

XAVIER ADMISSION TEST

XAT - 2007

* INSTRUCTIONS :

- There are 2 parts in this test. Part-A consists of 130 questions distributed in 3 sections. You have 2 hours time to complete Part-A. Each question carries 1 mark. For first five wrong answer in each section –1/3 mark will be deducted from your score, after which –1/2 mark will be deducted for any further wrong answers.
- Part-B consist of Essay-Writing. You will be given 20 minutes to complete Part-B.

PART A

SECTION-A : Verbal Ability

Directions (Qs. 1-5) : Go through the passage below and answer the question that follow.

This confusion concerns nothing less than the concept of socialism itself. It may mean, and is often use to describe, merely the ideals of social justice, greater equality and security which are the ultimate aims of socialism. But it means also the particular method by which most socialists hope to attain these ends and which many competent people regard as the only methods by which they can be fully and quickly attained. In this sense socialism means the abolition of private enterprise, of private ownership of the means of production, and the creation of system of “planned economy” in which the entrepreneur working for profit is replaced by a central planning body.

There many people who call themselves socialists although they care only about the first, who fervently believe in those ultimate aims of socialism but neither care nor understand how they can be achieved, and who are merely certain they must be achieved, whatever the cost. But to nearly all those to whom socialism is not merely a hope but an object of practical politics, the characteristic methods of modern socialism are as essential as the ends themselves. Most people, on the other hand, who value the ultimate ends of socialism no less than the socialists, refuse to support socialism because of the dangers to other values they see in the methods proposed by the socialists. The dispute about socialism has, thus, become largely a dispute about means and not about ends-although the question whether the different ends of socialism can be simultaneously achieved is also involved.

This would be enough to create confusion. And the confusion has been further increased by the common practice of denying that those who repudiate the means value the ends. But this is not all. The situation is still more complicated by the fact that the same means, the “economic planning” which is the prime instrument for socialist reform, can be used for many other purposes. We must centrally direct economic activity if we want to make the distribution of income conform to current ideas of social justice. “Planning”, therefore, is wanted by all those who demand that “production for use” be substituted for production for profit. But such planning is no less indispensable if the distribution of incomes is to be regulated in a way which to us appears to be the opposite of just. Whether we should wish that more of the good things of this world should go to some racial elite, the Nordic men, or the members of a party or an aristocracy, the methods which we shall have to employ are the same as those which could ensure an equalitarian distribution.

It may, perhaps, seem unfair to use the term socialism to describe its methods rather than its aims, to use for a particular method a term which for many people stand for an ultimate ideal. It is probably preferable to describe the methods which can be used for a great variety of ends as collectivism and to regard socialism as a species of that genus. Yet, although to most socialists only one species of collectivism will represent true socialism, it must always be remembered that socialism is a species of collectivism and that therefore everything which is true for collectivism as such must apply also to socialism. Nearly all the points which are disputed between socialists and liberals concerns the methods common to all forms of collectivism and not the particular ends for which the socialists want to use them; and all the consequences with which we shall be concerned in this book follow from the methods of collectivism irrespective of the ends for which they are used. It must also not be forgotten that socialism is not only by far the most important species of collectivism or “planning” but that it is socialism which has persuaded liberal-minded people to submit once more to that regimentation of economic life which they had overthrown because, in the words of Adam Smith it puts governments in a position where “to support themselves they are obliged to be oppressive and tyrannical”.

1. According to the author, those who agree to the aims of socialism would
 - (a) refuse to support socialism because of possible consequences of the methods advocated to achieve those ends.
 - (b) agree on the collectivisation and centralisation of economic activities since both require strong and powerful governments.
 - (c) have disagreed if only they had known that the only way to achieve the equalitarian ends of socialism required centralisation and collectivisation of economic activities.
 - (d) explicitly advocate strict control of economic and social life always since it is matter of practical politics for them.
 - (e) none of these
2. From the passage, it may be inferred that the author is a supporter of
 - (a) the ideals of socialism and does not care much about the means required to achieve them.
 - (b) ends as portrayed by supporters of socialism but is sceptical of the efficacy of the means advocated to reach those ends.
 - (c) the ends of socialism, since the means required to achieve those ends always involve collectivisation and centralization.

- (d) a strong and powerful government as a means to achieve the ends of socialism, since there is no debate on the desirability of the aforementioned ends.
- (e) all the possible means of collectivisation as they are the tools which can be used to achieve equalitarian distribution in society.
3. The statement that the author of the passage would support the most is:
- (a) The development of society, if left to individuals, would be impossible as each individual would exploit opportunities for plundering and exploiting one's fellow citizens.
- (b) The development of society is best done by individuals working for selfish interests within free economic environment that collectively ends up improving the condition of society since the outcomes of each action of individuals are shared by the members of the society.
- (c) In the absence of a strong government, society would degenerate into anarchy as each individual tries to achieve success at the cost of one's fellow citizens.
- (d) Individuals would create mechanisms to put a system in place that would have rules and regulations so that the society does not break down into chaos.
- (e) In a general environment of chaos, individuals would create clusters of order which would allow and encourage individual clusters' economic development.
4. Amongst the options below, the one that best captures the ideology being advocated by the author is
- (a) Fascism (b) Democratic socialism
(c) Marxism (d) Fabian socialism
(e) Capitalism
5. Amongst the options given below, the one most opposite to the ideology being advocated by the author
- (a) Fascism (b) Democratic socialism
(c) Marxism (d) Fabian socialism
(e) Capitalism
- Directions (Qs. 6-9) : Go through the exchange between two poets below and answer the questions that follow.**
- I do my thing and you do your thing
I am not in this world to live up to your expectations... and you are not in this world to live up to mine.
You are you
and I am I
And if, by chance, we find each other...
it's beautiful.
If not, it can't be helped.
Poet 1.
Beyond poet 1
Poet 2
If I just do my thing and you do yours,
We stand in danger of losing each other
And ourselves.
I am not in this world to live up to your expectations;
But I am in this world to confirm you
as a unique human being.
And to be confirmed by you.
We are fully ourselves only in relation to each other;
The I detached from Thou
Disintegrates.
I do not find you by chance;
I find you by an active life
of reaching out.
Rather than passively letting things happen to me,
I can act intentionally to make them happen.
I must begin within myself, true;
But I must not end with myself:
The truth begins with two
6. What could the second poem be best characterized as, with respect to the first ?
- (a) Retort (b) Rejoinder
(c) Critique (d) Criticism
(e) Compliment
7. Amongst the perspectives listed below, which one would extend poet 2's argument the most?
- (a) Human beings these days primarily conceive of themselves as isolated individual selves.
(b) Self-exploration is considered the most important pre-occupation by educated individuals.
(c) One's active stance towards life does not change fate.
(d) Society incorporates multiple simultaneous relationships.
(e) Collectivism is considered a virtue in most indigenous societies.
8. What could be the central theme of the second poem?
- (a) Individualism is debilitating to human existence.
(b) Hermits and ascetics stand no chance of reaching their goal.
(c) Chance does not play an active role in today's life
(d) One ought to seize the day to make life happen.
(e) An individual finds one's individuality only in relation to others.
9. Amongst the following ways of living one's life, which one would the first poet most strongly endorse?
- (a) The life of a person stranded on an isolated island.
(b) The life of a renunciate.
(c) The life of a stoic.
(d) The life of a person who has no use for anyone else's perspectives.
(e) None of the above.
10. Which of the following choices MOST accurately captures the meaning of crucible as used in the sentence below ?
General Charles Krulak, the Commandant, introduced "The Crucible" to Marine training an incredibly grueling fifty-four straight hours of live fire exercises, long marches, and sleep deprivation at the end of basic training. After climbing the final hill in this test, recruits are presented with the eagle, globe, and anchor emblem.
- (a) Cauldron (b) Nightmare
(c) Albatross (d) Adversity
(e) None of the above

11. Which of the following choices will be MOST opposite to the word juvenile as use in the sentence below ?

Juvenile delinquents and depressive or suicidal psychiatric patients show orphanhood rates similar to those of the eminent public figures.

- (a) Puerile (b) Naive
(c) Jejune (d) Tyke
(e) None of the above

12. "The correlation between technological intensity and diversification may be spurious, as both may be related to selling to the government or to other dominant customers". In the above sentence, spurious may refer to all of the following but:

- (a) counterfeit (b) questionable
(c) contrived (d) forged
(e) misleading

13. The various branches of knowledge complete, correct, and balance each other. This consideration, if well-founded, must be taken into account, not only as regards the attainment of truth, which is their common end, but as regards the influence which they exercise upon those whose education consults in the study of them.

The word exercise in the extract above most nearly means

- (a) Remove (b) Cut
(c) Impose (d) Arrange
(e) Compete

14. Basic assumptions and beliefs that are shared by members of an organization, that operate unconsciously, and that define in a basic 'taken-for-granted' fashion an organization's view of itself and its environment. These assumptions and beliefs are learned responses to a group's problems. They come to be taken for granted because they solve those problems repeatedly and reliably.

What would be the word that can substitute for assumptions in the extract above, WITHOUT changing the extract's meaning?

- (a) Hunch (b) Conclusion
(c) Induction (d) Doctrine
(e) None of the above

Directions (Qs. 15-20) : Go through the passage below and answer the questions that follow.

A major problem of Indian industrial and commercial development was the supply of capital. Until 1850, British capital was shy of Indian adventure. The risks and unknown factors were too great, and prospects in other directions too bright. The working capital of the agency houses after 1813 at first consisted mainly of the savings of the Company's servants. Their cries of woe when these houses fell as in the crisis of 1831 were loud and poignant. Indian capital was also shy for different reasons. It needed to acquire confidence in the new regime, and outside the presidency towns, to acquire the habit of investment. Investment for large scale production for 'enabling' works like railways was an unfamiliar and suspected practice. Thus, the first big development came when European capital was coaxed into the country by government

guarantees or went of its own free will to develop industries with which it was already familiar as in the case of jute or coal. Indian capital followed where it was in touch with European practice as in Bombay and dealing with familiar products like cotton. These considerations throw into all the greater relief the achievement of the Tatas in developing iron and steel. Thus the major part of the capital provided was British with a steadily increasing Indian proportion from 1900. As late as 1931-32 the capital of companies registered abroad was nearly four times that of companies registered in India. But this is not an exact guide because it leaves out of account the stock in British companies held by Indians, as well as government stocks. Speaking plainly, it may be said that the capital of the cotton industry was mainly Indian, that of the iron and steel industry entirely so, that of the jute industry about half and half, while the coal and plantation industries were mainly British, together with that used for the building of railways, irrigation, and other public works. Management in the cotton and steel industries was mainly Indian though European technicians were freely employed, that of the jute, coal and the plantation industries being European, the jute men in particular being Scotch. Their capital, apart of course from government enterprise, operated through joint-stock companies and managing agencies.

The latter arose through the convenience found by bodies of capitalists seeking to develop some new activities and lacking any Indian experience, of operating through local agents. It arose in the period after 1813 when private merchants took over the trade formerly monopolized by the Company. The money would be found in Britain to promote a tea garden, a coal mine, or a jute mill, but the management would be confided to a firm already on the spot. The managing agency was the hyphen connecting capital with experience and local knowledge.

Until 1914 the policy of the government continued in the main to be one of 'enabling' private capital and enterprise to develop the Country. Direct promotion was confined to public utilities like canals and railways. The line between enabling and interfering action became distinctly blurred, however, in the case of the cotton industry and there was tendency for enabling action to pass over into the positive promotion of particular projects. This was most noticeable in the time of Lord Curzon with his establishment of an imperial department of agriculture with a research station at Pusa and department of commerce and industry presided over by a sixth member of the Viceroy's Council. The First World War began the transition to a new period of active promotion and positive support. As the conflict lengthened there arose a demand for Indian manufactured goods. India failed to take full advantage of this opportunity, partly because of uncertainty as to the future and partly because the means for sudden expansion were lacking. The outcome of this situation was the appointment of an industrial commission in 1916, under pressure from London. The commission criticized the unequal development of Indian industry which had led to the missing of her, war opportunity. A much closer co-operation with industry was planned though provincial departments of industry. Increased technical training and technical assistance to industry was proposed while it was suggested that

the central government should set up a stores department which should aim at making India self-sufficing in this respect. The commission's report was only partially implemented, but a stores department and provincial industrial departments were created and something was done towards promoting technical assistance. The importance of the report and its aftermath was that it marked the transition from the conception of Indian economy in broadly colonial terms with freedom for private enterprise to the conception of India as an autonomous economic unit.

15. The following can be inferred from the passage:
- Industrial development of a country requires supply of external capital
 - Investment in uncertain industries is more when government provides guarantees against failure
 - Lack of indigenous technical expertise can be a constraining factor in a country's economic development
 - Enabling infrastructure like railways would have to be provided necessarily by the government
 - Market development for the final products is an important prerequisite for industrial development.
- (I) and (II)
 - (I), (III), and (IV)
 - (II), (III) and (V)
 - (III), (IV) and (V)
 - (I), (II), (III) and (V)
16. The first capitalists investing in Indian economy were
- the Indians
 - predominantly the British
 - the Europeans except the British
 - both (a) and (b)
 - both (a) and (c)
17. After the start of the First World War, all of the following could be likely reasons for the British government adopting a proactive stance towards Indian industry except
- The major investors in Indian enterprise were British and they had missed out on an opportunity.
 - The war had created a huge demand for industrial goods.
 - The British government wanted economic development of the country as India was a strategic economically in the war.
 - The development of Indian economy was required for contributing towards the war effort.
 - The desire to see India as self-sufficient in technical expertise.
18. During the early twentieth century, Indians were restricted to making investment in stocks of companies that were necessarily listed in India. This was done with the aim of confining Indian capital to India so that it could not compete with British capital.
- Definitely true as inferred from the passage
 - It was true on a selective case by case basis.
 - This was the fact during the early part of the British rule.
 - This was true in the later part of the British rule.
 - No evidence to support the same is given in the passage
19. From the passage it can be inferred that during the early part of twentieth century, starting a greenfield project was more difficult for an Indian capitalist than for an European.
- Definitely true as inferred from the passage.
 - It was true on a selective case by case basis.
 - Not trend of discrimination between the two categories of capitalists can be inferred from the passage
 - Preference was given to British capitalists, buffeted by the fact that the country was under British rule
 - Preference was given to European capitalists.
20. From this passage, it can be inferred that one of the problem that could have cropped up in the early stages of industrialization might have been
- government interference in day-to-day operations of business.
 - equitable sharing of risks between domestic and foreign investors.
 - ensuring adequate working capital.
 - regulation of the stock markets to protect investors from dubious enterprises
 - the alignment of interests of the capitalists and the management
- Directions (Qs. 21-26) : Choose the option that correctly unscrambles the paragraphs below :**
21. 1. The same is true for less fraught examples : dispensing with 'Truth' does not mean dispensing with accuracy and attention to detail, and to suggest for example that the colonization of the New World never happened would be equally untenable.
2. To relinquish 'Truth' and the idea of one history does not lead to absolute relativism, where any version of events is taken as being equally valid as any other.
3. It does not, for example, give succour to those charlatans and ideologues who seek to deny that the Holocaust ever happened.
4. What I am suggesting here is complex, but its importance demands a careful reading.
5. The evidence for the systematic murder of more than six million people by the Nazis is overwhelming.
6. To try to argue that it never occurred is to violate the voices of the past, to suppress that evidence which goes against the twisted thesis.
- 2-3-5-6-1-4
 - 5-6-1-2-4-3
 - 4-2-3-5-6-1
 - 2-4-5-3-6-1
 - 4-5-1-6-3-2
22. 1. You could try friendly competition, or set yourself team targets and agree that you'll all go out for an evening together if you meet them.
2. Presumably your team members have the same problem, so perhaps you could find collective incentives.
3. Work towards targets of your own, or promise yourself a reward for certain achievements.
4. Or aim towards promotion or earning new responsibilities as an incentive to keep you enthusiastic.
5. Find ways to motivate yourself.
6. Or simply make a point of congratulating each other on good work, even if the boss doesn't join in.
- 1-4-2-6-3-5
 - 5-2-1-4-3-6
 - 1-4-6-3-2-5
 - 5-3-6-2-1-4
 - 5-3-4-2-1-6

23. 1. Individuals and firms moving into a new and unfamiliar field of activity are increasingly using information resources provided over the Internet.
2. The economic importance of a strong, viable business sector, especially a strong and viable small business sector with its potential for employment and export generation, makes it imperative that government agencies provide encouragement, leadership and effective support.
3. Governments undertake a wide variety of initiatives to achieve these ends and online information provision is one of many such initiatives.
4. The power of the Internet to deliver information and services online offers an opportunity for governments to support business and the economies they serve.
5. Many small to medium-size enterprises may turn initially to a government agency for business related information, in part because they lack the confidence and financial resources to engage private consultants at the initial stage of the planning process.
6. This is an important issue, both for government economic development strategies and to help them meet the rising public expectations of online service provision.
- (a) 1-4-3-6-2-5 (b) 4-6-2-3-1-5
(c) 3-6-2-1-5-3 (d) 2-3-6-5-1-4
(e) 5-4-6-2-3-1
24. 1. Employees are seeing organizational leaders who appear to have only their personal interests in sight.
2. All the while, these same leaders appear to be walking away from their failures with multimillion-dollar exit bonuses or millions in forgiven "loans".
3. They are feeling increasingly expendable and disposable, all for the purpose of enriching CEOs and top leaders.
4. Workers are feeling less and less connected with top management.
5. Some corporate leaders are simply losing touch.
6. Those they lead are, understandably, losing confidence and trust in their leaders.
- (a) 5-6-1-4-3-2 (b) 1-2-4-3-5-6
(c) 1-5-6-3-4-2 (d) 1-3-4-2-5-6
(e) 1-3-5-6-2-4

Directions (Qs. 25-28) : Go through the passage below and answer the questions that follow.

The ignorant man is not the unlearned, but he who does not know himself, and the learned man is stupid when he relies on books, on knowledge and on authority to give him understanding. Understanding comes only through self-Knowledge, which is awareness of one's total psychological process. Thus, education, in the true sense, is the understanding of oneself, for it is within each one of us that the whole of existence is gathered.

What we now call education is a matter of accumulating information and knowledge from books, which anyone can do who can read. Such education offers a subtle form of escape from ourselves and, like all escapes, it inevitable creates increasing misery. Conflict and confusion result from our own wrong relationship with people,

things and ideas, and until we understand that relationship and alter it. Mere learning, the gathering of facts and the acquiring of various skills, can only lead us to engulfing chaos and destruction.

As society is now organized, we send our children to school to learn some technique by which they can eventually earn a livelihood. We want to make the child first and foremost a specialist, hoping thus to give him a secure economic position. But does the cultivation of a technique enable us to understand ourselves?

While it is obviously necessary to know how to read and write, and to learn engineering or some other profession, will technique give us the capacity to understand life ? Surely, technique is secondary, and if technique is the only thing we are striving for, we are obviously denying what is by far the greater part of life.

Life is pain, joy, beauty, ugliness, love, and when we understand it as a whole, at every level, that understanding creates its own technique. But the contrary is not true: technique can never bring about creative understanding.

Present-day education is a complete failure because it has overemphasized technique. In overemphasizing technique we destroy man. To cultivate capacity and efficiency without understanding life, without having a comprehensive perception of the ways of thought and desire, will only make us increasingly ruthless, which is to engender wars and jeopardize our physical security. The exclusive cultivation of technique has produced scientists, mathematicians, bridge builders, space conquerors; but do they understand the total process of life ? Can any specialist experience life as a whole ? Only when he ceases to be a specialist.

Technological progress does solve certain kinds of problems for some people at one level, but it introduces wider and deeper issues too. To live at one level, disregarding the total process of life, is to invite misery and destruction. The greatest need and most pressing problem for every individual is to have an integrated comprehension of life, which will enable him to meet its ever increasing complexities.

Technical knowledge, however necessary, will in no way resolve our inner, psychological pressures and conflict; and it is because we have acquired technical knowledge without understanding the total process of life that technology has, become a means of destroying ourselves. The man who knows how to split the atom but has no love in his heart becomes a monster.

We choose a vocation according to our capacities; but will the following of a vocation lead us out of conflict and confusion? Some form of technical training seems necessary; but when we have become engineers, physicians, accountants then what ? Is the practice of a profession the fulfillment of life ? Apparently with most of us it is. Our various professions may keep us busy for the greater part of our existence; but the very things that we produce and are so entranced with are causing destruction and misery. Our attitudes and values make of things and occupations the instruments of envy, bitterness and hate.

25. The passage implies that
- (a) Technique follows creative understanding
(b) A specialist too can enjoy life as a whole.
(c) Technology necessarily leads to destruction and misery.
(d) An atom-breaker becomes a monster.
(e) None of the above

26. This passage was most likely written in order to
- Persuade readers to shun technology.
 - coax the readers to transcend technological limits.
 - inspire readers to understand life as a whole.
 - rail against present-day education policy.
 - provoke a social movement against present-day education
27. Which statement would most likely follow the truncated passage above ?
- Throughout the world, engineers are frantically designing machines which do not need men to operate them.
 - Another factor in the cultivation of technique is that it gives us sense of security, not only economic, but psychological as well.
 - The right kind of education while encouraging the learning of a technique, should accomplish something which is of far greater importance: it should help man to experience the integrated process of life
 - Without understanding ourselves, mere occupation leads to frustration, with its inevitable escapes through all kinds of mischievous activities.
 - Life cannot be made to conform to a system, it cannot be forced into a framework, however, nobly conceived; and a mind that has merely been trained in factual knowledge is incapable of meeting life, with its variety, its subtlety, its depths and great heights.
28. What might be the most opposite title for the passage above?
- Education and the significance of life
 - Life in its wholeness
 - The tragedy of technical education
 - Knowledge and ignorance
 - Technological progress: Is it for real ?
29. Choose the option that points out sentence(s) with grammatical error(s).
- I love the man dancing on the table.
 - I love the man's dancing on the table.
 - In 1986 Elie Wiesel was named the Nobel Peace Prize recipient, an honour established by Alfred Nobel.
 - Neither of the recommendations works as well as we thought they would.
 - Either the Minister or the Minister's wife will have to excuse themselves from the reception to speak to the caterer
- III and V
 - I and IV
 - II and V
 - III and IV
 - IV
30. Amongst the option below, choose the one which is correctly punctuated ?
- Last Sunday, we went canoeing on the Brahmaputra river. You could see eagles high in the trees above us.
 - While we were canoeing last Sunday on the Brahmaputra river, high in the trees above us, you could see eagles.
 - We went canoeing last Sunday on the Brahmaputra river, and high in the trees above us, we could see eagles.
 - High in the trees above, the eagles were looking down at you, as we canoed on the Brahmaputra river last Sunday.
 - High above in the trees, eagles were looking at us, as we canoed on the Brahmaputra river last Sunday.
31. Choose the best revision of the following wordy sentence ? It seems that the library board will meet tomorrow, as a matter of fact.
- As a matter of fact, the library board will meet tomorrow.
 - In fact, the library board will meet tomorrow.
 - It is apparent that the library board will meet tomorrow.
 - Library board will meet tomorrow.
 - The library board will meet tomorrow.
32. Which revision best combines ideas without losing out on information?
There are still ample physical reminders of the history of the Ao tribe in Meghalaya. Impressive burial mounds, dating back hundreds of years, can be found along many along many of the rivers, for instance
- Impressive burial mounds, dating back hundreds of years, can be found along many of the rivers, for instance; there are still ample : physical reminders of the history of the of the Ao tribe in Meghalaya,
 - Since there are still ample physical, reminders of the history of the Ao tribe in Meghalaya, impressive burial mounds, dating back hundreds of years, can be found along many of the rivers, for instance.
 - Although impressive burial mounds, dating back hundreds of years, can be found along many of the rivers, for instance, there are still ample physical reminders of the history of the Ao tribe in Meghalaya.
 - There are still ample physical reminders of the history of the Ao tribe in Meghalaya; impressive burial mounds, dating back hundreds of years, can be found along many of the rivers, for instance.
 - Ample physical reminders of the history of the Ao tribe in Meghalaya – including impressive burial mounds dating back hundreds of years still exist along many of the rivers.

Directions (Qs. 33-36) : Go through the passage below and answer the questions that follow.

Attempting to understand science and scientific reasoning in terms of the subjective beliefs of scientists would seem to be a disappointing departure for those who seek an objective account of science. Howson and Urbach have an answer to that charge. They insist that the Bayesian theory constitutes an objective theory of scientific inference. That is, given a set of prior probabilities and some new evidence, Bayes' theorem dictates in an objective way, what the new, posterior, probabilities must be in the light of that evidence. There is no difference in this respect between Bayesianism and deductive logic, because logic has nothing to do about the source of the propositions that constitute the premises of a deduction either. It simply dictates what follows from those propositions once they are given. The Bayesian defence can be taken a stage further. It can be argued that the beliefs of

individual scientists, however much they might differ at the outset, can be made to converge given the appropriate input of evidence. It is easy to see in an informal way how this can come about. Suppose two scientists start out by disagreeing greatly about the probable truth of hypothesis **h** which predicts otherwise unexpected experimental outcome **e**. The one who attributes a high probability to **h** will regard **e** as less unlikely than the one who attributes a low probability to **h**. So **P(e)** will be high for the former and low for the latter. Suppose now that **e** is experimentally confirmed. Each scientist will have to adjust the probabilities for **h** by the factor $\mathbf{P(e/h) / P(e)}$. However, since we are assuming that **e** follows from **h**, $\mathbf{P(e/h)}$ is 1 and the scaling factor is $\mathbf{1/P(e)}$. Consequently, the scientist who started with a low probability for **h** will scale up that probability by a larger factor than the scientist who started with a higher probability for **h**. As more positive evidence comes in, the original doubter is forced to scale up the probability in such a way that it eventually approaches that of the already convinced scientist. In this way, argue the Bayesians, widely differing subjective opinions can be brought into conformity in response to evidence in an objective way.

33. Using the idea explicated in the passage above, the only scientific way to deny the validity of a counter-hypothesis put forward to explain a natural phenomenon would be to
- Take the counter-hypothesis and try to find flaws in its components.
 - question the source of alternative hypothesis.
 - question the authority of the scientist stating the alternative hypothesis.
 - Take the alternative explanation and ask for its fullest development in terms of possible ramifications other than the already existent outcome (e).
34. The subjective beliefs of scientists referred to in the passage could be due to
- multiple scientists studying multiple phenomena and putting forth multiple hypotheses
 - propositions offered by scientists being backed only by one's beliefs about their validity.
 - Scientists presenting data selectively in support of their own favourite hypothesis over competing hypotheses
 - scientists allowing their subjective opinions to bias their testing of hypothesis.
 - None of these
35. Scientists' beliefs which differ at the outset are related to
- different outcomes only.
 - different hypotheses only.
 - different hypotheses about different outcomes.
 - differences in explanatory power of competing hypotheses.
 - none of these.
36. Strictly following the idea put forward in the article, which one of the following is a logical possibility
- The idea that astrologers can predict stock market movements better than economists, if astrologers' hypothesis (h) is more consistently followed by outcomes (e) than that of economists.
 - The fact that stock-market movements are in sync with the movement of the heavenly bodies both (h) and (e) contained in the same statement.
 - That certain astrological phenomena can influence thinking of humans (e) which is manifested in stock market booms and crashes (h).
 - That certain astrological phenomena (h) can influence thinking of humans (e1) which is manifested in stock-market booms and crashes (e2).
 - None of these.
- Directions (Qs. 37-41) : Analyze the statements given and provide an appropriate answer for the questions that follow.**
37. Prediction, the hallmark of natural sciences, appears to have been possible by reducing phenomena to mathematical expressions. Some social scientists also want the power to predict accurately and assume they ought to perform the same reduction. But this would be a mistake, it would neglect data that are not easily mathematized and thereby would only distort the social phenomena. Which one of the following most accurately expresses the main conclusion of the argument?
- The social sciences do not have as much predictive power as the natural sciences.
 - Mathematics plays a more important role in the natural sciences than it does in the social sciences
 - Phenomena in the social sciences should not be reduced to mathematical formulae.
 - There is a need in the social sciences to improve the ability to predict.
 - Prediction is responsible for the success of the natural sciences.
38. Chandra: Hailey's Comet, now in a part of its orbit relatively far from the Sun, recently flared brightly enough to be seen by telescope on earth. This has never happened before, so such a flare must be highly unusual.
Surya: Nonsense. Usually no one bothers to observe comets when they are so far from the Sun. This flare was observed only because an observatory was tracking Hailey's comet very carefully.
Surya challenges Chandra's reasoning by:
- Offering an alternative explanation for the evidence Chandra seeks to explain.
 - Drawing attention to an inconsistency between two of Chandra's claims.
 - Presenting evidence that directly contradicts Chandra's evidence.
 - Pointing out that Chandra's use of the term "observed" is excessively vague.
 - Undermining some of Chandra's evidence while agreeing with her conclusion.
39. Most antidepressant drugs cause weight gain. While dieting can help reduce the amount of weight gained as one takes such antidepressants, some weight gain is unlikely to be preventable. The information above most strongly supports which one of the following?

- (a) A physician should not prescribe any antidepressant drug for an overweight patient
- (b) People who are trying to lose weight should not ask their doctors for an antidepressant drug.
- (c) At least some patients gain weight as a result of taking antidepressant drugs.
- (d) The weight gain experienced by patients taking antidepressant drugs should be attributed to lack of dieting.
- (e) All patients taking antidepressant drugs should diet to maintain their weight.
40. Industry experts expect improvements in job safety training programs to lead to safer work environments. A recent survey indicated, however, that for manufactures who improved job safety training programs during the 1980s, the number of on- the-job accidents increased in the months following the imparting of improved training programs. Which one of the following, if true, most helps resolve the apparent discrepancy in the passage above ?
- (a) A similar survey found that the number of on-the-job accidents remained constant after job safety training programs were improved in the transportation sector.
- (b) Manufacturers tend to improve job safety training programs only when they are increasing the size of their workforce.
- (c) Manufacturers tend to improve job safety training programs only after they have noticed an increase in the number of on-the-job accidents.
- (d) It is likely that the increase in the number of on-the-job accidents experienced by many companies was not merely a random fluctuation.
- (e) Significant safety measures, such as protective equipment and government safety inspections, were in place well before the improvements in job safety training programs were undertaken.
41. The number of airplanes equipped with a new anticollision device has increased steadily during the past two years. During the same period, it has become increasingly common for key information about an airplane's altitude and speed to disappear suddenly from air traffic controllers' screens. The new anti-collision device, which operates at the same frequency as air traffic radar, is therefore responsible for the sudden disappearance of key information. Which one of the following, if true, most seriously weakens the argument above?
- (a) The new anti-collision device has already prevented a considerable number of mid-air collisions.
- (b) It was not until the new anti-collision device was introduced that key information first began disappearing suddenly from controller's screens.
- (c) The new anti-collision device is scheduled to be moved to a different frequency within the next two to three months.
- (d) Key information began disappearing from controller's screen three months before the new anticollision device was first tested.
- (e) The sudden disappearance of key information from controller's screen has occurred only at relatively large airports.

SECTION-B : Quantitative Ability

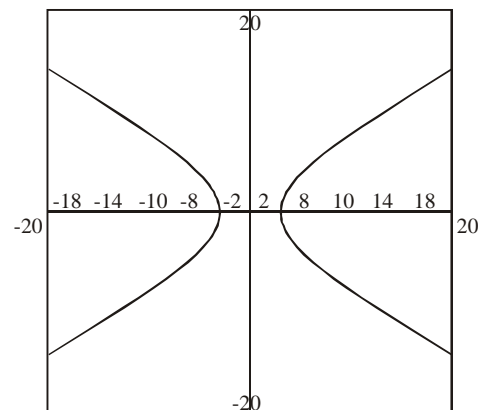
Directions (Qs. 42-43) : A truck travelled from town A to town B over several days. During the first day, it covered $1/p$ of the total distance, where p is a natural number. During the second day, it travelled $1/q$ of the remaining distance, where q is a natural number. During the third day, it travelled $1/p$ of the distance remaining after the second day, and during the fourth day, $1/q$ of the distance remaining after third day. By the end of the fourth day the truck had travelled $3/4$ of the distance between A and B.

42. The value of $P + q$ is
 (a) 4 (b) 5 (c) 6
 (d) 7 (e) 8
43. If the total distance is 100 kilometres, the minimum distance that can be covered on day 1 is kilometres.
 (a) 25 (b) 30 (c) 33
 (d) 35 (e) 40
44. For how many integers n , $\frac{n}{20-n}$ is the square of an integer?
 (a) 0 (b) 1 (c) 2
 (d) 3 (e) 4

Directions (Qs. 45-46) : It is possible to arrange eight of the nine numbers 2, 3, 4, 5, 7, 10, 11, 12, 13 in the vacant squares of the 3 by 4 array shown below so that the arithmetic average of the numbers in each row and column is the same integer.

1			15
	9		
		14	

45. The arithmetic average is
 (a) 6 (b) 7 (c) 8
 (d) 9 (e) 12
46. Which one of the nine numbers must be left out when completing the array ?
 (a) 4 (b) 5 (c) 7
 (d) 10 (e) 11
47. Which equation can be graphically represented as follows ?



- (a) $8x^2 - 15y^2 = 169$ (b) $9x^2 - 16y^2 = 144$
 (c) $|(x-8)(y-15)| = 12$ (d) $|(x-9)(y-16)| = 13$
 (e) None of these.

48. ABC is a triangle with $\angle CAB = 15^\circ$ and $\angle ABC = 30^\circ$. If M is the mid-point of AB, then $\angle ACM =$
- (a) 15° (b) 30°
(c) 45° (d) 60°
(e) None of these
- Directions (Qs. 49-50) : Let 'f' be a function defined on the set of integers. Assume that 'f' satisfies the following properties:**
- I. $f(0) \neq 0$; II. $f(1) = 3$; and
III. $f(x)f(y) = f(x+y) + f(x-y)$ for all integers x and y.
49. The value of $f(3)$ is
- (a) 7 (b) 18
(c) 123 (d) 322
(e) None of these
50. The value of $f(7)$ is
- (a) 123 (b) 322
(c) 843 (d) 1126
(e) None of these
51. Let P be any positive integer and $2x + p = 2y$, $p + y = x$ and $x + y = z$. For what value of p would $x + y + z$ attain its maximum value?
- (a) 0 (b) 1
(c) 2 (d) 3
(e) None of these
52. Let S be the set of rational numbers with the following properties:
- I. $\frac{1}{2} \in s$;
II. If $x \in s$, then both $\frac{1}{x+1} \in s$ and $\frac{x}{x+1} \in s$
- Which of the following is true?
- (a) S contains all rational numbers in the interval $0 < x < 1$.
(b) S contains all rational numbers in the interval $-1 < x < 1$.
(c) S contains all rational numbers in the interval $-1 < x < 0$.
(d) S contains all rational numbers in the interval $1 < x < \infty$.
(e) S contains all rational numbers in the interval $-1 \leq x \leq 1$
53. Eight cities A, B, C, D, E, F, G and H are connected with one-way roads $R_1, R_2, R_3, R_4, R_5, R_6$, in the following manner..
 R_1 leads from A to C via B;
 R_2 leads from C to D; and then via B to F;
 R_3 leads from D to A and then via E to H;
 R_4 leads from F to B via G;
 R_5 leads from G to D; and
 R_6 leads from F to H.
The minimum number of road segments that have to be blocked in order to make all traffic from B to D impossible is
- (a) 5 (b) 4
(c) 3 (d) 2
(e) 1
54. We define a function f on the integers $f(x) = x/10$, if x is divisible by 10, $f(x) = x + 1$ if x is not divisible by 10. If $A_0 = 1994$ and $A_{n+1} = f(A_n)$.
What is the smallest n such that $A_n = 2$?
- (a) 9 (b) 18
(c) 128 (d) 1993
(e) A_n never equals 2.
55. If the polynomial $x^3 + px + q$ has three distinct roots, then which of the following is a possible value of p ?
- (a) -1 (b) 0
(c) 1 (d) 2
(e) 3
56. In a certain factory, each day the expected number of accident is related to the number of overtime hours by a linear equation. Suppose that on one day there were 1000 overtime hours logged and 8 accidents reported and on another day, there were 400 overtime hours logged and 5 accidents. What are the expected numbers of accidents when no overtime hours are logged?
- (a) 2 (b) 3
(c) 4 (d) 5
(e) None of these
57. ABCD is a rectangle. The points p and Q lie on AD and AB respectively. If the triangles PAQ, QBC and PCD all have the same areas and $BQ = 2$, then $AQ =$
- (a) $1 + \sqrt{5}$ (b) $1 - \sqrt{5}$
(c) $\sqrt{7}$ (d) $2\sqrt{7}$
(e) Not uniquely determined.
58. A brokerage house offers 3 stock portfolios. Portfolio I consists of 2 blocks of common stock and 1 municipal bond. Portfolio II consists of 4 blocks of common stock, 2 municipal bonds and 3 blocks of preferred stock. Portfolio III consists of 2 blocks of common stock, 2 municipal bonds and 3 blocks of preferred stock. A customer wants 12 blocks of common stock, 6 municipal bonds and 6 preferred stocks. How many portfolio III should be offered?
- (a) 1 (b) 2
(c) 3 (d) 4
(e) None of these
59. Triangle ABC has vertices A(0,0), B(0, 6) and C (9, 0). The points P and Q lie on side AC such that $AP = PQ = QC$. Similarly, the points R and S lie on side AB such that $AR = RS = SB$. If the line segments PB and RC intersect at X, then the slope of the line AX is
- (a) $2/3$ (b) $-2/3$
(c) $3/2$ (d) $-3/2$
(e) None of these.
60. In a rainy season, Jamshedpur experienced some rain for thirteen days. A morning rain was always followed by a clear evening . An evening rain was always preceded by a clear morning. A total of 9 morning and 12 evenings were clear. How many rainless days did Jamshedpur have in the period?
- (a) 7 (b) 6
(c) 5 (d) 4
(e) 3
61. a, b, c, d and e be non-negative real numbers such that $a + b + c + d + e = 10$. Let x be the maximum of the number $a + b, b + c, c + d$ and $d + e$. The least possible value of X lies in the interval
- (a) [0, 2] (b) [2, 3]
(c) [3, 4] (d) [4, 5]
(e) [5, 10]

Directions (Qs. 62-64) : Substitute different digits (0, 1, 2,9) for different letters in the problem below, so that the corresponding addition is correct and it results in the maximum possible value of MONEY.

		P	A	Y
			M	E
	R	E	A	L
+	M	O	N	E
			E	Y

62. The letter 'Y' should be
 (a) 0 (b) 2
 (c) 3 (d) 7
 (e) None of these
63. There are nine letters and ten digits. The digit that remain unutilised is:
 (a) 4 (b) 3
 (c) 2 (d) 1
 (e) None of these
64. The resulting value of 'MONEY' is
 (a) 10364 (b) 10563
 (c) 10978 (d) 19627
 (e) None of these
65. Consider the system of linear equations
 $2x + 3y + 4z = 16$
 $4x + 4y + 5z = 26$
 $ax + by + cz = r$
 For $r = 5$ and $a = 1$, then the system of linear equation will have infinite number of solutions if $c =$
 (a) $3/2$ (b) 1
 (c) $1/2$ (d) 0
 (e) None of these
66. A management institute has six senior professors and four junior professors. Three professors are selected at random for a Government project. The probability that at least one of the junior professors would get selected is:
 (a) $5/6$ (b) $2/3$
 (c) $1/5$ (d) $1/6$
 (e) None of these

Directions (Qs. 67-70) : Seven integers A, B, C, D, E, F and G are to be arranged in an increasing order such that

- I. First four numbers are in arithmetic progression.
 II. Last four numbers are in geometric progression
 III. There exists one number between E and G.
 IV. There exist no numbers between A and B.
 V. D is the smallest number and E is the greatest.

VI. $\frac{A}{D} = \frac{G}{C} = \frac{F}{A} > 1$

VII. $E = 960$

67. $\frac{E}{A} =$
 (a) 2 (b) 3
 (c) 4 (d) 5
 (e) None of these
68. $D =$
 (a) 30 (b) 25
 (c) 22 (d) 20
 (e) None of these
69. The common difference in the A.P. is
 (a) 20 (b) 22
 (c) 25 (d) 30
 (e) None of these
70. The position and value of A is
 (a) 5th highest and 100 (b) 4th highest and 100
 (c) 4th highest and 110 (d) 3rd highest and 180
 (e) None of these

Directions (Qs. 71-74) : These questions are followed by two statements labelled as I and II. You have to decide, if these statement are sufficient to conclusively answer the question. Choose

- (a) If Statement I alone is sufficient to answer the question.
 (b) If Statement II alone is sufficient to answer the question.
 (c) If Statements I and II together are sufficient but neither of the two alone is sufficient to answer the question.
 (d) If either Statement I or Statement II alone is sufficient to answer the question.
 (e) Both Statement I and Statement II are insufficient to answer the question.
71. What is the maximum value of a/b ?
 I. $a, a + b$ and $a + 2b$ are three sides of a triangle.
 II. a and b both are positive.
72. ABC is a triangle with $\angle B = 90^\circ$. What is the length of the side AC?
 I. D is the mid-point of BC and E is the mid-point of AB.
 II. $AD = 7$ and $CE = 5$
73. Five integers A, B, C, D and E are arranged in such a way that there are two integers between B and C and B is not the greatest. There exists one integer between D and E and D is smaller than E. A is not the smallest integer. Which one is the smallest.
 I. E is the greatest.
 II. There exists no integer between B and E.
74. Let $f: \mathbb{N} \rightarrow \mathbb{N}$ (\mathbb{N} is the set of all natural numbers). How many solutions are there to the equation $f(x) = 1485$?
 I. For $a, b \in \mathbb{N}$, $f(10a + b) = f(a) + 12b$
 II. The maximum value of b is 9.
75. For which value of non-negative 'a' will the system $x^2 - y^2 = 0, (x - a)^2 + y^2 = 1$ have exactly three real solutions?
 (a) $-\sqrt{2}$ (b) 1
 (c) $\sqrt{2}$ (d) 2
 (e) None of these

76. Let $\{A_n\}$ be a unique sequence of positive integers satisfying the following properties:
 $A_1 = 1, A_2 = 2, A_4 = 12$, and $A_{n+1} \cdot A_{n-1} = A_n^2 \pm 1$ for $n = 2, 3, 4, \dots$
 Then, A_7 is
 (a) 60 (b) 120 (c) 149
 (d) 169 (e) 187
77. ABC is a triangle with $\angle BAC = 60^\circ$. A Point P lies on one-third of the way from B to C, and AP bisects $\angle BAC$. $\angle APC =$
 (a) 30° (b) 45° (c) 60°
 (d) 90° (e) 120°

Directions (Qs. 78-81) : Read the data below and choose the correct option for the questions that follow.

Queen Airlines offers the following privilege programme:

There are 5 membership tiers, each with its own set of enhanced tier-specific benefits. New members join at the Blue tier level, then upgrade to the Blue Plus, with the added benefit of Tele check-in. The programme also has three elite tiers—Silver, Gold and Platinum. The 6-month fast-track upgrade and the 12-months standard upgrade system operate in parallel-implying that whenever a particular passenger satisfies conditions, either in terms of number of flights in the stipulated period or in terms of accumulated. Queen-Miles in either of the two systems, they are automatically upgraded to the next tier. The 6-months upgrade system considers the data in rolling 6 months period. The same holds for the 12-months period. If conditions for more than one upgrade are satisfied, the passenger is given the higher of the two.

Tier Upgrade	Cumulative Queen Airways flights/ Cumulative Status Queen Miles	
	6-month Fast Track Upgrade System	12 month Standard Upgrade Sytem
Blue to Blue Plus	3/3,000	Not Applicable
Blue plus to silver	Not Applicable	5/12,500
Silver to Gold	5/12,500	10/20,000
Gold to Platinum	10/20,000	20/30,000

Benefits and Privileges

	Blue	Blue Plus	Silver	Gold	Platinum
Tele Check-in		✓	✓	✓	✓
Additional baggage allowance			10 kgs	20 kgs	35 kgs
Confirmed upgrade vouchers			1	3	5
Guaranteed reservations up to 24 hours prior to departure				✓	✓
Cancellation fees waived on published fares					✓

Distances between cities in Queen-miles

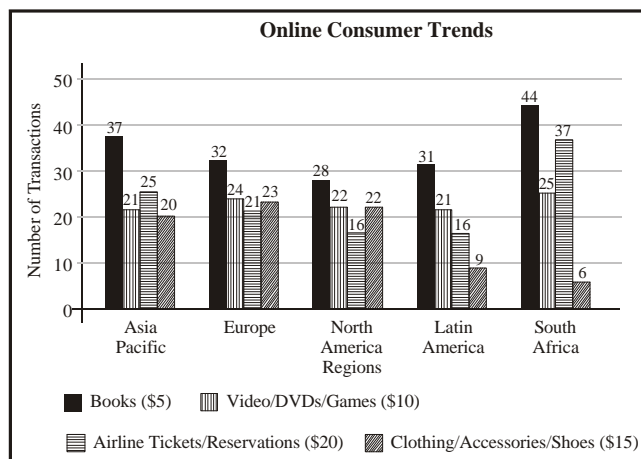
Kol kata	1461						
Mumbai	1407	1987					
Hyderabad	1499	1516	711				
Bangalore	2061	1881	998	562			
Coimbatore	2401	2167	1265	902	340		
Guwahati	1959	1081	2746	2370	2932	3209	
Chennai	2095	1676	1329	688	331	491	2718
	Delhi	K'kata	Mum	H'bad	B'llore	C'tore	Ghu

Mr. Kakkar, a newly recruited MBA from a business school, started his career with the start of the year 2007. His travel plans for the year of 2007 is given below in the table.

Date	From	To
2.1.2007	Mumbai	Hyderabad
8.1.2007	Hyderabad	Mumbai
3.2.2007	Mumbai	Delhi
8.3.2007	Delhi	Guwahati
20.3.2007	Guwahati	Kolkata
11.4.2007	Kolkata	Guwahati
30.4.2007	Guwahati	Chennai
4.7.2007	Chennai	Guwahati
20.7.2007	Guwahati	Kolkata
2.9.2007	Kolkata	Hyderabad
11.9.2007	Hyderabad	Guwahati
22.9.2007	Guwahati	Delhi
1.10.2007	Chennai	Bangalore
11.10.2007	Guwahati	Chennai
4.11.2007	Chennai	Delhi
29.11.2007	Delhi	Hyderabad
1.12.2007	Hyderabad	Guwahati
31.12.2007	Guwahati	Mumbai

78. In which month will Mr. Kakkar become eligible for guaranteed reservations upto 24 hours prior to departure
 (a) January (b) February
 (c) March (d) April
 (e) May
79. The number of complete calendar months, discounting any partial months, for which Mr. Kakkar avails the gold tier membership is
 (a) 7 (b) 8
 (c) 9 (d) 10
 (e) 11
80. The difference in complete calendar months, discounting any partial months, between the first tier upgrade and the last tier upgrade for Mr. Kakkar is
 (a) 7 (b) 8
 (c) 9 (d) 10
 (e) 11
81. If 6 month upgrade had not been in operation, then Mr. Kakkar would have reached Gold tier in the month of
 (a) June (b) July
 (c) August (d) September
 (e) October

Directions (Qs. 82-83) : The graph given below contains data pertaining to number of electronic commerce transactions that have taken place in the last six months of the financial year 2005. This graph contains data related to private consumption and does not include corporate electronic commerce activities. Numbers mentioned above the bar graphs are in millions and average price per unit is mentioned in the brackets.



82. For which product category is the revenue contribution of Asia Pacific region the maximum?
- (a) Books
(b) Video /DVDs/Games
(c) Airline Tickets/Reservation and Clothing/Accessories/ Shoes
(d) Clothing/ Accessories /Shoes
(e) Airline Tickets/ Reservation
83. If the airline ticket purchases made through internet increases by 20 per cent and the average price of the airline ticket increases by 25 per cent, then the net increase in revenues from the e-commerce activities worldwide will be percent of the corresponding pre-price-increase revenues.
- (a) 18 (b) 19 (c) 20
(d) 21 (e) 22

Directions (Qs. 84-85) : Study the aggregate financial ratios of all registered Indian manufacturing companies in the table below to answer the questions that follow.

All figures are as per cent of net sales unless otherwise mentioned.						
	2000	2001	2002	2003	2004	2005
PBDIT	13.1	11.7	12.3	13.3	14.4	14.7
PBDT	8.1	7.1	8	9.9	11.8	12.7
PBIT	9.4	8.4	8.7	9.9	11	11.6
PAT	3.2	2.8	2.7	4.4	6	6.9
Raw Material expense	41	40.6	43.1	45.5	45.7	47.1
Salaries and wages	5.9	5.7	5.6	5.3	4.9	4.4
Interest payments	4.6	4.3	4	3.1	2.3	1.7
Operating profit	5.2	4.2	4.9	6.7	8	8.7
Net sales (per cent Growth Over Previous Year)	18.4	19.3	2.6	15.7	15.2	19.9

84. What is the annual growth rate in aggregate PAT of the Indian manufacturing companies in the financial year 2005 as compared to that in the financial year 2004 ?
- (a) 15.0 per cent (b) 5.7 per cent
(b) 88.6 per cent (d) 37.8 per cent
(e) none of these
85. In which year the annual growth rate in the aggregate Salaries and Wages expense was maximum?
- (a) 2005 (b) 2004
(c) 2003 (d) 2002
(e) 2001

Directions (Qs. 86-90) : Study the tables of the Indian foreign trade given below to answer the questions :

Principal Commodities' Export	Weight (%)		
	2003-04	2004-05	2005-06
plantations	0.92	0.78	0.71
agri & allied prodt	8.39	7.61	7.21
marine products	2.08	1.60	1.40
ores & minerals	3.69	5.29	6.02
leather & mfrs.	3.19	2.89	2.56
gems & jewellery	16.56	17.29	15.13
sports goods	0.15	0.12	0.13
chemicals & related products	15.43	16.00	15.10
engineering goods	16.41	18.41	18.66
electronic goods	2.74	2.28	2.18
project goods	0.09	0.06	0.13
textiles	18.86	15.16	14.80
handicrafts	0.70	0.43	0.40
carpets	0.90	0.75	0.81
cotton raw incl. Waste	0.28	0.10	0.61
petroleum products	5.54	8.57	11.21
unclassified exports	4.07	2.66	2.94
GRAND TOTAL	100.00	100.00	100.00
Total Exports in Rupees Crore	293,366.75	375,339.53	454,799.97
US Dollar Exchange Rate	45.9513	44.9315	44.2735

Principal Commodities' Import	Weight (%)		
	2003-04	2004-05	2005-06
bulk imports	37.87	39.09	42.56
pearls, precious & semiprecious stones	9.25	8.80	6.42
machinery	10.63	10.00	10.94
project goods	0.49	0.54	0.57
others	41.76	41.57	39.51
Total Imports	100.00	100.00	100.00
Total Imports (in Crore of Rupees)	359,107.66	501,064.54	630,526.77

86. The three commodities which had highest export growth rate in the year 2004-05 as compared to the previous year, arranged in descending order of growth rates are
- petroleum products, ores and minerals, engineering goods
 - ores and minerals, gems and jewellery, chemicals and related products
 - gems and jewellery, chemicals and related products, agri and allied products
 - ores and minerals, chemicals and related products, agri and allied products
 - ores and minerals, engineering goods, chemicals and related products
87. In the year 2005-06, the commodity which witnessed maximum growth in exports (in Indian Rupees) as compared to the year 2004-05 is
- petroleum products
 - project goods
 - ores and minerals
 - sports goods
 - none of these
88. In the two years, period from 2004-05 to 2005-06, the average growth in import (in Indian Rupees) of which commodity to India was maximum?
- Bulk imports
 - Pearls, precious and semi-precious stones
 - Machinery
 - Project goods
 - Others
89. Growth of trade imbalance (exports less imports) in dollar terms in the year 2005-06 as compared to the previous year was
- 39.77
 - 41.85
 - 91.24
 - 95.98
 - None of these
90. Given that the weight (%) of Petroleum crude and products in the total imports of India is 26.70, 27.87, and 30.87 in the years 2003-04, 2004-05, and 2005-06 respectively. What is the ratio of yearly difference in the export of petroleum products and import of petroleum crude and products, in dollar terms, in the year 2005-06 versus 2004-05?
- 1.36
 - 1.38
 - 1.46
 - 1.48
 - none of these
91. If exactly one film buff sees the Ritwik Ghatak film, then which one of the following must be true?
- Vyomkesha sees the Satyajit Ray film.
 - Gangadhar sees the Guru Dutt film.
 - Maheshwar see the Guru Dutt film.
 - Indra sees the Guru Dutt film.
 - Rudra sees the Satyajit Ray film.
92. Each of the following must be false EXCEPT:
- Rudra is the only film buff to see the Guru Dutt film.
 - Rudra is the only film buff to see the Satyajit Ray film.
 - Yogi is the only film buff to see the Ritwik Ghatak film.
 - Exactly two film buffs see the Ritwik Ghatak film.
 - Exactly three film buffs see the Satyajit Ray film.
93. Which one of the following could be a complete and accurate list of the film buffs who DO NOT see the Satyajit Ray film?
- Gangadhar, Maheshwar
 - Gangadhar, Rudra
 - Gangadhar, Indra, Rudra
 - Gangadhar, Maheshwar, Yogi
 - Gangadhar, Vyomkesha, Yogi
94. Which one of the following could be an accurate matching of film buffs to films?
- Gangadhar: the Satyajit Ray film; Indra: the Ritwik Ghatak film; Maheshwar: the Satyajit Ray film
 - Gangadhar: the Ritwik Ghatak film; Indra: the Guru Dutt film; Vyomkesha: The Guru Dutt film
 - Indra: the Satyajit Ray film; Rudra: the Ritwik Ghatak film; Vyomkesha: the Guru Dutt film
 - Maheshwar: the Ritwik Ghatak film; Rudra: the Ritwik Ghatak film; Vyomkesha: the Ritwik Ghatak film
 - Maheshwar: the Satyajit Ray film; Rudra: the Satyajit Ray Film; Yogi: the Satyajit Ray film.
95. If Vyomkesha and Gangadhar see the same film, then which one of the following could be true?
- Gangadhar sees the Guru Dutt film.
 - Indra sees the Satyajit Ray film.
 - Rudra sees the Ritwik Ghatak film.
 - Vyomkesha sees the Satyajit Ray film.
 - Yogi sees the Guru Dutt film.
96. Each of the following could be a complete and accurate list of the film buffs who see the Guru Dutt film except:
- Gangadhar, Indra
 - Gangadhar, Maheshwar
 - Indra, Rudra
 - Maheshwar, Rudra
 - Vyomkesha, Yogi

SECTION-C : Reasoning and Decision Making Ability

Directions (Qs. 91-96) : Seven film buffs-Gangadhar, Indra, Lalatakshaya, Maheshwar, Rudra, Vyomkesha, and Yogi attend a showing of classic films. Three films are shown :

One each directed by Guru Dutt, Satyajit Ray, and Ritwik Ghatak. Each of the film buffs sees exactly one of the three films. The films are shown only once, one film at a time. The following restrictions apply:

Exactly twice as many of the film buffs see the Satyajit Ray film as see the Guru Dutt film. Gangadhar and Rudra do not see the same film as each other. Indra and Maheshwar do not see the same film as each other. *Vyomkesha and Yogi see the same film as each other. Lalatakshaya sees the Satyajit Ray film. Gangadhar sees either the Guru Dutt film or the Ritwik Ghatak film.*

Directions (Qs. 97-100) : The following set of questions is based on a decision-making situation that is described. Attempt the questions that follow and blacken the corresponding space on your answer sheet.

Ram Kumar, an over worked executive in Delhi, has to decide on the travel plan for attending his friend's marriage in Ajmer, Rajasthan. Barely managing to get leave from his boss, he has to make sure that he reaches at least on the day of the marriage. Since it has been quite some time since he got a break, he also planned to visit a few tourist spots so that he could de-stress himself after a year of demanding executive work-life.

As per his plan, Ram would start from Delhi. He would first pay a visit to Bharatpur bird sanctuary where he would stay in the forest guest house for sometime. After that he planned to visit Jodhpur and would do some sightseeing for a day or two. From Jodhpur, he would travel to Jaipur and spend few days visiting different places in the city. After that he would make a move towards Ajmer where his friend's marriage would take place.

Bharatpur can be reached from Delhi by bus, taxi or train. The probabilities of reaching the destination on time by each mode of travel, Ram reasoned based on his experience of travelling extensively in India, were 0.65, 0.75 and 0.9 respectively. All three modes of travel require 12 hours. From Bharatpur to Jodhpur he could opt for travel by train, bus or private taxi with the corresponding probabilities of 0.9, 0.8 and 0.85. The travel time, he reasoned would be 12 hours by train, 16 hours by bus and 14 hours by taxi.

Jaipur can be reached from Jodhpur either by a flight, train, bus or taxi with the corresponding probabilities of reaching on time 0.85, 0.9, 0.65 and 0.7 respectively. The flight would take 2 hours, while the train would entail 10 hours; the travel by bus and taxi would take the same time of 15 hours.

The last leg of the journey to Ajmer could be covered by train, bus or taxi with respective probabilities of 0.75, 0.55 and 0.55. Bus and taxi require 5 hours to reach Ajmer from Jodhpur while the train take an hour less. Since both Jaipur and Jodhpur had the facility of airports, he could travel directly to either of these places by taking a flight from Delhi, or use the flight option mid-way along with a combination of land transport.

97. The second best option (in terms of travel time) gives a total travel time of _____ hours for the entire itinerary.
- (a) 29 (b) 30
(c) 31 (d) 32
(e) 33
98. Due to winter fog, flights out of Delhi have become uncertain and unreliable. Given this constraint, the itinerary Ram should adopt to have the best probability of reaching Ajmer on time is:
- (a) Delhi- Bharatpur by train; Bharatpur to Jodhpur by taxi, Jodhpur to Jaipur by bus; Jaipur to Ajmer by train.
(b) Delhi- Bharatpur by Taxi; Bharatpur to Jodhpur by train, Jodhpur to Jaipur by flight; Jaipur to Ajmer by train.
(c) Delhi- Bharatpur by train; Bharatpur to Jodhpur by train, Jodhpur to Jaipur by train; Jaipur to Ajmer by train.
(d) Delhi- Bharatpur by train; Bharatpur to Jodhpur by taxi, Jodhpur to Jaipur by train; Jaipur to Ajmer by train.
(e) Delhi- Bharatpur by train; Bharatpur to Jodhpur by bus, Jodhpur to Jaipur by flight; Jaipur to Ajmer by train.
99. Ram's younger brother Shyam gets to know of Ram's travel plans and wants to come along. As against his brother, Shyam enjoys scenery enroute and wants Ram to maximize the travel time. To do so, the itinerary that Ram should decide upon is:

- I. Delhi- Bharatpur by train; Bharatpur to Jodhpur by bus, Jodhpur to Jaipur by bus; Jaipur to Ajmer by bus
II. Delhi- Bharatpur by bus; Bharatpur to Jodhpur by bus, Jodhpur to Jaipur by taxi; Jaipur to Ajmer by taxi.
III. Delhi- Bharatpur by bus; Bharatpur to Jodhpur by bus, Jodhpur to Jaipur by bus; Jaipur to Ajmer by bus.
IV. Delhi- Bharatpur by taxi; Bharatpur to Jodhpur by bus, Jodhpur to Jaipur by taxi; Jaipur to Ajmer by bus
V. Delhi- Bharatpur by taxi; Bharatpur to Jodhpur by taxi, Jodhpur to Jaipur by taxi; Jaipur to Ajmer by taxi
- (a) I (b) I, II
(c) I, II and III (d) I, II, III and IV
(e) I, II, III, IV and V

Directions (Qs. 100-101) : Ram's statistically-oriented friend Rocky disagrees that Ram should use only a single criterion for decision making "Decision making has to incorporate all the criteria together. That's what makes for a sound decision." Rocky gave his advice in most sagacious tone.

"How does one do that?" asked Ram. "Simple. All you need to do is give weight to the criteria and multiply the value of each criterion by its weight and then sum all the products for each option" Rocky answered.

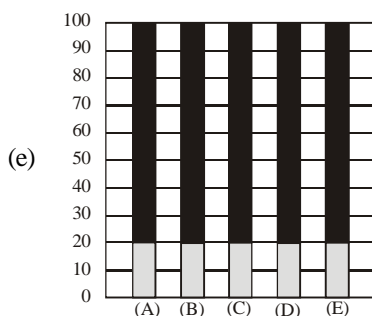
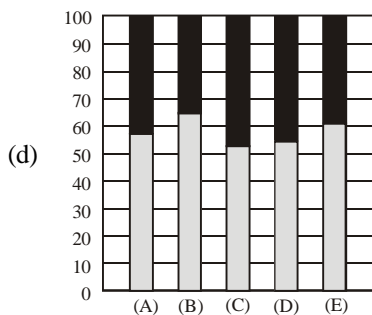
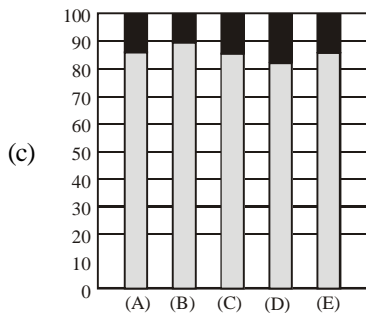
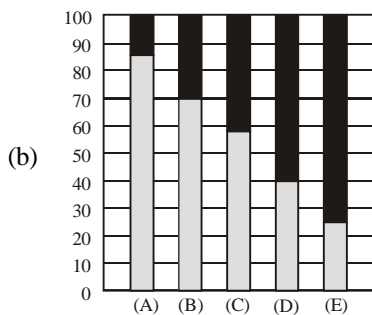
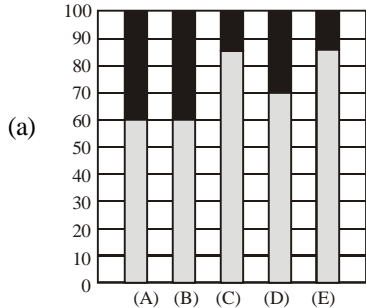
Looking at the lost look on Ram's face, Rocky gave an example "For each of the option there are two criteria probability of not making it to the wedding and travel time. [The probability of not reaching on time = 1 - the probability of reaching on time] Suppose you hate the possibility of not making it to the wedding despite your best efforts. Then your time and money is wasted. So let's give that criterion a weight of 80%. Moreover you also want to minimise the travel time. Let it have a weight of 20%. Therefore for each option you can sum the product of the value of respective criteria with its weight - and compare the sums for each of the options. Choose the option with the lowest total."

"So simple?" asked Ram.

"Well, it is....for starters" admitted Rocky.

100. As the foggy conditions in winter continue, flights out of Delhi have become uncertain and unreliable. Adopting Rocky's elementary decision-making framework, which of the following itinerary should Ram adopt?
- (a) Delhi- Bharatpur by train; Bharatpur to Jodhpur by taxi, Jodhpur to Jaipur by bus; Jaipur to Ajmer by train.
(b) Delhi- Bharatpur by Taxi; Bharatpur to Jodhpur by train, Jodhpur to Jaipur by flight; Jaipur to Ajmer by train.
(c) Delhi- Bharatpur by train; Bharatpur to Jodhpur by train, Jodhpur to Jaipur by train; Jaipur to Ajmer by train.
(d) Delhi- Bharatpur by train; Bharatpur to Jodhpur by taxi, Jodhpur to Jaipur by train; Jaipur to Ajmer by train.
(e) Delhi- Bharatpur by train; Bharatpur to Jodhpur by bus, Jodhpur to Jaipur by flight; Jaipur to Ajmer by train.

101. Of the options listed below, which diagram most closely represents the contribution of each of the two criteria, bottom portion of bar chart representing the contribution of probability of not reaching the destination, to the overall score for each of options mentioned above?



Directions (Qs. 102-107) : A famous retail electronics showroom chain has six new mobile phone models - T, V, W, X, Y, and Z- each equipped with at least one of the following three options: digital camera, music player, and office document viewer. No mobile has any other option. The following conditions apply:

- V features both a digital camera and an office document viewer.
- W has digital camera and music player.
- W and Y have no options in common.
- X has more options as compared to W
- V and Z have exactly one option in common
- T has fewer options as compared to Z.

102. For exactly how many of the six mobile phones is it possible to determine exactly which option each one has?
- (a) Two (b) Three (c) Four
 (d) Five (e) six
103. Which one of the following must be false?
- (a) Exactly five mobile phones feature a music player
 (b) Exactly five mobile phones feature a document viewer
 (c) Exactly four mobile phones feature a music player.
 (d) Exactly four mobile phones feature a digital camera.
 (e) Exactly four mobile phones feature a document viewer.
104. If Z has no option in common with T but has at least one option in common with every other mobile phone, then which one of the following must be false?
- (a) T has digital camera
 (b) Z has document viewer
 (c) Exactly four of the six mobile phones have digital camera.
 (d) Exactly four of the six mobile phones have document viewer.
 (e) Exactly four of the six mobile phones have music player.
105. Suppose no two mobile phone models have exactly the same options as one another. In that case, each of the following could be true except :
- (a) Exactly three of the six mobile phones have digital camera.
 (b) Exactly four of the six mobile phones have digital camera.
 (c) Exactly three of the six mobile phones have document viewer.
 (d) Exactly five of the six mobile phones have document viewer.
 (e) Exactly four of the six mobile phones have music player.
106. If exactly four of the six mobile phones have music player, and exactly four of the six mobile phones have digital camera, then each of the following must be true except :
- (a) T and V have no options in common.
 (b) T and Y have no options in common.
 (c) T and Z exactly one option in common.
 (d) W and Z have exactly one option in common.
 (e) Y and Z have no option in common.
107. Suppose that the condition “X has more options than W” is replaced by a new conditions “X and W have exactly two options in common.” If all of the other original conditions remain in effect, which one of the following must be false?
- (a) T and X have no options in common.
 (b) X and Z have no options in common.
 (c) V and X have exactly two options in common.
 (d) V and X have exactly one option in common.
 (e) X and Z have exactly two options in common.

Directions (Qs. 108-112) : Krishnapuram's town council has exactly three members: Arjun, Karn, and Bhim. During one week, the council members vote on exactly three bills : a recreation bill, a school bill, and a tax bill. Each council member votes either for or against each bill. The following is known:

Each member of the council votes for at least one of the bills and against at least one of the bills.

Exactly two members of the council vote for the recreation bill.

Exactly one member of the council votes for the school bill.

Exactly one member of the council votes for the tax bill.

Arjun votes for the recreation bill and against the school bill

Karn votes against the recreation bill.

Bhim votes against the tax bill.

108. Which one of the following statements could be true?
- Arjun and Karn vote the same way on the tax bill.
 - Karn and Bhim vote the same way on the recreation bill.
 - Karn and Bhim vote the same way on the school bill.
 - Arjun votes for one of the bills and Karn votes for two of the bills.
 - Arjun votes for two of the bills and Karn votes for two of the bills.
109. If the set of members of the council who vote against the school bill are the only ones who also vote against the tax bill, then which one of the following statements must be true?
- Arjun votes for the tax bill.
 - Karn votes for the recreation bill.
 - Karn votes against the school bill.
 - Bhim votes against the recreation bill
 - Bhim votes against the school bill.
110. If Karn votes for exactly two of the three bills, which one of the following statements must be true?
- Arjun votes for the tax bill.
 - Karn votes for the recreation bill.
 - Karn votes for the school bill.
 - Karn votes against the tax bill.
 - Bhim votes for the school bill.
111. If one of the members of the council votes against exactly the same bills as does another member of the council, then which one of the following statements must be true?
- Arjun votes for the tax bill.
 - Karn votes for the recreation bill.
 - Karn votes against the school bill.
 - Karn votes for exactly one bill.
 - Bhim votes for exactly one bill.
112. If Karn votes for the tax bill, then which one of the following statements could be true?
- Arjun and Karn each vote for exactly one bill.
 - Karn and Bhim each vote for exactly one bill.
 - Arjun votes for exactly two bills.
 - Karn votes for the recreation bill.
 - Bhim votes against the recreation bill.

113. Mr. Basu, the managing director of XYZ company asked five persons - Asit, Barun, Chandra, Danny and Eshita - about their interest in a new project. The replies he got were

Asit : None of us is interested.

Barun : One of us is interested.

Chandra : Two of us are interested.

Danny : Three of us are interested.

Eshita : Four of us are interested.

From his experience, Mr. Basu knows that those who are interested only tell the truth and others lie. How many of them are interested in the new project?

- 4
- 3
- 2
- 1
- 0

114. Five persons - A, B, C, D and E are either guards or thieves. The guards always tell the truth, whereas thieves always lie. A claims that B is a guard. B claims that C is a thief. C claims that D is a thief. E claims that A is a guard. D claims that B and E are different kinds. The number of thieves is
- 1
 - 2
 - 3
 - 4
 - 5

Directions (Q. 115-117) : Each group of questions in the section is based on a decision-making situation that is described. Attempt the questions that follow :

The year 2004 was a great year for Top-Cloth Cotton Mill, manufacturing towels for the export market employing more than 2000 workers, the company had an impressive growth in sales and profits. The Chairman felt that employees were entitled to a share in the profits and it was proposed that the employee's mess be air-conditioned. The proposal was discussed in a meeting that was attended by, among other senior officials, the marketing director, the personnel director and the finance director. The proposal was based on the fact that the shop floor of the mill often had temperatures in excess of 40°C with a relative humidity of 99 per cent. The air-conditioned mess would represent management's appreciation of the employee's hard work.

At the end of 2005, management reviewed the mill's performance. Profits were higher, and employee attrition was negligible. Chairman decided that employees deserved additional recognition for their fine work. Since the mess had already been air-conditioned, the chairman wanted to know, if the employees appreciated this sort of action. In the course of discussion the chairman asked the personnel director to send a questionnaire to a sample of fifty employees and obtain their reaction to the air-conditioned mess. The management agreed to decide only after obtaining the feedback from the employees.

The personnel director mailed a simple form to fifty employees asked them for the following information, "Please state your reaction to the air-conditioned mess." Of the fifty forms mailed, forty-six were returned. The answers received were as follows :

Reaction	Frequency
"I did not know it was air-conditioned."	16
"I never eat there."	8
"If management can spend money like that, they should pay us more"	6
"I wish the entire mill was air-conditioned."	8
"The mess is for management employees."	4
"It is OK."	2
Miscellaneous comments	2

115. The main conclusion(s) about the personnel director that emerge(s) from this situation is (are) :
- The personnel director did not have the competence to manage an employee feedback survey, and should have been given the task to a professional consultant.
 - The personnel director was responsible for employees' reactions.
 - The personnel director had failed in his duty of maintaining constant touch with employees.
 - The cost of air-conditioning is a waste, since its beneficiaries did not feel any benefit.
- (a) II only (b) III only
(c) IV only (d) I, III and IV
(e) I, II, III, and IV
116. Management of Top-Cloth Cotton Mill considers itself to be socially conscious and its decisions are often re-examined for their social relevance and the impact on society. In view of this consideration, what could have been considered before deciding on profit sharing?
- communicating management's intentions via employees newsletters.
 - taking employee's inputs in designing the cafeteria's interiors and installation of airconditioning.
 - considering employee's views on different ways of sharing excess profits.
 - investing in capacity expansion to take care of the booming export market.
 - dividing the profits equally among the workers and shareholders.
- The options in decreasing order of their impact on society
- (a) II, III, V, IV, I (b) IV, V, III, II, I
(c) III, II, I, IV, V (d) I, II, III, IV, V
(e) V, IV, III, II, I
117. This decision-making situation best highlights
- managerial short-sightedness in decision making.
 - managerial benevolence in sharing profits among the workers
 - managerial incompetence in handling a negative feedback in employee survey
 - inefficient infrastructure management
 - None of these

Directions (Qs. 118-121) : For each question, an Assertion (A) and a Reason (R) has been given. Base your analysis on the information presented in the passage. Mark

- (A) if both A and R are based on information given in the passage and R is the correct explanation of A.
- (B) if both A and R are based on information given in the passage but R is not the correct explanation of A.
- (C) if A is based on information given in the passage but R is not based on the facts given
- (D) if A is not based on information given in the passage but R is based on the information given in the passage.
- (E) if both A and R are not based on information given in the passage.

The Society for Education in India (in short SEI) had been engaged in running primary schools in different parts of the country since 1950s. While attending a conference on employee selection, Mr. J. Mehta, a senior member of the society learned that a leading school had recently employed a psychologist to perform employment functions, i.e., recruitment and selection of teachers. Within two months of his return, Mr. J. Mehta contacted a reputed university and employed a graduating psychologist, Mr. Bibek Gupta.

Mr. Bibek Gupta was employed by SEI with the single directive that he was to contribute to the selection of teachers. This task had previously been the prerogative of principals of each school, Mr. Gupta immediately notified each principal that in the future, he was to be notified of the personnel needs and in return he would recruit, screen and select the teachers.

At the end of his first year with SEI, Mr. Gupta realised that his efforts had resulted in failure. During his first few months, he encountered much opposition from several principals who had been managing schools for ten or more years. They did not believe in newer psychological techniques and preferred selecting people based on their own assessment. Other principals frequently refused to accept the teachers selected by Mr. Gupta. Finally, Mr. Gupta began to notice fewer and fewer principals notifying him of vacancies in their schools. Realising that he was not making any effective contributions, Mr. Gupta submitted the suggestion to the society members that support and co-operation of the school principals should be a matter of executive order, or else his resignation should be considered.

118. What was the flaw in the decision of selecting a psychologist for selecting teachers that led to the final situation?

Assertion (A) : Mr. Mehta's decision was predominantly driven by the information about another school that had enlisted the services of a psychologist for recruitment and selection.

Reason (R) : Both the administration of the school and managing teachers have been primary responsibilities of the principal of the school.

- (a) A (b) B
(c) C (d) D
(e) E

119. What responsibilities were shouldered by Mr. Bibek in his first year of employment?

Assertion (A) : Mr. Bibek had the responsibility of contributing his expertise to recruitment and selection of teachers.

Reason (R) : The board members wanted to systematise the recruitment and selection of the entire organization.

- (a) A (b) B
(c) C (d) D
(e) E

120. How were the changes in the recruitment and selection process received by the principals?

Assertion (A) : The principals rejected the new process in its entirety from the day, it was introduced.

Reason (R) : The principals were cynical of the abilities of the psychologist as far as recruitment and selection of teachers were concerned.

- (a) A (b) B
(c) C (d) D
(e) E

121. "At the end of his first year with SEI, Mr. Gupta realised that his efforts had resulted in failure." Was Mr. Bibek's self-assessment justified?

Assertion (A) : Yes, since the selection of teachers continued to be done as it was being done earlier.

Reason (R) : He was placed in a situation where the concerned persons refused to consult him regarding his expertise. Hence his impact was dependent on co-operation by others.

- (a) A (b) B
(c) C (d) D
(e) E

Directions (Qs. 122-124) : Sayan, a recent MBA graduate with specialisation in sales and marketing, applied for the position of sales manager in a firm producing industrial fabrication tools. The management of the company took pride in its non-discriminatory recruitment policy. In offering Sayan the position, the management made it clear that an indispensable feature of the job involved entertaining purchasing agents and that a certain amount of social drinking was necessary. Sayan assured them that he was a moderate drinker with no moral or religious prejudices against drinking.

During the following two years, Sayan became a successful manager and on two occasions received awards for achieving the highest sales for the quarter. However, he found that he was encountering a problem resulting from the necessity of entertaining customers at least two or three times a week. The problem was that he felt that he was becoming an alcoholic, since he had recently been over indulging even when not entertaining customers. The problem became progressively worse until he found himself in a constantly inebriated condition and unable to work without resorting to drinking at work.

On reporting about his problem to the management, Sayan was sent at company expense to an alcoholic rehabilitation centre, from which he was discharged after six weeks of rest and recuperation. However, within two months of resuming duties, Sayan was arrested in a local pub and charged with drunkenness and assault. The victim of his assault was a customer whom he had taken to the pub to discuss a sale. The management viewed the incident extremely negatively and fired Sayan. Shortly thereafter, a lawyer representing Sayan informed the management that Sayan intended to bring legal action against the company.

Sayan felt the company was liable since his alcoholism was a result of his employment. He contended that drinking was a requirement of his job, and therefore alcoholism represented an occupational hazard. The management decided to form a committee to discuss the matter and recommend a course of action. The course of action should be such so as to prevent a recurrence of such a situation.

122. As the management decides this situation, it also has to appoint a replacement for Sayan. The management is exploring following options so that such a fiasco is not repeated:

- I. Do not go to business schools. Hire an experienced sales manager from the market, and attract him or her by offering a higher remuneration package.
- II. State the requirements of job, including the necessity of social drinking, explicitly in the employment offer letter. A signed copy of the employment offer letter would indicate that the employee has accepted the terms of the employment with complete knowledge of job-details.
- III. Social drinking does not imply that a person has to drink excessively. Therefore select only mature persons, those who are high in self-esteem, who do not give in to social pressures and who know how to exert self-control.
- IV. Provide guidance to all sales managers - both experienced as well as newly appointed - on how to behave during social occasions. This will be helpful to those who are otherwise moderate drinkers, but end up drinking beyond their capacity because of suggestions by peers and friends.
- V. Test for the validity of claims of being moderate drinkers during the selection process itself. This will screen out persons who only claim to be drinkers but to obtain the job.

From management's point of view, the options in the descending order of ease of implementation would be

- (a) I + II, III, IV + V
(b) III + IV, II + V, I + V
(c) III + V, II + IV, II + V
(d) II + V, II + IV, I + II
(e) I + II, II + IV, II + V

123. Assuming that the management has no constraints in implementing changes in policy, the following possible recommendations can be made confidently about the company's recruitment and selection policy.

- I. All that is required to sell the product is to entertain the purchase officers. The company should predominantly be hiring college graduates, that too those who know how to interact socially.
- II. The firm would be better-off by hiring sales managers from the market rather than those fresh out of business schools.

- III. The firm should have only one sales manager. The sales manager should know about the technical details of the product and its pricing and should have the authority to offer price discounts to clients. At the next level, the firm should have a team of sales representatives, who would be responsible for developing contacts and reporting back to the sales manager for follow-up.
- IV. The firm should have an intense induction period where the newly appointed employees are trained in managerial aspects of the job and provided training in social skills, including how to manage drinks.
- V. People passing out of MBA colleges and without work-experience are as good as high school kids. The firm should avoid them at all costs as they would often end up as a liability to the firm.

The option that makes good business sense and represents the choices for the management in increasing order of alignment with respect to its policy of non-discrimination are :

- (a) I, II, III, V (b) I, III, II, IV
 (c) I, V, III, IV (d) I, III, V, IV
 (e) I, II, V, IV
124. From Sayan's perspective, which option allows him to salvage his career prospects?
- (a) Make an offer to withdraw the case in return for a job back in the company. Thus the company would be saved from any protracted legal battle in the Indian legal system and Sayan would be gainfully employed.
- (b) Ask for a job in manufacturing since it does not involve drinking. He had proved his competence while being a sales manager, and he can prove his competence in manufacturing also.
- (c) Obtain documentation from the fine that highlights his performance and experience, abstain from legal action against the firm, have a settlement outside the legal system and take a job in a totally different company.
- (d) Obtain certificates from the company that reflect his performance on the job. Ask for help from the management in getting a job in the sister concern of the firm.
- (e) Proceed with the court case. There is a possibility of his winning a substantial compensation. After that he can start looking for a new job.

Directions (Qs. 125-129) : A company launches eight products-Q, R, S, T, V, W, Y and Z- in one of the four metros of India. The products were launched one after the other over a period of six months in 2006. The order in which the products were launched is consistent with the following conditions:

- V is launched before both Y and Q
 Q gets launched after Z
 T gets launched before V but after R
 S gets launched after V
 R gets launched before W.

125. Which one of the following could be true?
 (a) Y is the second product to be launched.
 (b) R is the third product to be launched.
 (c) Q is the fourth product to be launched.
 (d) S is the fifth product to be launched.
 (e) V is the sixth product to be launched.
126. Is Z is the seventh product to be launched, then which one of the following could be true?
 (a) W is the fifth product to be launched.
 (b) T is the fourth product to be launched.
 (c) R is the second product to be launched.
 (d) V is the sixth product to be launched.
 (e) Y is the eighth product to be launched.
127. If Q is the fifth product to be launched, then each of the following could be true EXCEPT :
 (a) Z is the first product to be launched.
 (b) T is the second product to be launched.
 (c) V is the third product to be launched.
 (d) W is the fourth product to be launched.
 (e) Y is the sixth product to be launched.
128. If R is the second product to be launched, which one of the following MUST be true?
 (a) S gets launched sometime before T.
 (b) T gets launched sometime before W.
 (c) W gets launched sometime before V.
 (d) Y gets launched sometime before Q.
 (e) Z gets launched sometime before W.
129. If V gets launched before Z does, then which one of the following COULD be true?
 (a) R is the second product to be launched.
 (b) T is the fourth product to be launched.
 (c) Q is the fourth product to be launched.
 (d) V is the fifth product to be launched.
 (e) Z is the sixth product to be launched.
130. Mr. Basu looks at the calendar for 20ab. He finds that April 20ab has exactly four Mondays and four Fridays. Ist April 20ab would fall on
 (a) Saturday (b) Sunday
 (c) Wednesday (d) Thursday
 (e) Friday

PART B

ESSAY-WRITING : Write a essay on the following topic :

"Economic growth without environmental damage – mirage or reality".

SOLUTIONS

1. (e) Sentence 1 of para 2 states that supporters of aims of socialism neither care nor understand how they can be achieved, but they want to achieve it at any cost.
2. (e) The sentence in last para "it is socialism which has persuaded liberal minded people to submit". Supports this option.
3. (a) Author does not seem to be supporter of capitalism or extreme form of socialism, so all other options can be ruled out.
4. (b) As stated above the author does not seem to be supporter of capitalism or extreme form of socialism, so (b) is the correct answer.
5. (e) Democratic Socialism is a form of socialism with a democratic government; the ownership and control of the means of production, capital, land, property, etc., by the community as a whole — combined with a democratic government.
Whereas Capitalism is an economic system in which investment in and ownership of the means of production, distribution, and exchange of wealth is made and maintained chiefly by private individuals or corporations, esp. as contrasted to cooperatively or state-owned means of wealth.
6. (e) The second poet is neither criticising nor supporting the first poet's viewpoint. Hence options (a) to (d) are ruled out. Second poet is just adding another perspective to the first poet's thoughts.
7. (a) As there is no talk on educated or uneducated so option (b) is ruled out. There is some semblance of fate in poem 1 only, hence option (c) is ruled out. Options (d) and E will complement the argument. Option (a) can instigate the argument further.
8. (e) 7th line of poet 2 supports this option.
9. (d) As cocooned life need not be that of an ascetic or stoic person, so options (b) & (c) are ruled out. Even amiable person can get stranded on an island, hence option (a) is ruled out.
10. (a) Dictionary meaning for both cauldron and crucible is, a large melting pot. In Latin crucible is also related to crucial and cauldarium means hot bath.
11. (a) Juvenile means related to child or childhood; Puerile means mature.
12. (e) Spurious is not genuine, authentic, or true; not from the claimed, pretended, or proper source; counterfeit; forged. A questionable thing may be or may not be spurious, which can be revealed after thorough questioning. World questionable raises a doubt, but is not enough to prove something as spurious.
13. (c) The contextual meaning of exercise is to affect, so option (c) is the only one. Exercise something upon somebody is imposing.
14. (a) Options (b) & (c) can be easily ruled out as they are nowhere near the meaning of assumption. Doctrine means a set of instructions, written or verbal. Hunch is intuition which comes without a rationale. Assumptions also have a degree of irrationality.
15. (c) The passage mentions both external and internal capital supply. Hence, statement I is invalid. Sentence 7 of para 2 supports statement III. The fact that uncertain industries like infrastructure and agriculture were supported by British govt-supports statement II & IV. Sentence 6 of para 2 states that there was demand but lack of indigenous expertise failed to encase the demand, so statement V is invalid.
16. (d) Certain industries, like steel were by Indian investment, and some, like jute were by British investment, so both (a) and (b) are correct.
17. (e) Sentences 6 to 9 of para 2 highlights that it was strategic importance of Indian economy, rather than a desire on British' part to see India as self-sufficient.
18. (e) Same as above.
19. (c) There seems to be no practice of discrimination.
20. (c) The fact that initial investment came through savings of British public servant and Indian business class' lack of adequate capital points to option (c).
21. (d)
22. (e) It is clear that sentence 6 will follow sentence 1 as they both talk about friendly competition. Further 3 has to be followed by 4 as 4 continues talking about targets and incentives.
23. (d) 2 has to be followed by 3 as 'to achieve these ends' refers to what has been mentioned in 2. Further, 3 has to be followed by 6 as the issue discussed in 2 and 3 is being referred in 6.
24. (a) 5 has to be followed by 6 as 'they' in 6 refers to the leaders mentioned in 5. In 3 'They' refers to the workers talked in 4, so 3 will follow 4.
25. (e) Technique is like development of basic skill and develops in isolation as emphasized by para 6, so option (a) is incorrect. If a specialist learns to understand life, then only he can enjoy life. In this context options (b) & (c) are incorrect. An atom breaker without love can become a monster. It is like a blacksmith making plough and another making a sword, hence option (d) is wrong.
26. (c) The passage is not anti-technology, hence options (a), (d) & (e) are ruled out. Option (b) doesn't clarify what will happen after transcending technological limits.

27. (c) As the passage highlights the need of understanding life, without being anti technological, so option (c) best sums up the arguments.
28. (c) The passage emphasizes that present day education is a total failure, so (a) can't be an appropriate title. Passage is dealing with effect or lack of effect of technique on 'real life'. In a way it is highlighting just one of the aspects of life, not the whole aspect. So (b) is ruled out. As it is highlighting some of the pitfalls of technique, hence (c) is the best title.
29. (d) In sentence III the semicolon, after Nobel Peace should be removed. In sentence IV 'they' should be replaced by it.
30. (c) (a), (b) & (d) don't have agreement of pronouns (you & we). (e) means that when we were up high in the trees, eagles were looking at us.
31. (c) The original statement is a type of guess based on some assumptions. Options (a), (b), (d) & (e) give a feeling of certainty.
32. (e) Option (d) is just a rehash with some changes in punctuation marks. 'Although' at the start of option (c) makes it an antecedent type of statement. Options (a) & (b) give completely different meanings.
33. (b) Last sentences of the passage indicate towards adjustment of probabilities for a hypothesis so as to confirm to the outcome. Hence option (b) is the best answer. Passage never talks about questioning a hypothesis, so options (a) and (c) are ruled out.
34. (d) The fact that two scientists may disagree on a given hypothesis indicates towards this option.
35. (a) "It can be argued that the beliefs of individual scientists, however, much they might differ at the outset can be made to converge". Points towards this option.
36. (c) The second last sentence indicates towards this option. As it talks about scaling up or down the probability of a hypothesis to suit the existing out come.
37. (c) Last sentence emphasizes that there are certain facts in social sciences, which can't be analyzed by mathematics.
38. (a) Surya is not negating Chandra's agreement. He is just stating the fact that common people's in ability to see a comet when it is far from the Sun.
39. (e) While prescribing a medicine, a physician has to consider risk - benefit ratio, so options (a) and (b) are ruled out. The term 'most patients' negates option (c). Weight gain is directly attributed to antidepressant, so (d) is ruled out.
40. (c) The passage says that inspite of manufacturers improving the imparting of safety training programmes, the number of on- the-job accidents increased. Only (c) can resolve this discrepancy as the employees, by this time, become habitual of working unsafely. The companies implemented these programmes when the rate of accidents was on the continuous increase. So it will take some time before the real affect of these programmes start showing its results.
41. (d) Option (a) is neutral. Option (b) and (c) support the argument. Option (e) doesn't mention the exact cause.
42. (d) By the end of the 4th day, the truck had travelled $\frac{3}{4}$ of the distance between A and B.
As p and q are natural numbers, the distance has to be a multiple of $4 + 3 = 7$.
So, the value of $p + q = 7$.
ALTERNATIVELY:
As per the given conditions we get,

$$\frac{1}{p} + \frac{1}{q} \left(1 - \frac{1}{p}\right) + \frac{1}{p} \left[1 - \frac{1}{p} - \frac{1}{q} \left(1 - \frac{1}{p}\right)\right]$$

$$+ \frac{1}{q} \left[1 - \frac{1}{p} - \frac{1}{q} \left(1 - \frac{1}{p}\right)\right] \left\{1 - \frac{1}{p} - \frac{1}{q} \left(1 - \frac{1}{p}\right)\right\} \frac{3}{4} =$$
or, $\frac{1}{p} + \frac{1}{q} - \frac{1}{pq} + \left(\frac{1}{p} + \frac{1}{q} - \frac{1}{pq}\right) \left[1 - \frac{1}{p} - \frac{1}{q} \left(1 - \frac{1}{p}\right)\right] \frac{3}{4} =$
or, $\left(\frac{1}{p} + \frac{1}{q} - \frac{1}{pq}\right) \left(1 + 1 - \frac{1}{p} - \frac{1}{q} - \frac{1}{pq}\right) \frac{3}{4}$
Let $\frac{1}{p} + \frac{1}{q} - \frac{1}{pq} = x$
then, $x(2-x) = \frac{3}{4} \Rightarrow x = \frac{3}{2}, \frac{1}{2}$ or $\frac{1}{p} + \frac{1}{q} - \frac{1}{pq} = \frac{1}{2}$
or $2(p+q-1) = pq$ or $(p+q-1) = \frac{pq}{2}$.
43. (a) Minimum distance traveled on day 1

$$= \frac{1}{4} \times 100 = 25 \text{ kms}$$
44. (d) $\frac{n}{20-n} \in \mathbb{I}; n \in \mathbb{I}$
The squares of integers are 1, 4, 9, 16
- Let
- $\frac{n}{20-n} = 1 \Rightarrow n \neq 0$
-
- Again,
- $\frac{n}{20-n} = 4 \Rightarrow n = 80 - 4n$
- or
- $n = 16$
-
- $\frac{n}{20-n} = 9 \Rightarrow n = 180 - 9n$
- or
- $n = 18$
-
- On equating with further values of squares of integers we do not find n to be an Integer.
45. (c) Let us add all the 13 numbers

$$\Rightarrow 1 + 9 + 14 + 15 + [2 + 3 + 4 + 5 + 7 + 10 + 11 + 12 + 13]$$

$$= 106$$

As there are 4 columns and 3 rows so the sum of the 12 numbers has to be divisible by 12, i.e. the sum should be $96 (12 \times 8)$.

So 10 is left out.

So the sum of all the numbers in a row = $\frac{96}{3} = 32$

and in a column = $\frac{96}{4} = 24$

Further the arithmetic mean of the numbers in a row or

column = $\frac{32}{4} = \frac{24}{3} = 8$

46. (d) Clearly 10 has to be left out.

47. (b) This is clearly a graphical representation of the equation of a hyperbola of the standard form :

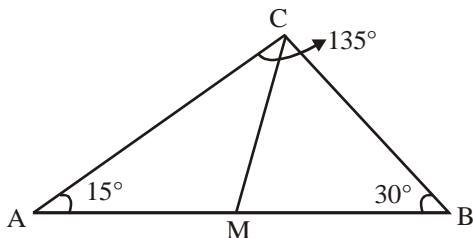
$$\frac{x^2}{a^2} - \frac{y^2}{b^2} = 1$$

Given : $9x^2 - 16y^2 = 144$

$$\text{or } \frac{9x^2}{144} - \frac{16y^2}{144} = 1$$

$$\Rightarrow \frac{x^2}{4^2} - \frac{y^2}{3^2} = 1$$

48. (c)



Given M is the midpoint of AB, so $AM = MB$

Further, the ratio of $\angle A : \angle B = 15 : 30 = 1 : 2$.

So, the $\angle ACB$ will be divided into $\angle ACM$ and $\angle MCB$ in the ratio of 1 : 2.

Hence, $\angle ACM = \frac{1}{3} \times 135^\circ = 45^\circ$.

49. (b) $f(x)f(y) = f(x+y) + f(x-y)$

$f(1) = 3$ and $f(0) \neq 0$

$f(1)f(0) = f(1+0) + f(1-0)$

or $3f(0) = f(1) + f(1) = 3 + 3 = 6$

or $f(0) = 2$

Again $f(1)f(1) = f(1+1) + f(1-1)$

or $3^2 = 9 = f(2) + f(0)$

$\Rightarrow f(2) = 9 - 2 = 7$

Further $f(2)f(1) = f(3) + f(1)$

or $7 \times 3 - 3 = f(3) = 18$

50. (c) For $x = 2, y = 2$

$$f(2)f(2) = f(4) + f(0) \Rightarrow f(4) = 7 \times 2 - 47$$

Now for $x = 4, y = 3$

$$f(4)f(3) = f(7) + f(1)$$

$$\text{or } f(7) = 47 \times 18 - 3 = 846 - 3 = 843$$

51. (a) $2x + p = 2y$ (1)

$$p + y = x$$
(2)

$$x + y = z$$
(3)

$$\Rightarrow x - y = z - 2z = 2(x + y) \quad \text{from (3)}$$

Again, from (1) & (2)

$$p = x - y = 2y - 2x = 2(y - x) \Rightarrow x = y \text{ or } p = 0$$

52. (a) $x \in S$, so x is a rational number.

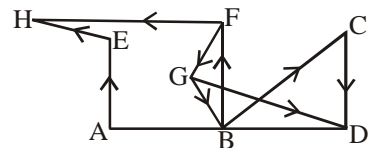
For any positive rational number, x ,

$$\frac{1}{x+1} < 1 \text{ as } 1+x > 1$$

Further $1+x > x$, so $\frac{x}{1+x} < 1$

So (a) is true.

53. (d) $R_1: ABC; R_2: CDBF; R_3: DAEH; R_4: FGB; R_5: GD; R_6: FH$



To stop any flow of traffic from B to D we have to first find the routes which can be taken to reach D from B.

So we see that one can take the route BCD or BFGD.

So we need to block one road segment, BC or CD and another road segment, BF or FG or GD.

54. (a) $A_0 = 1994$

$$A_1 = f(A_0) = 1994 + 1 = 1995$$

$$A_2 = f(A_1) = 1995 + 1 = 1996$$

$$A_3 = f(A_2) = 1996 + 1 = 1997$$

$$A_4 = f(A_3) = 1997 + 1 = 1998$$

$$A_5 = f(A_4) = 1998 + 1 = 1999$$

$$A_6 = f(A_5) = 1999 + 1 = 2000$$

$$A_7 = f(A_6) = \frac{2000}{10} = 200$$

$$A_8 = f(A_7) = \frac{200}{10} = 20$$

$$A_9 = f(A_8) = \frac{20}{10} = 2$$

So for $n = 9, A_n = 2$

55. (a) $x^3 + 0x^2 + px + q = 0$

Let the roots be α, β and γ

Sum of roots $= \alpha + \beta + \gamma = \frac{-b}{a} = 0$

$\Rightarrow \alpha = -(\beta + \gamma)$ (I)

Again, $\alpha\beta + \beta\gamma + \gamma\alpha = \frac{c}{a} = p$ (II)

$\alpha\beta\gamma = \frac{-d}{a} = q$

Putting (I) in (II),

$-\beta(\beta + \gamma) + \beta\gamma - \gamma(\beta + \gamma) = p$

or $p = -\beta^2 - \beta\gamma + \beta\gamma - \beta\gamma - \gamma^2$
 $= -(\beta + \gamma)^2 + \beta\gamma = -(\alpha^2 + \beta\gamma)$

or $p = -\alpha^2 + \beta\gamma$ which is negative

As one of the roots is negative of the sum of the other two. So $p = -1$.

56. (b) Let y denotes the number of accidents reported and x denotes the number of overtime hours logged.

$y = mx + c$

(Here, m and c are constants)

$8 = 1000m + c$ (1)

$5 = 400m + c$ (2)

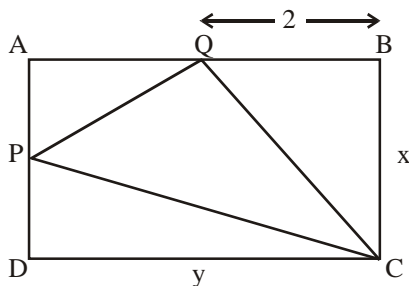
(1) - (2), $3 = 600m$ or $m = \frac{1}{200}$

Putting in (1), $8 = 1000 \times \frac{1}{200} + c$

$\Rightarrow c = 8 - 5 = 3$

So expected number of accidents when no overtime hours are logged = 3.

57. (a) As areas of APQ, QBC and PDC one equal, so



$\frac{1}{2} \times 2 \times x = \frac{1}{2} \times AP \times (y-2) = \frac{1}{2} \times PD \times y$

or $x = \frac{1}{2}(y-2) \times AP = \frac{1}{2}y \times PD$

$\Rightarrow PD = \frac{2x}{y}$ and $AP = \frac{2x}{y-2}$

Again, $AD = x = PD + AP = \frac{2x(y-2) + 2xy}{y(y-2)}$

$\Rightarrow y(y-2) = 2(y-2) + 2y$ or $y^2 - 2y = 4y - 4$

$\Rightarrow y^2 - 6y + 4 = 0$

$\Rightarrow y = \frac{+6 \pm \sqrt{(-6)^2 - 4 \times 1 \times 4}}{2 \times 1} = \frac{6 \pm \sqrt{20}}{2} = 3 \pm \sqrt{5}$

$\Rightarrow AQ = 3 \pm \sqrt{5} - 2 = 1 \pm \sqrt{5}$

58. (e) Let the number of portfolios offered be a, b and c , of the types I, II and III respectively.

Comparing the various types of stock:

$2a + 4b + 2c = 12$

or $a + 2b + c = 6$ (I)

Again, $a + 2b + 2c = 6$ (II)

and, $3b + 3c = 6$ or $b + c = 2$ (III)

Subtracting (I) from (II), we get

$c = 0, \Rightarrow b = 2$ and $a = 2$

ALTERNATIVELY:

The only possibility for Portfolio III is 1 or 2 offerings as total preferred stocks required = 6 = 2 × 3 preferred stock offered by Portfolio III.

Case I : 1 offering

	offering	CS	MB	PS
Required	-	12	6	6
III	1	2	2	3
II	1	4	2	3
I	2	4	2	0
		10	6	6

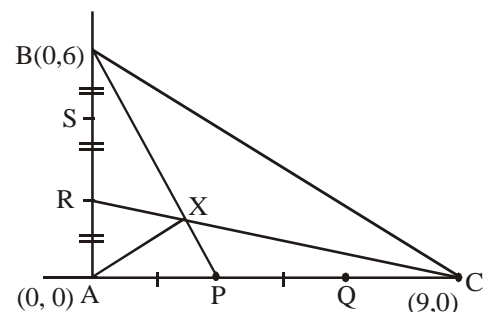
Requirement not met.

Case II:

	offering	CS	MB	PS
III	2	4	4	6
I	1	4	2	0
		8	6	6

Requirement not met.

59. (a)



Co-ordinates of P = (3, 0)

Co-ordinates of Q = (6, 0)

Co-ordinates of R = (0, 2)

Co-ordinates of S = (0, 4)

Equation of a line :

$$(y - y_1) = m(x - x_1)$$

where m is the slope = $\frac{y_2 - y_1}{x_2 - x_1}$

⇒ Equation of PB :

$$(y - 0) = \frac{6 - 0}{0 - 3}(x - 3)$$

or $y = -2x + 6$

or $y + 2x = 6$ (I)

Equation of RC : $y - 0 = \left(\frac{2 - 0}{0 - 9}\right)(x - 9) = \frac{-2}{9}x + 2$

or $y + \frac{2}{9}x = 2$ (III)

for (I) & (III)

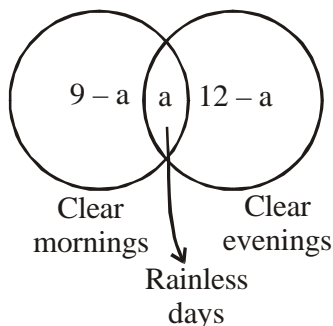
$$\left(2 - \frac{2}{9}\right)x = 6 - 2 = 4 \Rightarrow x = \frac{18}{8} = \frac{9}{4}$$

Putting in (II) we get $y = \frac{3}{2}$

So co-ordinates of X are $\left(\frac{9}{4}, \frac{3}{2}\right)$

$$\therefore \text{slope of AX} = \frac{\frac{3}{2} - 0}{\frac{9}{4} - 0} = \frac{3}{2} \times \frac{4}{9} = \frac{2}{3}$$

60. (d) 9 mornings and 12 evenings were clear. This does not mean that there was rain on corresponding 9 evenings and 12 mornings. This will contain the rainless days, which will be common to both. Let the rainless days be a.



So total days = $9 - a + a + 12 - a = 21 - a$

This is equal to the 13 rainy days + 'a' rainless days.

So $21 - a = 13 + a$

⇒ $2a = 21 - 13 = 8$ or $a = 4$

61. (a) a, b, c, d and e are non-negative real number i.e. ≥ 0
 $a + b + c + d + e = 10$

Average of these five numbers = $\frac{10}{5} = 2$

The least possible value of X (Which is the maximum of a + b, b + c, c + d and d + e) will be smaller than 2.

So required interval is [0, 2]

62-64.

	P	A	Y
		M	E
+	R	E	A
	L		
M	O	N	E
			Y

From the pattern it is clear that M = 1, R = 9 and O = 0 as R (single digit no.) becomes a double digit no. (MO) with the addition of 1, carried over from P + E.

$R + 1 = MO$ or $9 + 1 = 10$

Further $Y + E + L = 10 + Y$

or $E + L = 10$ (1)

So 1 is carried over to the second column.

Thus $A + M + A + 1 = 10 + E$

Using M = 1,

$2A + 2 = 10 + E$

or $2A = E + 8$ (2)

⇒ A ≠ 4 and E is even

$E \neq 8$ as if $E = 8$ then $A = 8$ not possible so E can be 2, 4 or 6

Again, $1 + P + E = 10 + N$

or $P + E = 9 + N$ (3)

If $E = 2$, ⇒ $P = 7 + N$ which is not satisfied by any of the remaining number.

So $E = 4$ or 6

⇒ $L = 10 - E$ ⇒ $L = 6$ or 4

Again Putting $E = 4$ in (2)

⇒ $A = 6$ not possible

So $E = 6$ ⇒ $A = \frac{8 + 6}{2} = 7$

Also, $L = 4$

In (3), $P + 6 = 9 + N$ ⇒ $P - N = 9 - 6 = 3$

As MONEY has to be maximum so N should be maximum.

⇒ $P = 8$ and $N = 5$

[Not $P = 5, N = 2$]

62. (c) The remaining digits are 2 and 3. For MONEY to be maximum, $Y = 3$.
63. (c) The digit which remained unutilised = 2
64. (b) MONEY = 10563

65. (c) This form of equation can be represented in the form of a determinant, where $\Delta = 0$ and $\Delta_1 = \Delta_2 = \Delta_3 = 0$.

$$\Delta = \begin{vmatrix} 2 & 3 & 4 \\ 4 & 4 & 5 \\ 1 & b & c \end{vmatrix} = 0$$

$$\Delta_2 = \begin{vmatrix} 2 & 16 & 4 \\ 4 & 26 & 5 \\ 1 & 5 & c \end{vmatrix} = 0$$

$$\Rightarrow 2(26c - 25) - 16(4c - 5) - 4(20 - 26) = 0$$

$$\Rightarrow 52c - 50 - 64c - 80 - 24 = 0$$

$$\Rightarrow -12c - 16 = 0 \Rightarrow \frac{1}{2}$$

66. (a) Probability that atleast one of the junior professors is selected = $1 - \text{Probability that none of the junior professors is selected } (P_1)$

$$P_1 = \frac{{}^6C_3}{{}^{10}C_3} = \frac{6 \times 5 \times 4}{10 \times 9 \times 8} = \frac{1}{6}$$

$$\Rightarrow P = 1 - \frac{1}{6} = \frac{5}{6}$$

67-70. D ___ GFE

Given $E = 960$, which is of the form ax^3 .

$$960 = 2^3 \times 2^3 \times 3 \times 5$$

So the common ratio (r) of the GP of last 4 numbers is either 2 or 4.

	$r = 4$	$r = 2$
E	960	960
F	240	480
G	60	240
-	15	120
-		
D		

For $r = 4$; $\frac{G}{C} = \frac{F}{A} \Rightarrow \frac{60}{C} = \frac{240}{A}$ or $A = 4C$ not possible

For $r = 2$; $\frac{G}{C} = \frac{F}{A} \Rightarrow \frac{60}{C} = \frac{240}{A}$ or $A = 2C$ possible

$$\Rightarrow r = 2$$

As $A = 2C$, so C takes the 2nd lowest position as B and A have to be together.

Again $A > B$, as in the other case the AP will be

$D = 0, C = C, A = 2C, B = 3C$, which is not possible as D is an integer. The possible values are :

D	C	B	A	G	F	E
30	60	90	120	240	480	960

67. (e) $\frac{E}{A} = \frac{960}{120} = 8$.

68. (a) $D = 30$.

69. (d) Common difference in AP = $60 - 30 = 30$.

70. (e) A is 4th highest and the value is 120.

71. (e) We know that,

Sum of 2 sides in a triangle > than the third side

$$\Rightarrow a + b > a + 2b$$

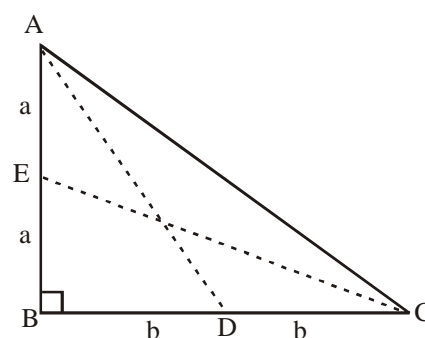
$$\text{or } 2a + b > a + 2b$$

$$\text{or } a > b \text{ or } \frac{a}{b} > 1$$

So we can not know the maximum value of $\frac{a}{b}$.

Information in (2) is redundant as a, a + b and a + 2b are positive (sides of a triangle).

72. (c)



(1) is not sufficient because we do not have any values.

(2) alone is not sufficient as we do not know any thing about the position of E and D.

On combining both and using Pythagoras Theorem in the triangles EBC and ABD we get two equations in a and b, which can be solved to give AB and BC.

$$\text{Further } AC^2 = AB^2 + BC^2.$$

73. (b) Given B ___ C or C ___ B

D ___ E (Here the right integer, E, is greater).

Using (1), we get, BADCE ... (i)

or CADBE ... (ii)

Hence it is not clear that which is smallest, B or C.

Again using only (2), we get CADBE as the only possibility. C is smallest.

74. (e) $f(x) = 1485$

Further from (1), $f(10a + b) = f(a) + 12b$

$$\Rightarrow x = 10a + b \text{ and } f(a) + 12b = 1485.$$

Again (2) gives the maximum value of b to be 9.

Both of these are insufficient to solve the values of a and b, as f(a) is unknown and its value for various values of a can not be calculated.

75. (b) $x^2 - y^2 = 0$ or $x^2 = y^2$ (1)

$$(x - a)^2 + y^2 = 1$$

$$\Rightarrow x^2 + a^2 - 2ax + x^2 = 1$$

$$\text{or } x^2 + x^2 - 2ax + (a^2 - 1) = 0$$

$$\text{or } 2x^2 - 2ax + (a^2 - 1) = 0 \quad \dots(2)$$

For real solution, of a quadratic eqn.,

$$ax^2 + bx + c = 0; b^2 - 4ac \geq 0$$

$$\Rightarrow (-2a)^2 - 4(2)(a^2 - 1) \geq 0$$

$$\Rightarrow 4a^2 - 8a^2 + 8 \geq 0$$

$$\Rightarrow 8 \geq 4a^2 \text{ or } a^2 \leq 2 \Rightarrow \sqrt{2} \geq a \geq -\sqrt{2}$$

But $a \leq \sqrt{2}$ as a non-negative.

$$\Rightarrow a = 1 \text{ or } \sqrt{2} \text{ from given options.}$$

For $a = 1$, (2) becomes,

$$2x^2 - 2x = 0$$

$$\Rightarrow x(x - 1) = 0 \text{ or } x = 0, 1.$$

Putting x in (1), we get $y = 0$ for $x = 0$ and $y^2 = 1^2 = 1$ for $x = 1$.

$$\Rightarrow y = \pm 1.$$

So 3 solutions in all $(0, 0)$, $(1, 1)$, $(1, -1)$.

Further for $a = \sqrt{2}$, (2) becomes

$$2x^2 - 2\sqrt{2}x + 1 = 0$$

$$\Rightarrow x = \frac{2\sqrt{2} \pm \sqrt{(2\sqrt{2})^2 - 4 \times 2 \times 1}}{2 \times 2}$$

$$\text{or } x = \frac{1}{\sqrt{2}} \text{ only 1 value.}$$

Putting in (1), we get 2 values of y .

So only 2 solutions.

76. (d) $A_{n+1} \cdot A_{n-1} = A_n^2 \pm 1$

$$\text{For } n = 2, A_3 \cdot A_1 = A_2^2 \pm 1$$

$$\Rightarrow A_3 \cdot 1 = 2^2 \pm 1 = 4 \pm 1$$

$$\Rightarrow A_3 = 3 \text{ or } 5$$

$$\text{For } n = 3, A_4 \cdot A_2 = A_3^2 \pm 1$$

$$\Rightarrow 12 \times 2 = A_3^2 \pm 1$$

$$\Rightarrow A_3^2 = 24 + 1 = 25 \quad (\because \{A_n\} \in \mathbb{I})$$

$$\Rightarrow A_3 = 5$$

$$\text{For } n = 4, A_5 \cdot A_3 = A_4^2 \pm 1$$

$$\Rightarrow A_5 \times 5 = 12^2 \pm 1 = 144 \pm 1$$

$$\Rightarrow A_5 = \frac{144 + 1}{5} = 29$$

$$\text{For } n = 5, A_6 \cdot A_4 = A_5^2 \pm 1$$

$$\Rightarrow A_6 \cdot 12 = 29^2 \pm 1 = 841 \pm 1$$

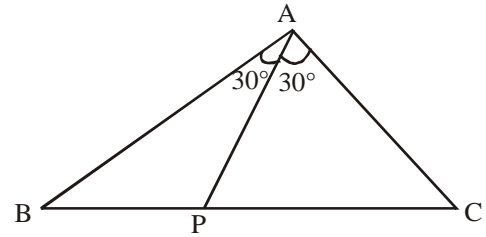
$$\Rightarrow A_6 = \frac{841 - 1}{12} = 70$$

$$\text{For } n = 6, A_7 \cdot A_5 = A_6^2 \pm 1$$

$$\Rightarrow A_7 \cdot 29 = 70^2 \pm 1$$

$$\text{or } A_7 = \frac{4900 + 1}{29} = 169.$$

77. (e)



Given, AP is the angle bisector of $\angle A$.

$$\text{So, } \angle BAP = \angle CAP = 30^\circ.$$

$$\text{Again, given } \frac{BP}{PC} = \frac{1}{2}$$

$$\text{So, the ratio of } \frac{\angle APB}{\angle APC} = \frac{1}{2}$$

$$\text{Hence, } \angle APC = \frac{2}{3} \times 180 = 120^\circ.$$

78. (c) Guaranteed reservations upto 24 hrs prior to departure is available from Gold tier. So Mr. Kakkar has to upgrade his membership from Blue to Gold. As both the 6 month and 12 month systems are operating parallelly, so for Gold tier he requires either 5 flights or atleast 12,500 miles of distance covered. He takes 5 flights by March and covers a distance of $711 + 711 + 1407 + 1959 + 1081 = 5869$ which is less than 12,500 miles.

79. (a) Mr. Kakkar is upgraded to Gold tier on March 20. To get upgraded to Platinum he has to take either 10 flights (March onwards) or 20000 miles.

He took his 10th flight on 4th Nov.

Distance travelled = $1081 + 2718 + 2718 + 1081 + 1516 + 2370 + 1959 + 331 + 2718 + 2095 = 18587$ miles till Nov. 4. So he gets upgraded to Platinum tier on 4th Nov. via the cumulative flight rule.

80. (b) The 1st tier upgrade happens in the month of February as per the 6 month fast-track upgrade system.

In the month of March, Mr. Kakkar is upgraded to Silver tier as per the 12 month standard upgrade system.

Further, he takes his last tier upgrade in the month of November.

So, in all there is a difference of 8 months (March and November excluded).

81. (e) The 6th month fast-track upgrade system is absent. He reaches the Gold tier in the month of October as he completes his travel of more than 20000 kms in this month.
82. (e) Revenue contribution for
 Books = $5 \times 37 = 185$ m\$
 Video = $10 \times 21 = 210$ m\$
 Airline Tickets = $20 \times 25 = 500$ m\$
 Clothing = $15 \times 20 = 300$ m\$
83. (d)

	Airline Ticketing				Reve nues from Boo ks	Reve nues from VCD 's	Reve nues from Cloth ing
	Old		New				
	Transa ctions	Reve nues	Transa ctions	Reve nues			
Asia-Pacific	25	500	30	750	185	210	300
Europe	21	420	25.2	630	160	240	345
N. America	16	320	19.2	480	140	220	330
L. America	16	320	19.2	480	155	210	135
S. America	37	740	44.4	1110	220	250	90
		2300		3450	860	1130	1200

Increase in revenue = Increase due to revised rates of
 Airline tickets = $3450 - 2300 = 1150$.
 % age increase

$$= \frac{1150}{2300 + 860 + 1130 + 1200} \times 100 = 21\%$$

84. (d) Let sales in 2003 be 100.
 \therefore Sales in 2004 = $100 \times 1.152 = 115.2$.
 Sales in 2005 = $115.2 \times 1.199 = 138.12$.

$$\text{PAT in 2004} = \frac{6}{100} \times 115.2 = 6.912.$$

$$\text{PAT in 2005} = \frac{6.9}{100} \times 138.12 = 9.53.$$

$$\therefore \% \text{ Growth} = \frac{9.53 - 6.912}{6.912} \times 100 = 37.8\%$$

85. (a)

Year	Sales	Salaries & wages	%age Growth
1999	100		
2000	118.4	125.3856	
2001	141.25	149.3025184	19.07
2002	144.92	153.0394601	2.50
2003	167.68	176.5636251	15.37
2004	193.16	202.6286416	14.76
2005	231.6	241.7937254	19.33

86. (a)

Commodities	2003-04	2004-05	Growth
plantations	0.92	0.78	-ve
agri & allied prods	8.39	7.61	-ve
marine products	2.08	1.60	-ve
ores & minerals	3.69	5.29	43.36
leather & mfrs.	3.19	2.89	-ve
gems & jewellery	16.56	17.29	4.41
sports goods	0.15	0.12	-ve
chemicals & related products	15.43	16.00	3.69
engineering goods	16.41	18.41	12.19
electronic goods	2.74	2.28	-ve
project goods	0.09	0.06	-ve
textiles	18.86	15.16	-ve
handicrafts	0.70	0.43	-ve
carpets	0.90	0.75	-ve
cotton raw incl. Waste	0.28	0.10	-ve
petroleum products	5.54	8.57	54.69
unclassified exports	4.07	2.66	-ve

It is clear that the three commodities with highest export growth rate are petroleum products, ores & minerals and engineering goods (in that order) as seen from the table.

87. (b) Among the commodities given 7 show a positive increase in its weight.
 There is a 21% increase in total exports (in Rupees).
 On clearly visualising the 7 commodities, we see that there is more than 100% growth in project goods (0.06 to 0.13). So, it will show maximum growth.

88. (d)

		Total	bulk imports	pearls	machine	project goods	others
2003-04	Weight	359,107.66	38	9	11	0	42
	Imports		135994	33217	38173	1760	149963
2004-05	Weight	501,064.54	39	9	10	1	42
	Imports		195866	44094	50106	2706	208293
	Growth		44	33	31	54	39
2005-06	Weight	630,526.77	43	6	11	1	40
	Imports		268352	40480	68980	3594	249121
	Growth		37	-8	38	33	20
	Average Growth		41	12	34	43	29

89. (b)

	2003-04	2004-05	2005-06
Rs/ Dollar	45.9513	44.9315	44.2735
Exports (Rs)	293366.75	375339.53	454799.97
Exports (Dollars)	6384.30	8353.59	10272.51
Imports (Rs)	359107.66	501064.54	630526.77
Imports (Dollars)	7814.96	11151.74	14241.63
Trade Imbalance	1430.66	2798.15	3969.12
Growth		95.58	41.85

90. (a)

	2003-04	2004-05	2005-06
Total Imports	100.00	100.00	100.00
Total Imports (in Crore of Rupees)	359,107.66	501,064.54	630,526.77
Rs/ Dollar	45.95	44.93	44.27
Total Imports (in Crore of Dollars)	7814.96	11151.74	14241.63
Petroleum crude & ptds; weight(%)	26.70	27.87	30.87
Imports (1)	2086.59	3107.99	4396.39
Total Exports (in Crore of Dollars)	6384.30	8353.59	10272.51
Petroleum ptds; weight(%)	5.54	8.57	11.21
Exports (2)	353.69	715.90	1151.55
Difference (1) - (2)	1732.90	2392.09	3244.84
Ratio			1.36

91. (a) Only 1 sees the Ritwik Ghatak (RG) film. Hence 2 see the Guru Dutt (GD) film and 4 see the Satyajit Ray (SR) film. Further Vyomkesh (V) and Yogi (Y) see the same film (either GD or SR) but there are 2 pairs (Gangadhar-Rudra and Indra-Maheshwar or G – R and I – M) among whom each of the members see a different film. At least one of these 4 sees the GD film. So V and Y see the SR film. Possible options for other film buffs.

G – GD; R – RG; I/M – GD/SR

G – RG; R – GD; I/M – GD/SR

92. (a) (e) and (b) are clearly false as no. of film buffs who see SR film has to be even. Further number of buffs who see SR film has to be double as compared to who see the GD film.

(d) is false as if 2 film buffs see the RG film than the remaining 5 can not be arranged in the ratio 1 : 2.

(c) is false as V and Y have to watch the same film.

(a) is true.

GD	1	R
SR	2	L, I/M
RG	4	G, V, Y, M/I

93. (c) (a) and (b) are false as the number of buffs who do not see SR film can be either 3 or 5.

(d) are false as V and Y see the same film.

(e) is false as it means I and M watch the same film.

(c) is the correct option

GD	2	I, G/R
SR	4	L, M, V, Y
RG	1	R/G

94. (e) The correct combination is:

GD – R, I

SR – L, Y, V, M

RG – G

95. (b) As V and G watches the same film so Y also watches the same film. These can not watch the SR film as G watches GD/ RG. So V, Y and G watch RG film. The situation becomes:

GD	1	
SR	2	L
RG	4	VY G

So (a), (d) and (c) are false. Again R can not see RG as G and R watch different films so (c) is false. Hence (b) is true.

96. (e) As 2 people watch the GD film so SR film is watched by 4 people. If VY watch GD, the situation becomes:

GD	2	VY
SR	4	L
RG	1	G

Not possible as I and M can not be together.

97. (c)

		Bus	Taxi	Train	Flight
D – Bh	Prob.	0.65	0.75	0.9	--
	Time	12	12	12	--
Bh – Jo	Prob.	0.8	0.85	0.9	--
	Time	16	14	12	--
Jo – J	Prob.	0.65	0.7	0.9	0.85
	Time	15	15	10	2
J – Aj	Prob.	0.55	0.55	0.75	--
	Time	5	5	4	--

The best option is Train, Train, Flight, Train, i.e. $12 + 12 + 2 + 4 = 30$ hours. The second best option is Train, Train, Flight, Taxi/Bus, i.e., $12 + 12 + 2 + 5 = 31$ hours.

98. (c)

	p	time (T)
(a)	$0.9 \times 0.85 \times 0.65 \times 0.75 = 0.373$	$12 + 14 + 15 + 4 = 45$
(b)	$0.75 \times 0.9 \times 0.85 \times 0.75 = 0.430$	$12 + 12 + 2 + 4 = 30$
(c)	$0.9 \times 0.9 \times 0.9 \times 0.75 = 0.547$	$12 + 12 + 10 + 4 = 38$
(d)	$0.9 \times 0.85 \times 0.9 \times 0.75 = 0.516$	$12 + 14 + 10 + 4 = 40$
(e)	$0.9 \times 0.80 \times 0.85 \times 0.75 = 0.459$	$12 + 16 + 2 + 4 = 34$

We see clearly that, p, the probability of reaching on time is maximum for option (c). The time taken is immaterial in this case.

99. (a) To maximise time, they should travel

Delhi – Bharatpur: Train/Bus/Taxi

Bharatpur – Jodhpur: Bus

Jodhpur – Jaipur: Bus/Taxi

Jaipur – Ajmer: Bus/Taxi

So I, II, III and IV are correct.

	t	Q	T'	Q+T'	p	q
	Time	Time/24	$q \times 0.8$	$t \times 0.2$		
(a)	0.373	0.627	45	1.88	0.50	0.38
(b)	0.430	0.570	30	1.25	0.46	0.25
(c)	0.547	0.453	38	1.58	0.36	0.32
(d)	0.516	0.484	40	1.67	0.39	0.33
(e)	0.459	0.541	34	1.42	0.43	0.28

101. (d)

Q	T'	Q+T'	%Q $=Q/(Q+T')*100$	%T' $=T'/(Q+T')*100$
0.5	0.38	0.88	56.82	43.18
0.46	0.25	0.71	64.79	35.21
0.36	0.32	0.68	52.94	47.06
0.39	0.33	0.72	54.17	45.83
0.43	0.28	0.71	60.56	39.44

(102-107).

Options Models	Digital Camera	Music Player	Office Document viewer
T			
V	✓		✓
W	✓	✓	
X	✓	✓	✓
Y			✓
Z		✓	

102. (c) Options equipped with mobile phone models- V, W, X and Y- is clear. Mobile phone model Z has two options; one of them is music player while mobile phone model T has one option.
103. (a) The options for 4 models are clear. Further Z has a music player as T has fewer options as compared to Z, i.e., Z has 2 options as T will have 1 option. So one option has to be music player for Z as only one option is common with V who has digital camera and office Document viewer.
The one option T has can be a music player so only a maximum of 4 mobiles have a feature of music player.
104. (e) If Z has no option in common with T but has at least one option in common with every other mobile phone, then Z must have second option of office document viewer because Y has only one option i.e. office document viewer. In this scenario T has only one option i.e. digital camera. So exactly only three of the six mobile phones have music player. So choice (e) is false.
105. (d) Each mobile phone model is equipped with at least one of the three options. So none of the options can be had with more than four mobile phones.

106. (d) If exactly four of the six mobile phones have music player, and exactly four of the six mobile phones have digital camera, then Z must have second option as digital camera and T must have only option as music player. In this scenario W and Z have both option in common. Hence answer choice (d) is not true.
107. (b) Even after change X has two options-digital camera and music player. Z has one certain option music player. So X and Z have at least one option in common. Hence answer choice (b) is false.

108-112. Informations provided:

	Recreation Bill	School Bill	Tax Bill
Arjun	✓	×	
Karn	×		
Bhim	✓		×

108. (d) Exactly one member of the council votes for the tax bill. Bhim votes against the tax bill. So Arjun and Karn can't vote for or against the tax bill in the same way. Hence option (a) is ruled out. Karn votes against and Bhim votes for recreation bill. Hence option (b) is ruled out. Karn and Bhim can't vote the same way on the school bill as in option (a). Hence option (c) is ruled out. If Arjun and Karn both vote for bills, tax bill will get two votes for. Hence option (e) is ruled out.
109. (e) If the set of members of the council who vote against the school bill are the only ones who also vote against the tax bill, then they are Arjun and Bhim because Karn votes against recreation bill. Hence Bhim must vote against the school bill.
110. (e) If Karn votes for exactly two of the three bills, he must vote for school and tax bill. Hence Bhim must vote for recreation bill.
111. (e) According to the condition Arjun and Bhim vote against the school bill and tax bill. In this scenario Bhim votes for only recreation bill. Hence option (e) must be true.
112. (a) If Karn votes for the tax bill, he can vote against school bill. Similarly Arjun can vote against tax bill. Among Karn and Bhim one has to vote for 2 bills. Hence option (a) could be true.
113. (b) Let us assume that Asit is interested in the project. So, he will speak truth. But he says 'none of us is interested', which is contradictory. So, Asit is not interested in the project.
Again assume that Barun is interested in the project and he speaks truth. So, according to him only 1 person is interested in the project, which is him. This can be the correct case.

Assume that Chandra is interested in the project and he speaks truth. So, according to him 2 persons are interested in the project, so 2 persons will definitely speaks truth. But studying the responses of the other four we see that they all are telling a lie. So, this case is not possible.

Similarly, the cases for Danny and Eshita are not true.

114. (d) $A \rightarrow B$ is a guard.

$B \rightarrow C$ is a thief.

$C \rightarrow D$ is a thief.

$E \rightarrow A$ is a guard.

$D \rightarrow B \& E$ are different.

Let the 1st statement be true, then A is Guard, B is Guard, C is thief, D is Guard, so B and E are different kinds. Again as A is guard so E is also Guard. But this makes B and E, both of same kind (Guards), which is contradictory.

Now let the 1st statement be false, thus A is thief, B is thief, C is Guard, D is thief, so B & E are of same kind. So E is also thief which means that A is thief, which is correct.

Hence, A, B, D and E are thieves.

115. (d) As the employees were indifferent about the air conditioning, so IV is obvious. III is clear, as the Personal Manager has not been in regular touch with the employees. The main job of a Personal Manager to understand the needs and problems of the employees and to address them at time so as to avoid a situation of adversity. Really the Personal Manager didn't manage the survey well as again he never tried to get in touch with the employees. The objective of the survey was not clear to the employees. The whole exercise shows that the Personal Manager was disinterested and indifferent towards the survey. He was not able to act as a bridge between the management and the employees.

116. (e) The decision which would create the greatest impact on the society is the division of profits among the workers and the shareholders. This would lend a strong message in the society. Further investment in capacity expansion, which will help in generating more and more employment, will be second in order.

The image of the company will be improved if it consider its employees views and involve them in even small activities.

Communicating management's intention will create least impact on the society.

117. (b) The situation can not be called Managerial short-sightedness. Infact it is the management's long term vision. It is the benevolent nature of the management which is the highlight. It is that nature for which the whole exercise has been carried out. We can not generalise it to Inefficient infrastructure management. Although the Personal Manager has failed in handling the survey but this can not undermine the management's benevolence.

118. (b) Both A and R are based on the information given in the passage. A has been derived from para 1, whereas R has been taken from para 2 (second sentence) and para 3 (second sentence). R is not the explanation of A as R do not talk of anything mentioned in A.

119. (c) The given passage do not talk of the board members at all. It also do not talk about systematizing the recruitment and selection of the entire organization. So R is out of context. A, clearly has been taken from the passage.

120. (e) A is clearly wrong as the passage do not talk about the rejection of the process from day 1.

Again the passage do not talk about the abilities of the psychologist.

121. (a) Both A and R are correct and R clearly explains A.

122. (e) The most critical point for the management is that it shall hire experienced managers as freshers tend to get swayed and take up bad habits (like excess drinking) very easily. In other words they are gullible. The requirements of the job should be told to the new managers at the beginning itself. So, 1 + 2 is the first thing to be implemented.

3 may not be a useful criterion as people with high self-esteem might not be the right fit for the job. Further they would be difficult to handle and demand much higher salaries. 1 + 2, shall be followed by 2 + 4 and 2 + 5. As 4 is to be implemented immediately. Guidance is a must for all.

123. (c) We are not confident about 2, as stated above as well, the hiring of graduates might be a requirement of the job (viz. the job might involve lot of running around). Further the firm shall not discriminate the young graduates. 4 is the most important as it will help the new joinees in understanding the requirements of the job in a better way. So the right sequence is 1, 5, 3, 4.

124. (a) The best situation for Sayan will be to get his job back in the same company. It has taken him 2 years to develop his reputation in the firm so he must tryout an out of the court settlement with the firm and take back his job.

125. (a) Let us use the '<' symbol to denote 'before'.

Given:

$$V < S \quad \dots\dots (i)$$

$$R < T < V < Y \quad \dots\dots (ii)$$

$$V < Q \quad \dots\dots (iii)$$

$$R < W, \quad Z < Q \quad \dots\dots (iv)$$

From above we can infer that R or Z is the first product launched. Further R could only be the 1st or the second product. So (b) is wrong. From above (a) is wrong as Y has at least 3 products before it.

(e) is wrong as V has 3 products (S, Y, Q) after it.

Again (c) is wrong as Q has R, T, V and Z before it.

126. (a) Z is the 7th product so Q is the 8th product and R is the 1st product launch.

So the situation is:

$$R \quad \underbrace{TV \quad S/Y}_{W} \quad ZQ$$

So clearly (b), (c), (d) and (e) are false. T can be 2nd or 3rd. V can be 3rd or 4th.

127. (d) The situation is like this

$$\underbrace{RTV}_Z \quad Q \quad W/S/Y$$

(a), (b), (c) and (e) can be true as Z can take position between 1 and 4. As RTV and Z are before Q. So W has to be after 5th launch.

128. (e) The situation becomes

$$ZR \quad \underbrace{TV \quad S/Y/Q}_W$$

From above it is clear that only (e) is possible as Z is the 1st launch.

129. (e) The situation is

$$R \quad \underbrace{TV \quad \underbrace{S/Y/Q}_Z}_W$$

R is the 1st launch.

T can be 2nd or 3rd launch.

Q can take position from 5th to 8th as R, T, V and Z have to be before.

V can be 3rd or 4th launch.

130. (a,c) April 20ab has exactly four Mondays and four Fridays. We know April has 30 days. For four Mondays and four Fridays a maximum of 4 weeks can be accommodated. So still 2 days are left. These can be Saturday and Sunday or Wednesday and Thursday. So the 1st of April can be Saturday or Wednesday.