of which year was the quantity of cumulative unsold stock the largest?
(A) 2002-03 (B) 2003-04 (C) 2004-05 (D) None of the above

Solutions 7. According to the table cumulative unsold stock is maximum for the year 2004-05.
Hence the correct option is (C).

Q.8 Assuming all cash transactions, the cumulative cash in hand with the company (in million
Rs.) at the end of 2006-07 is
(A) 16 (B) 20 (C) 82 (D) 87

Solutions 8. We know that, in starting manufacturing company has five million in hand at the
beginning of 2002-03 and his profit in 2002-03 is 18 million rupees and profit for 2003-04,
2004-05,2005-06 and 2006-07 are 35, 5, 8, and 16 million rupees. Hence the cumulative cash in
hand at the end of year 2006-07 will be 5+18+35+8+16 = 87. Hence the correct option is (D).

Q.9 The percentage increase in cumulative cash in hand over the preceding year was the highest
in
(A) 2002-03 (B) 2003-04 (C) 2004-05 (D) 2005-06

Solutions 9. According to the table percentage increase in cumulative cash in hand over the
preceding year was highest in 2003-04:
Hence the correct option is (B).

Q.10 The increase in the difference between income and costs in a year over the preceding year
was the largest in
(A) 2003-04 (B) 2004-05 (C) 2005-06 (D) 2006-07

Solutions 10. Differences between the income and the cost for the year 2002-03 is 18 million
Rupees and for year 2003-04, 2004-05, 2005-06 and 2006-07 are 35, 5, 8 and 16 million rupees
respectively.
Thus we can say the highest increase in differences would be for the year 2003-04 i.e. .
Hence, the correct option is (A).

Q.11 If the company was able to sell all the units that it produced during a year in the same year,
the cash in hand (in million Rs) at the end of 2006-07 would be
(A) 87 (B) 92 (C) 102 (D) 117

Solutions 11. If company was able to sell all the units that it produced during a year in the same
year then the cash in hand at the end of 2002-03 would be 38 million rupees (14 ? 10 – 102 =

38) As similar for years 2003-04, 2004-05,2005-06 and 2006-07 are 46, 49, -14 and -32 respectively.
Thus, the total cash in hand at the end of 2006-07 would be 38+46+49-14-32 = 87 Hence the correct option is (A).

Q.12 Assuming that all variable costs incurred in a year are attributable to the units produced in that year, the highest variable cost per unit was incurred in the year
(A) 2002-03 (B) 2004-05 (C) 2006-07 (D) None of the above

Solutions 12. Variable cost per unit for the year 2002-03 = 84000/14 = 6000.
Variable cost per unit for the year 2003-04 = 122000/18 = 6766.66
Variable cost per unit for the year 2004-05 = 141000/20 = 7050.
Variable cost per unit for the year 2005-06 = 161000/17 = 9470.
Variable cost per unit for the year 2006-07 = 172000/15 = 11466.66.
Hence highest variable cost per unit would be for the year 2006-07.
Hence the correct option is (C).

Directions: Questions 13 to 18 are based on the information given below-:

The Venn-diagram given below shows the estimated readership of 3 daily newspapers (X, Y and Z) in a city.
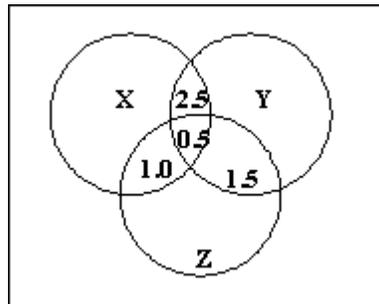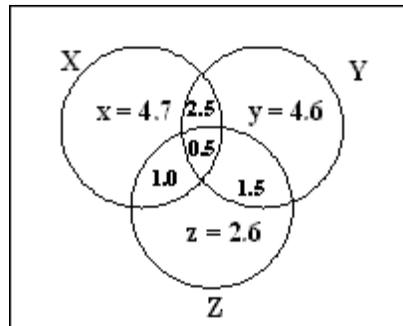

The total readership and advertising cost for each of these papers is as follows:

Newspaper	Readership (lakhs)	Advertising cost (Rs. per sq. cm)
X	8.7	6000
Y	9.1	6500
Z	5.6	5000

The total population of the city is estimated to be 14 million. The common readership (in lakhs) is indicated in the above Venn-diagram.

Solution for questions 139 to 144:

$x = X - (2.5 + 0.5 + 1.0) = 8.7 - 4.0 = 4.7$
$y = Y - (2.5 + 0.5 + 1.5) = 9.1 - 4.5 = 4.6$
$z = Z - (1.0 + 0.5 + 1.5) = 5.6 - 3.0 = 2.6$

Q.13 The number of people (in lakhs) who read at least one newspaper is
(A) 4.7 (B) 11.9 (C) 17.4 (D) 23.4

Solution 13. Number of people reading at least one newspaper = 4.7 + 2.6 + 4.6 + 5.5 = 17.4
Hence, answer is (C)

Q.14 The number of people (in lakhs) who read only one newspaper is
(A) 4.7 (B) 11.9 (C) 17.4 (D) 23.4

Solution 14. Number of people reading only one newspaper = 4.7 + 4.6 + 2.6 = 11.9
Hence, answer is (B)

Q.15 The approximate percentage of population reading at least two newspapers is
(A) 2.9 (B) 3.5 (C) 3.9 (D) None of the above

Solution 15. Population reading at least two newspapers = 2.5 + 1.0 + 1.5 + 0.5 = 5.5 lakhs
Total population of city = 14 million = 140 lakh
Percentage of these readers, of total population = (5.5 / 140) * 100 = 3.928 %
Hence, answer is (C)

Q.16 The combination of any two newspapers that gives the minimum advertising cost (in Rs. per sq. cm.) per 1000 readers is
(A) X and Y (B) Y and Z (C) X and Z (D) None of the above

Solution 16.

	Combined Advertising Cost	Total Reader of two newspaper (in lakhs)	Advertising Cost per 1000 readers
X and Y	12500	14.8	844.59
Y and Z	11500	12.7	905.512
Z and X	11000	12.8	859.375

Referring to above table, it is easy to find such two newspaper are X and Y
Hence, answer is (A)

Q.17 The ratio of readers reading only one newspaper to those reading only two newspapers is
(A) 2.38 : 1 (B) 3.65 : 1 (C) 4.57 : 1 (D) None of the above

Solution 17. Readers readind only one newspaper = 11.9
Readers readind only two newspapers = 5
Required ratio = 11.9 : 5 = 2.38 : 1
Hence, answer is (A)

Q.18 The minimum expenditure (in Rs. per sq. cm.) on advertising required to reach at least 12 lakh readers is
(A) 11000 (B) 11500 (C) 12500 (D) None of the above

Solution 18. Referring to the table from 16th question, 12 lakh readers are in all the three cases and minimum expenditure is 11000.
Hence, answer is (A)

Directions: Questions 19 to 24 are based on the information given below:
Data on edible oil production and consumption for the year 2006-07 across six countries is tabulated below:

Country	Annual edible oil production (billion litres)	Approximate Population (million)	Annual edible oil consumption per capita (litres)	Projected Annual edible oil production growth rate %	Projected Annual Population Growth rate %	Projected Annual edible oil consumption growth rate per capita %
I	12	1000	12	10	2	5
J	7	500	13	5	5	6
K	5	300	11	5	4	1
L	10	1200	10	10	1	7
M	9	700	14	5	4	6

Solutions to 19 to 24:

| Country | 2006-07 | | | 2007-08 | | 2008-09 |
	Annual edible oil Production (million liters)	Approximate Population (million liters)	Annual edible oil consumption per capita (liters)	Annual edible oil production (million liters)	Approximate population (million liters)	Annual edible oil consumption per capita	Annual edible oil consumption per capita

						(liters)	
I	12000	1000	12	13200	1020	12.6	13.23
J	7000	500	13	7350	525	13.78	14.60
K	5000	300	11	5250	312	11.77	12.59
L	10000	1200	10	11000	1212	10.1	10.2
M	9000	700	14	9450	728	14.84	15.73

In the above table the projected population, production and consumption per capita are according to the growth rate give in the question accordingly.

Q.19 Assuming none of the above five countries export edible oil, which country would need to import the maximum quantity of edible oil in 2007-08?
(A) I (B) J (C) K (D) None of the above

Soluton 19. Among the five countries which have extra edible oil at the end of the year (2006-07) will be in the position to export edible oil.
Extra remaining edible oil after consumption (in millions)
= Production – (population ? consumption per capita)
For I = 12000 – (1000 * 12) = 0 million liter
Similarly,
For J = 7000 – (500 * 13) = 500 million liters
For K = 5000 – 3300 = 1700 million liters
For L = 10000 – 12000 = – 2000 million liters
For M = 9000 – 9800 = – 800 million liters
(–) sign shows the need of edible oil (import) for the country in 2006-07
? K is in the position to export maximum quantity of edible oil in 2006-07.
Hence, the correct option is (C).

Q. 20 Assuming that a country imports edible oil only to meet the gap between production and consumption, if any, which country is in a position to export the maximum quantity of edible oil in 2006-07?
(A) I (B) J (C) K (D) None of the above

Solution 20. From the above table, we get that extra edible oil after consumption for the countries I, J, K, L and M is 348, 115.5, 1577.76, -1241.2, -1353.52 million liters
Positive values show the exportable quantity and negative values show the importable quantity.
Thus the country L will import the maximum quantity of edible oil in 2007-08.
Hence, the correct option is (D).

Q.21 Assuming none of the above five countries exported or imported edible oil, which country that had an export capacity in 2006-07 would need to import next year?
(A) I (B) J (C) L (D) None of the above

Solution 21. From the solution of question 19, we know that only two countries, J and K, are capable to export because their remaining edible oil quantity is positive i.e. 500 million liters or

1700 million liters respectively.
K has the highest capacity to export. Hence, the correct option is (D)

Q.22 What is the approximate average per capita consumption of edible oil (in litres) for all the five countries put together in the year 2008-09?
(A) 11.52 (B) 12.33 (C) 13.27 (D) 14.31

Solution 22. From the above table, the average per capita consumption in 2008-09 is

$$= \frac{13.23 + 14.6 + 12.59 + 10.2 + 15.73}{5}$$

$$= \frac{66.35}{5}$$

= 13.27
Hence, the correct option is (C).

Q.23 Which country would have the highest annual consumption of edible oil in litres per capita in the year 2008-09?
(A) I (B) K (C) L (D) M

Solution 23. We need to find out the annual consumption of edible oil in liters per capita

Country	2006-07	2007-08	2008-09
I	12	12.6	13.23
J	13	13.78	14.60
K	11	11.77	12.59
L	10	10.1	10.2
M	14	14.84	15.73

Thus, the annual consumption of edible oil in liters per capita in 2008-09 is highest for country M.
Hence, the correct option is (D).

Q.24 The net import requirement of edible oil (in million litres) for all the five countries put together in the year
2007-08 is closest to
(A) 450 (B) 550 (C) 650 (D) 750

Solution 24. From the solution of 140, the extra remaining edible oil after consumption for countries I, J, K, L and M are 348, 115.5, 1577.76, –1241.2, and –1353.52 respectively.
So net requirements
= 348 +115.5 + 1577.76 – 1241.2 – 1353 .52
= – 553.46.
Negative sign shows the requirement to import which is closest to option (B).
Hence, the correct option is (B).

Directions: Questions 25 to 30 are based on the information given below:

A departmental store reported the following sales data (in Million Rs.) for a particular week:

Day	Section					
	Grocery	Confectionery	Personal Products	Men's Apparel	Ladies Apparel	Appliances
Monday	0.18	0.12	0.61	0.42	0.72	0.86
Tuesday	0.16	0.14	0.72	0.38	0.56	0.68
Wednesday	0.22	0.21	0.86	0.46	0.68	0.76
Thursday	0.28	0.16	0.68	0.54	0.58	0.82
Friday	0.29	0.32	0.88	0.61	0.42	0.54
Saturday	0.33	0.42	1.10	0.92	0.88	0.96
Sunday	0.38	0.58	1.22	1.42	1.46	1.42

The Average Value of a Transaction (AVT) in Rs. and the Time Taken per Transaction (TpT) in seconds is given in the figure below:

Transaction Details
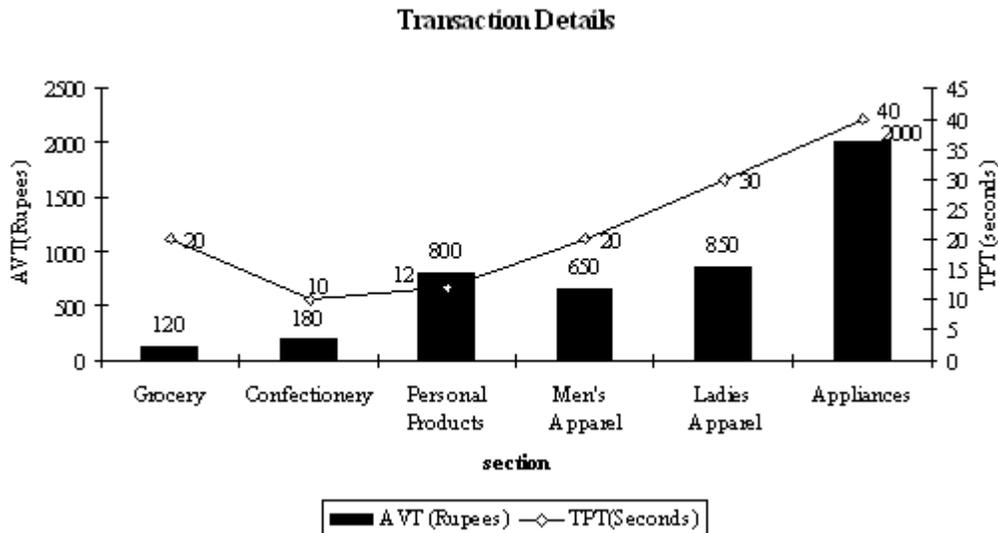
Note: The store assigns one salesperson in a section for every 400 minutes of transaction time.

Q.25 The total sales of all the sections put together is the same on
(A) Monday and Tuesday (B) Tuesday and Wednesday
(C) Wednesday and Thursday (D) Thursday and Friday

Soluton 25. Total sales of all the sections put together on Monday, Tuesday, Wednesday, Thursday, Friday, Saturday and Sunday are 2.91, 2.64, 3.19, 3.06, 3.06, 4.61 and 6.48 million Rs. Respectively.
'Thus we can say that the total sale of all the sections put together is the same for Thursday and Friday.
Hence the correct answer option is (D).

Q.26 The ratio of sales on the week-end (Saturday and Sunday) to total sales is nearly
(A) 1:2.34 (B) 1:3.43 (C) 1:4.48 (D) 1:5.51

Solution 26. From the data given in the above solution the sales on weekend is 4.61 + 6.48 = 11.09
And the total sale = 2.91 + 2.64 + 3.19 + 3.06 + 3.06 + 4.61 + 6.48 = 25.75
Thus their ratio would be = 11.09: 25.75 = 1: 2.34
Hence the correct answer option is (A).

Q.27 The section reporting the highest transaction time on Sunday is
(A) Grocery (B) Confectionery
(C) Personal Products (D) None of the above

Solution 27. we can find the transaction time for all the sections on Sunday,
For Grocery = 380000 × 20 / 120 = 63333.33 sec
For Confectionary = 580000 × 10 / 180 = 31111.11 sec
For Personal Products = 1220000 × 12 / 800 = 18300 sec
For Men's Apparel = 1420000 × 20 / 650 = 43692.3 sec
For Ladies's Apparel = 1460000 × 30 / 850 = 51529.4 sec
For Appliances = 1420000 × 40 / 2000 = 28400 sec
On Sunday, the highest transaction time is 63333.33 for Grocery section.
Hence the correct answer option is (A).

Q.28 The section with the highest number of transactions on Sunday is
(A) Grocery (B) Confectionery
(C) Personal Products (D) None of the above

Solution 28. The number of transaction for the different section on Sunday,
For Grocery = 380000 / 120 = 3166.66
For Confectionary = 580000 / 180 = 3222.22
For Personal Products = 1220000 / 800 = 1525
For Men's Apparel = 1420000 / 650 = 2184.6
For Ladies's Apparel = 1460000 / 850 = 1717.17
For Appliances = 1420000 / 2000 = 710
Therefore the highest number of transactions on Sunday is 3222 for Confectionary.
Hence the correct answer option is (B).

Q.29 The section requiring the maximum number of salespersons on Saturday is
(A) Grocery (B) Confectionery
(C) Personal Products (D) None of the above

Solution 29. Since it is given in the question that the one salesperson is assign for every 400 minute i.e. 24000 sec.
For Saturday total time taken by the Grocery section = 330000 × 20 / 120 = 55000 sec
For confectionary = 420000 × 10 / 180 = 23333 sec
For Personal product = 1100000 × 12 / 800 = 16500 sec

Thus the person required for the grocery section is 3 and for confectionary is 1 and personal product is 1.
Hence the maximum number of people will b e required for Grocery section.
Hence the correct answer option is (A).

Q.30 The ratio of salespersons required in the Appliances section on Monday to the salespersons required in the same section on Sunday is approximately
(A) 1: 0.50 (B) 1: 1.45 (C) 1: 1.65 (D) 1: 1.95

Solution 30. Total working time for the Appliances section on Monday is = 860000 × 40 / 2000 = 17200 sec.
And for Sunday is = 1420000 × 40 / 2000 = 28400 sec.
So the numbers of salespersons required in the Appliances section on Monday to the salespersons required on Sunday is same as the ratio of time required on Monday to time required on Sunday in the same section.

So required answer is

$$\frac{17200}{28400} = \frac{1}{1.65} \Rightarrow 1:1.65$$

Hence the correct option is (C).