

General Instructions

- (i) This question paper contains 130 questions. All questions are compulsory.
- (ii) It comprises 130 single-correct multiple-choice questions.
- (iii) Attempt every question; detailed solutions are provided in the companion solutions booklet.

1. 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

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2. Which of the following choices will be MOST opposite to the word *juvenile* as used 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) Jeune
- (D) None of the above

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3. "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

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4. 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 consists in the study of them.

The word *exercise* in the extract above most nearly means:

- (A) remove
- (B) cut
- (C) impose
- (D) arrange

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5. 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

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6. Read the following exchange between two poets and answer the question below.

Poet 1:

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 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.

What could the second poem be best characterized as, with respect to the first?

- (A) retort
- (B) rejoinder
- (C) critique
- (D) complement

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But I must not end with myself:
The truth begins with two.

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.

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8. Go through the exchange between the two poets below and answer the question that follows.

Poet 1: 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 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.

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) An individual finds one's individuality only in relation to others.

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9. Go through the exchange between the two poets below and answer the question that follows.

Poet 1: 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 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.

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.

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10. Read the following passage and answer the question that follows.

This confusion concerns nothing less than the concept of socialism itself. It may mean, and is often used 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 a system of "planned economy" in which the entrepreneur working for profit is replaced by a central planning body. There are 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 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".

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) None of the above.

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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.

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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 a 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.

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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

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14. Read the following passage and answer the question that follows.

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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) Capitalism

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15.

Directions for questions 15 to 20: Read the passage below and answer the question that follows.

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 developments 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 generally 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 activity 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 a 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 a 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 through 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.

The following can be inferred from the passage:

- I. Industrial development of a country requires supply of external capital
- II. Investment in uncertain industries is more when government provides guarantees against failure
- III. Lack of indigenous technical expertise can be a constraining factor in a country's economic development
- IV. Enabling infrastructure like railways would have to be provided necessarily by the government
- V. Market development for the final products is an important prerequisite for industrial development

- (A) I and II
- (B) I, III and IV
- (C) II, III and V
- (D) III, IV and V

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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 a 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 a 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 through 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.

The first capitalists investing in Indian economy were:

- (A) the Indians
- (B) predominantly the British
- (C) the Europeans except the British
- (D) both A and B

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17.

Directions for questions 15 to 20: Read the passage below and answer the question that follows.

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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:

- (A) The major investors in Indian enterprises were British and they had missed out on an opportunity.
- (B) The war had created a huge demand for industrial goods.
- (C) The British government wanted economic development of the country as India was a strategic economically in the war.
- (D) The desire to see India as self-sufficient in technical expertise.

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18.

Directions for questions 15 to 20: Read the passage below and answer the question that follows.

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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 a 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 a 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 through 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.

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:

- (A) government interference in day-to-day operations of business.
- (B) equitable sharing of risks between domestic and foreign investors.
- (C) ensuring adequate working capital.
- (D) regulation of the stock markets to protect investors from dubious enterprises.

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19. Read the following passage and answer the question that follows.

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 developments 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 generally 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 activity 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

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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.

- (A) Definitely true as inferred from the passage.
- (B) It was true on a selective case by case basis.
- (C) No trend of discrimination between the two categories of capitalists can be inferred from the passage.
- (D) Preference was given to British capitalists, buffeted by the fact that the country was under British rule.

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20. Read the following passage and answer the question that follows.

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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.

- (A) Definitely true as inferred from the passage.
- (B) It was true on a selective case by case basis.
- (C) This was the tact during the early part of the British rule.
- (D) No evidence to support the same is given in the passage.

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21. Read the following passage and answer the question that follows.

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 say 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 $P(e/h)/P(e)$. However, since we are assuming that e follows from h , $P(e/h)$ is 1 and the scaling factor is $1/P(e)$. 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.

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:

- (A) Take the counter-hypothesis and try to find flaws in its components.
- (B) Question the source of alternative hypothesis.
- (C) Question the authority of the scientist stating the alternative hypothesis.
- (D) Take the alternative explanation and ask for its fullest development in terms of possible ramifications other than the already existent outcome (e).

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The subjective beliefs of scientists referred to in the passage could be due to:

- (A) Multiple scientists studying multiple phenomena and putting forth multiple hypotheses.
- (B) Propositions offered by scientists being backed only by one's beliefs about their validity.
- (C) Scientists presenting data selectively in support of their own favourite hypothesis over competing hypotheses.
- (D) Scientists allowing their subjective opinions to bias their testing of hypothesis.

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23. Read the following passage and answer the question that follows.

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Scientists' beliefs which differ at the outset are related to:

- (A) Different outcomes only.
- (B) Different hypotheses only.
- (C) Different hypotheses about different outcomes.
- (D) Differences in explanatory power of competing hypotheses.

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24. Read the following passage and answer the question that follows.

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Strictly following the idea put forward in the article, which one of the following is a logical possibility:

- (A) 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.
- (B) 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.
- (C) That certain astrological phenomena can influence thinking of humans (e) which is manifested in stock-market booms and crashes (h).
- (D) None of these.

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25. Read the following passage and answer the question that follows.

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 inevitably 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 Iwiracrarspace 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 even 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 fulfilment 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.

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) None of the above.

• • •

26. Read the following passage and answer the question that follows.

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 inevitably 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 Iwiracrarspace 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 even 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 fulfilment 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.

This passage was most likely written in order to:

- (A) persuade readers to shun technology.
- (B) coax the readers to transcend technological limits.
- (C) inspire readers to understand life as a whole.
- (D) provoke a social movement against present-day education.

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27. Read the following passage and answer the question that follows.

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 inevitably 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 Iwiracrarspace 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

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Which statement would most likely follow the truncated passage above?

- (A) Throughout the world, engineers are frantically designing machines which do not need men to operate them.
- (B) Another factor in the cultivation of technique is that it gives us a sense of security, not only economic, but psychological as well.
- (C) 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.
- (D) Without understanding ourselves, mere occupation leads to frustration, with its inevitable escapes through all kinds of mischievous activities.

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28. Read the following passage and answer the question that follows.

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 inevitably 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 Iwiracrarspace 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

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What might be the most apposite title for the passage above?

- (A) Education and the significance of life
- (B) Life in its wholeness
- (C) The tragedy of technical education
- (D) Knowledge and ignorance

• • •

29. Choose the option that points out sentence(s) with grammatical error(s).

(i) I love the man dancing on the table.

(ii) I love the man's dancing on the table.

(iii) In 1986 Elie Wiesel was named the Nobel Peace Prize recipient, an honour established by Alfred Nobel.

(iv) Neither of the recommendations works as well as we thought they would.

(v) Either the Minister or the Minister's wife will have to excuse themselves from the reception to speak to the caterer.

(A) (iii) and (v)

(B) (i) and (iv)

(C) (ii) and (v)

(D) (iii) and (iv)

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30. 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 of the rivers, for instance.

(A) 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.

(B) 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.

(C) 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.

(D) 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.

• • •

31. Choose the best revision of the following wordy sentence.

It seems that the library board will meet tomorrow, as a matter of fact.

- (A) As a matter of fact, the library board will meet tomorrow.
- (B) In fact, the library board will meet tomorrow.
- (C) It is apparent that the library board will meet tomorrow.
- (D) The library board will meet tomorrow.

• • •

32. Amongst the options below, choose the one which is correctly punctuated.

- (A) Last Sunday, we went canoeing on the Brahmaputra river. You could see eagles high in the trees above us.
- (B) While we were canoeing last Sunday on the Brahmaputra river, high in the trees above us, you could see eagles.
- (C) We went canoeing last Sunday on the Brahmaputra river, and high in the trees above us, we could see eagles.
- (D) High in the trees above, the eagles were looking down at you, as we canoed on the Brahmaputra river last Sunday.

• • •

33. DIRECTIONS for questions 33 to 36: Choose the option that correctly unscrambles the paragraphs below.

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.

- (A) 2-3-5-6-1-4
(B) 5-6-1-2-4-3
(C) 4-2-3-5-6-1
(D) 2-4-5-3-6-1

• • •

34. DIRECTIONS for questions 33 to 36: Choose the option that correctly unscrambles the paragraphs below.

1. You could try friendly competition, or set yourself tea 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.

- (A) 1-4-2-6-3-5
(B) 5-2-1-4-3-6
(C) 1-4-6-3-2-5
(D) 5-3-6-2-1-4

...

35. DIRECTIONS for questions 33 to 36: Choose the option that correctly unscrambles the paragraphs below.

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 businesses 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 stages 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

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36. Directions: The six sentences below (1 to 6) form one paragraph if put in the right order. Pick the option that gives that order.

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) 1-3-5-6-2-4

• • •

37. Directions for questions 37 to 41: Analyze the statements given and provide an appropriate answer for the questions that follow.

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?

- (A) The social sciences do not have as much predictive power as the natural sciences.
- (B) Mathematics plays a more important role in the natural sciences than it does in the social sciences.
- (C) Phenomena in the social sciences should not be reduced to mathematical formulae.
- (D) There is a need in the social sciences to improve the ability to predict.

• • •

38. Directions for questions 37 to 41: Analyze the statements given and provide an appropriate answer for the questions that follow.

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:

- (A) Offering an alternative explanation for the evidence Chandra seeks to explain.
- (B) Drawing attention to an inconsistency between two of Chandra's claims.
- (C) Presenting evidence that directly contradicts Chandra's evidence.
- (D) Pointing out that Chandra's use of the term "observed" is excessively vague.

• • •

39. Directions for questions 37 to 41: Analyze the statements given and provide an appropriate answer for the questions that follow.

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.

• • •

40. Directions for questions 37 to 41: Analyze the statements given and provide an appropriate answer for the questions that follow.

The number of airplanes equipped with a new anti-collision 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 anti-collision device was first tested.

• • •

41. Directions for questions 37 to 41: Analyze the statements given and provide an appropriate answer for the questions that follow.

Industry experts expect improvements in job safety training programs to lead to safer work environments. A recent survey indicated, however, that for manufacturers 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 to 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.

• • •

42. DIRECTIONS for questions 42 and 43: Read the information below and answer the question that follows.

A truck travelled from town A to town B over several days. During the first day, it covered $\frac{1}{p}$ of the total distance, where p is a natural number. During the second day, it travelled $\frac{1}{q}$ of the remaining distance, where q is a natural number. During the third day, it travelled $\frac{1}{p}$ of the distance remaining after the second day, and during the fourth day, $\frac{1}{q}$ of the distance remaining after the third day. By the end of the fourth day, the truck had travelled $\frac{3}{4}$ of the distance between A and B.

42. The value of $p + q$ is:

- (A) 4
- (B) 5
- (C) 6
- (D) 7

• • •

43. DIRECTIONS for questions 42 and 43: Read the information below and answer the question that follows.

A truck travelled from town A to town B over several days. During the first day, it covered $\frac{1}{p}$ of the total distance, where p is a natural number. During the second day, it travelled $\frac{1}{q}$ of the remaining distance, where q is a natural number. During the third day, it travelled $\frac{1}{p}$ of the distance remaining after the second day, and during the fourth day, $\frac{1}{q}$ of the distance remaining after the third day. By the end of the fourth day, the truck had travelled $\frac{3}{4}$ of the distance between A and B.

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

• • •

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44. 44. For how many integers n is $\frac{n}{20-n}$ the square of an integer?

- (A) 0
- (B) 1
- (C) 2
- (D) 3

• • •

45. DIRECTIONS for questions 45 and 46: Read the information below and answer the question that follows.

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

• • •

46. DIRECTIONS for questions 45 and 46: Read the information below and answer the question that follows.

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	

46. Which one of the nine numbers must be left out when completing the array?
- (A) 4
- (B) 5
- (C) 7
- (D) 10

...

47. 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) $|(x - 9)(y - 16)| = 13$

...

48. 48. ABC is a triangle with $\angle CAB = 15^\circ$ and $\angle ABC = 30^\circ$. If M is the midpoint of AB, then $\angle ACM = ?$

- (A) 15°
- (B) 30°
- (C) 45°
- (D) 60°

• • •

49. Directions for questions 49 and 50: Read the information given below and answer the question.

Let f be a function defined on the set of integers. Assume that f satisfies the following properties:

1. $f(0) \neq 0$;
2. $f(1) = 3$; and
3. $f(x)f(y) = f(x + y) + f(x - y)$ for all integers x and y .

What is $f(3)$?

- (A) 7
- (B) 18
- (C) 123
- (D) 322

• • •

50. Directions for questions 49 and 50: Read the information given below and answer the question.

Let f be a function defined on the set of integers. Assume that f satisfies the following properties:

1. $f(0) \neq 0$;
2. $f(1) = 3$; and
3. $f(x)f(y) = f(x + y) + f(x - y)$ for all integers x and y .

What is $f(7)$?

- (A) 123
- (B) 322
- (C) 843
- (D) 1126

• • •

51. Let p be any positive integer, and let

$$2x + p = 2y, \quad p + y = x, \quad x + y = z$$

For what value of p would $x + y + z$ attain its maximum value?

- (A) 0
- (B) 1
- (C) 2
- (D) 3

• • •

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 $1 < x < \alpha$

• • •

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 and 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

• • •

54. We define a function f on the integers: $f(x) = \frac{x}{10}$ if x is divisible by 10, and $f(x) = x + 1$ 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

• • •

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

• • •

56. In a certain factory, each day the expected number of accidents 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

• • •

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) $2\sqrt{7}$

• • •

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) None of the above

• • •

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) $\frac{2}{3}$
- (B) $-\frac{2}{3}$
- (C) $\frac{3}{2}$
- (D) $-\frac{3}{4}$

• • •

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 mornings and 12 evenings were clear. How many rainless days did Jamshedpur have in the period?

- (A) 7
- (B) 6
- (C) 5
- (D) 3

• • •

61. Let 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 numbers $a + b$, $b + c$, $c + d$ 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]

• • •

62.

Directions for questions 62 and 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		Y

This grid represents the addition $PAY + ME + REAL = MONEY$, where each letter stands for exactly one digit and no two letters share the same digit.

The letter 'Y' should be:

- (A) 0
- (B) 2
- (C) 3
- (D) 7

• • •

63. Directions for questions 63 and 64: Substitute different digits (0 to 9) for different letters in the addition below, so that the addition is correct and it gives the maximum possible value of MONEY.

P A Y

M E

R E A L

M O N E Y

So the addition reads $PAY + ME + REAL = MONEY$, using nine different letters: P, A, Y, M, E, R, L, O, N.

63. There are nine letters and ten digits. The digit that remains unutilized is:

(A) 4

(B) 3

(C) 2

(D) 1

• • •

64. Directions for questions 63 and 64: Substitute different digits (0 to 9) for different letters in the addition below, so that the addition is correct and it gives the maximum possible value of MONEY.

P A Y

M E

R E A L

M O N E Y

So the addition reads $PAY + ME + REAL = MONEY$, using nine different letters: P, A, Y, M, E, R, L, O, N.

64. The resulting value of 'MONEY' is:

- (A) 10364
- (B) 10563
- (C) 10978
- (D) 19627

• • •

65. 65. Consider the system of linear equations:

$$2x + 3y + 4z = 16$$

$$4x + 4y + 5z = 26$$

$$ax + by + cz = r$$

For $r = 5$ and $a = 1$, the system of linear equations will have an infinite number of solutions if $c = ?$

- (A) $\frac{3}{2}$
- (B) 1
- (C) $\frac{1}{2}$
- (D) 0

• • •

66. 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) $\frac{5}{6}$
- (B) $\frac{2}{3}$
- (C) $\frac{1}{5}$
- (D) $\frac{1}{6}$

• • •

67. Directions for questions 67 to 70: Seven integers A, B, C, D, E, F and G are to be arranged in increasing order such that:

- (i) The first four numbers, in this increasing order, are in arithmetic progression (A.P.).
- (ii) The last four numbers, in this increasing order, are in geometric progression (G.P.).
- (iii) There is exactly one number between E and G, in the increasing order.
- (iv) There is no number between A and B, in the increasing order.
- (v) D is the smallest number and E is the greatest number.
- (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) None of the above

• • •

68. Directions for questions 67 to 70: Seven integers A, B, C, D, E, F and G are to be arranged in increasing order such that:

- (i) The first four numbers, in this increasing order, are in arithmetic progression (A.P.).
- (ii) The last four numbers, in this increasing order, are in geometric progression (G.P.).
- (iii) There is exactly one number between E and G, in the increasing order.
- (iv) There is no number between A and B, in the increasing order.
- (v) D is the smallest number and E is the greatest number.
- (vi)

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

(vii) $E = 960$

68. $D = ?$

- (A) 30
- (B) 25
- (C) 22
- (D) 20

• • •

69. Directions for questions 67 to 70: Seven integers A, B, C, D, E, F and G are to be arranged in increasing order such that:

- (i) The first four numbers, in this increasing order, are in arithmetic progression (A.P.).
- (ii) The last four numbers, in this increasing order, are in geometric progression (G.P.).
- (iii) There is exactly one number between E and G, in the increasing order.
- (iv) There is no number between A and B, in the increasing order.
- (v) D is the smallest number and E is the greatest number.
- (vi)

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

(vii) $E = 960$

69. The common difference in the A.P. is:

- (A) 20
- (B) 22
- (C) 25
- (D) 30

• • •

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

- (i) The first four numbers (in this increasing order) are in arithmetic progression.
- (ii) The last four numbers (in this increasing order) are in geometric progression.
- (iii) There is exactly one number between E and G.
- (iv) There is no number 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) $E = 960$

The position and value of A is:

- (A) 5th highest and 100
- (B) 4th highest and 100
- (C) 4th highest and 110
- (D) None of the above

• • •

71. Directions: Each of the following questions is followed by two statements, labelled (A) and (B). Decide whether the statements are sufficient to conclusively answer the question, and choose:

- (A) if Statement (A) alone is sufficient but Statement (B) alone is not.
- (B) if Statement (B) alone is sufficient but Statement (A) alone is not.
- (C) if Statement (A) and Statement (B) together are sufficient, but neither alone is sufficient.
- (D) if either Statement (A) alone or Statement (B) alone is sufficient.
- (E) if both statements together are still not sufficient.

What is the maximum value of a/b ?

- (A) a , $a + b$ and $a + 2b$ are three sides of a triangle.
- (B) a and b both are positive.

- (A) (A) Statement (A) alone is sufficient, but Statement (B) alone is not sufficient.
- (B) (B) Statement (B) alone is sufficient, but Statement (A) alone is not sufficient.
- (C) (C) Statement (A) and Statement (B) together are sufficient, but neither alone is sufficient.
- (D) (D) Either Statement (A) alone or Statement (B) alone is sufficient.

• • •

72. Directions: Each of the following questions is followed by two statements, labelled (A) and (B). Decide whether the statements are sufficient to conclusively answer the question, and choose:

- (A) if Statement (A) alone is sufficient but Statement (B) alone is not.
- (B) if Statement (B) alone is sufficient but Statement (A) alone is not.
- (C) if Statement (A) and Statement (B) together are sufficient, but neither alone is sufficient.
- (D) if either Statement (A) alone or Statement (B) alone is sufficient.
- (E) if both statements together are still not sufficient.

ABC is a triangle with $\angle B = 90^\circ$. What is the length of the side AC?

- (A) D is the midpoint of BC and E is the midpoint of AB.
- (B) $AD = 7$ and $CE = 5$.
- (A) (A) Statement (A) alone is sufficient, but Statement (B) alone is not sufficient.
- (B) (B) Statement (B) alone is sufficient, but Statement (A) alone is not sufficient.
- (C) (C) Statement (A) and Statement (B) together are sufficient, but neither alone is sufficient.
- (D) (D) Either Statement (A) alone or Statement (B) alone is sufficient.

• • •

73. Directions: Each of the following questions is followed by two statements, labelled (A) and (B). Decide whether the statements are sufficient to conclusively answer the question, and choose:

- (A) if Statement (A) alone is sufficient but Statement (B) alone is not.
- (B) if Statement (B) alone is sufficient but Statement (A) alone is not.
- (C) if Statement (A) and Statement (B) together are sufficient, but neither alone is sufficient.
- (D) if either Statement (A) alone or Statement (B) alone is sufficient.
- (E) if both statements together are still not sufficient.

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?

- (A) E is the greatest.
- (B) There exists no integer between B and E.
- (A) (A) Statement (A) alone is sufficient, but Statement (B) alone is not sufficient.
- (B) (B) Statement (B) alone is sufficient, but Statement (A) alone is not sufficient.
- (C) (C) Statement (A) and Statement (B) together are sufficient, but neither alone is sufficient.
- (D) (E) Both Statement (A) and Statement (B) together are not sufficient to answer the question.

• • •

74. Directions: Each of the following questions is followed by two statements, labelled (A) and (B). Decide whether the statements are sufficient to conclusively answer the question, and choose:

- (A) if Statement (A) alone is sufficient but Statement (B) alone is not.
- (B) if Statement (B) alone is sufficient but Statement (A) alone is not.
- (C) if Statement (A) and Statement (B) together are sufficient, but neither alone is sufficient.
- (D) if either Statement (A) alone or Statement (B) alone is sufficient.
- (E) if both statements together are still not sufficient.

Let $f : N \rightarrow N$ (N is the set of all natural numbers). How many solutions are there to the equation $f(x) = 1485$?

- (A) For $a, b \in N$, $f(10a + b) = f(a) + 12b$.
- (B) The maximum value of b is 9.
- (A) (A) Statement (A) alone is sufficient, but Statement (B) alone is not sufficient.
- (B) (B) Statement (B) alone is sufficient, but Statement (A) alone is not sufficient.
- (C) (C) Statement (A) and Statement (B) together are sufficient, but neither alone is sufficient.
- (D) (E) Both Statement (A) and Statement (B) together are not sufficient to answer the question.

• • •

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

• • •

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

• • •

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) 120°

• • •

78.

DIRECTIONS for questions 78 to 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, then upgrade to Blue Plus, which adds the 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-month standard upgrade system work in parallel: whenever a passenger meets the condition for the next tier, either in terms of the number of flights taken in the stipulated period or in terms of accumulated Queen-Miles, in either of the two systems, the passenger is automatically upgraded to the next tier. The 6-month system looks at a rolling 6-month period, and the 12-month system looks at a rolling 12-month period. If conditions for more than one upgrade are met at the same time, the passenger is given the higher of the two tiers.

Tier Upgrade	6-month Fast Track Upgrade System	12-month Standard Upgrade System
	(Cumulative flights / Cumulative Queen-Miles)	(Cumulative flights / Cumulative Queen-Miles)
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 upto 24 hours prior to departure		✓	✓
Cancellation fees waived on published fares			✓

Distances between cities in Queen-miles

	Delhi	Kolkata	Mumbai	Hyderabad	Bangalore	Coimbatore	Guwahati
Kolkata	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

Mr Kakkar, a newly recruited MBA from a business school, started his career at the start of 2007. His travel plan for 2007 is given below.

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

In which month will Mr Kakkar become eligible for guaranteed reservations up to 24 hours prior to departure?

- (A) January
- (B) February
- (C) March
- (D) April

• • •

79.

DIRECTIONS for questions 78 to 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, then upgrade to Blue Plus, which adds the 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-month standard upgrade system work in parallel: whenever a passenger meets the condition for the next tier, either in terms of the number of flights taken in the stipulated period or in terms of accumulated Queen-Miles, in either of the two systems, the passenger is automatically upgraded to the next tier. The 6-month system looks at a rolling 6-month period, and the 12-month system looks at a rolling 12-month period. If conditions for more than one upgrade are met at the same time, the passenger is given the higher of the two tiers.

Tier Upgrade	6-month Fast Track Upgrade System	12-month Standard Upgrade System
	(Cumulative flights / Cumulative Queen-Miles)	(Cumulative flights / Cumulative Queen-Miles)
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 upto 24 hours prior to departure		✓	✓
Cancellation fees waived on published fares			✓

Distances between cities in Queen-miles

	Delhi	Kolkata	Mumbai	Hyderabad	Bangalore	Coimbatore	Guwahati
Kolkata	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	
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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

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

• • •

80.

DIRECTIONS for questions 78 to 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, then upgrade to Blue Plus, which adds the 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-month standard upgrade system work in parallel: whenever a passenger meets the condition for the next tier, either in terms of the number of flights taken in the stipulated period or in terms of accumulated Queen-Miles, in either of the two systems, the passenger is automatically upgraded to the next tier. The 6-month system looks at a rolling 6-month period, and the 12-month system looks at a rolling 12-month period. If conditions for more than one upgrade are met at the same time, the passenger is given the higher of the two tiers.

Tier Upgrade	6-month Fast Track Upgrade System	12-month Standard Upgrade System
	(Cumulative flights / Cumulative Queen-Miles)	(Cumulative flights / Cumulative Queen-Miles)
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 upto 24 hours prior to departure		✓	✓
Cancellation fees waived on published fares			✓

Distances between cities in Queen-miles

	Delhi	Kolkata	Mumbai	Hyderabad	Bangalore	Coimbatore	Guwahati
Kolkata	1461						
Mumbai	1407	1987					
Hyderabad	1499	1516	711				
Bangalore	2061	1881	998	562			
Coimbatore	2401	2167	1265	902	340		
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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
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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

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

• • •

81.

DIRECTIONS for questions 78 to 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, then upgrade to Blue Plus, which adds the 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-month standard upgrade system work in parallel: whenever a passenger meets the condition for the next tier, either in terms of the number of flights taken in the stipulated period or in terms of accumulated Queen-Miles, in either of the two systems, the passenger is automatically upgraded to the next tier. The 6-month system looks at a rolling 6-month period, and the 12-month system looks at a rolling 12-month period. If conditions for more than one upgrade are met at the same time, the passenger is given the higher of the two tiers.

Tier Upgrade	6-month Fast Track Upgrade System	12-month Standard Upgrade System
	(Cumulative flights / Cumulative Queen-Miles)	(Cumulative flights / Cumulative Queen-Miles)
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 upto 24 hours prior to departure		✓	✓
Cancellation fees waived on published fares			✓

Distances between cities in Queen-miles

	Delhi	Kolkata	Mumbai	Hyderabad	Bangalore	Coimbatore	Guwahati
Kolkata	1461						
Mumbai	1407	1987					
Hyderabad	1499	1516	711				
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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

If 6-month upgrade had not been in operation, then Mr Kakkar would have reached the Gold tier in the month of:

- (A) June
- (B) July
- (C) August
- (D) September

• • •

82.

DIRECTIONS for questions 82 and 83: The graph below gives the number of electronic commerce transactions that took place in the last six months of financial year 2005. This graph shows data for private consumption only and does not include corporate electronic commerce activity. The numbers above each bar are in millions, and the average price per unit for each product category is shown in brackets in the legend.

\includegraphics{images/q82.png}

For which product category is the revenue contribution of the Asia Pacific region the maximum?

- (A) Books
- (B) Video DVDs/Games
- (C) Airline Tickets/Reservation and Clothing/Accessories/Shoes
- (D) Clothing Accessories/Shoes

• • •

83.

DIRECTIONS for questions 82 and 83: The graph below gives the number of electronic commerce transactions that took place in the last six months of financial year 2005. This graph shows data for private consumption only and does not include corporate electronic commerce activity. The numbers above each bar are in millions, and the average price per unit for each product category is shown in brackets in the legend.

\includegraphics{images/q82.png}

If the airline ticket purchases made through internet increase by 20% and the average price of the airline ticket increases by 25%, then the net increase in revenues from the e-commerce activities worldwide will be _____ per cent of the corresponding pre-price-increase revenues.

- (A) 18
- (B) 19
- (C) 20
- (D) 21

• • •

84.

Directions for questions 84 and 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 % 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 (% Growth Over Previous Year)	18.4	19.3	2.6	15.7	15.2	19.9

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
- (C) 88.6 per cent
- (D) 37.8 per cent

• • •

85.

Directions for questions 84 and 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 % 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 (% Growth Over Previous Year)	18.4	19.3	2.6	15.7	15.2	19.9

In which year the annual growth rate in the aggregate Salaries and Wages expense was maximum?

- (A) 2005
- (B) 2004
- (C) 2003
- (D) 2001

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86.

Directions for questions 86 to 90: Study the tables of the Indian foreign trade given below to answer the questions.

Principal Commodities\&#39; Import - Weight (%)			
COMMODITIES	2003-04	2004-05	2005-06
Bulk imports	37.87	39.09	42.56
Pearls, precious & semi-precious 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)	359107.66	501064.54	630526.77
Principal Commodities\&#39; Export - Weight (%)			
COMMODITIES	2003-04	2004-05	2005-06
Plantations	0.92	0.78	0.71
Agri & allied products	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	293366.75	375339.53	454799.97
US Dollar Exchange Rate	45.9513	44.9315	44.2735

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:

- (A) petroleum products, ores and minerals, engineering goods
- (B) ores and minerals, gems and jewellery, chemicals and related products
- (C) gems and jewellery, chemicals and related products, agri and allied products
- (D) ores and minerals, chemicals and related products, agri and allied products

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87.

Directions for questions 86 to 90: Study the tables of the Indian foreign trade given below to answer the questions.

Principal Commodities\&#39; Import - Weight (%)			
COMMODITIES	2003-04	2004-05	2005-06
Bulk imports	37.87	39.09	42.56
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Ores & minerals	3.69	5.29	6.02
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GRAND TOTAL	100.00	100.00	100.00
Total Exports in Rupees Crore	293366.75	375339.53	454799.97
US Dollar Exchange Rate	45.9513	44.9315	44.2735

In the year 2005-06 the commodity which witnessed maximum growth in exports (in Indian Rupees) as compared to the year 2004-05 is:

- (A) petroleum products
- (B) project goods
- (C) ores & minerals
- (D) sports goods

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88.

Directions for questions 86 to 90: Study the tables of the Indian foreign trade given below to answer the questions.

Principal Commodities\&#39; Import - Weight (%)			
COMMODITIES	2003-04	2004-05	2005-06
Bulk imports	37.87	39.09	42.56
Pearls, precious & semi-precious 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
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COMMODITIES	2003-04	2004-05	2005-06
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Marine products	2.08	1.60	1.40
Ores & minerals	3.69	5.29	6.02
Leather & mfrs.	3.19	2.89	2.56
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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
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GRAND TOTAL	100.00	100.00	100.00
Total Exports in Rupees Crore	293366.75	375339.53	454799.97
US Dollar Exchange Rate	45.9513	44.9315	44.2735

In the two year period from 2004-05 to 2005-06, the average growth in import (in Indian Rupees) of which commodity to India was maximum?

- (A) bulk imports
- (B) pearls, precious and semi-precious stones
- (C) machinery
- (D) project goods

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89.

Directions for questions 86 to 90: Study the tables of the Indian foreign trade given below to answer the questions.

Principal Commodities\&#39; Import - Weight (%)			
COMMODITIES	2003-04	2004-05	2005-06
Bulk imports	37.87	39.09	42.56
Pearls, precious & semi-precious stones	9.25	8.80	6.42
Machinery	10.63	10.00	10.94
Project Goods	0.49	0.54	0.57
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Principal Commodities\&#39; Export - Weight (%)			
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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	293366.75	375339.53	454799.97
US Dollar Exchange Rate	45.9513	44.9315	44.2735

Growth of trade imbalance (exports less imports) in dollar terms in the year 2005-06 as compared to the previous year was:

- (A) 39.77
- (B) 41.85
- (C) 91.24
- (D) 95.98

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90.

Directions for questions 86 to 90: Study the tables of the Indian foreign trade given below to answer the questions.

Principal Commodities\&#39; Import - Weight (%)			
COMMODITIES	2003-04	2004-05	2005-06
Bulk imports	37.87	39.09	42.56
Pearls, precious & semi-precious 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)	359107.66	501064.54	630526.77
Principal Commodities\&#39; Export - Weight (%)			
COMMODITIES	2003-04	2004-05	2005-06
Plantations	0.92	0.78	0.71
Agri & allied products	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	293366.75	375339.53	454799.97
US Dollar Exchange Rate	45.9513	44.9315	44.2735

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?

- (A) 1.36
- (B) 1.38
- (C) 1.46
- (D) 1.48

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91.

Directions: Each group of questions in this section is based on a set of conditions. In answering some of the questions, it may help to draw a rough diagram. Choose the response that most accurately and completely answers each question.

Questions 91 to 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 film buff 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.

91. Which one of the following could be an accurate matching of film buffs to films?

- (A) Gangadhar: the Satyajit Ray film; Indra: the Ritwik Ghatak film; Maheshwar: the Satyajit Ray film
- (B) Gangadhar: the Ritwik Ghatak film; Indra: the Guru Dutt film; Vyomkesha: the Guru Dutt film
- (C) Indra: the Satyajit Ray film; Rudra: the Ritwik Ghatak film; Vyomkesha: the Guru Dutt film
- (D) Maheshwar: the Ritwik Ghatak film; Rudra: the Ritwik Ghatak film; Vyomkesha: the Ritwik Ghatak film

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92.

Directions: Each group of questions in this section is based on a set of conditions. In answering some of the questions, it may help to draw a rough diagram. Choose the response that most accurately and completely answers each question.

Questions 91 to 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 film buff 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.

92. Each of the following must be false EXCEPT:

- (A) Rudra is the only film buff to see the Guru Dutt film.
- (B) Rudra is the only film buff to see the Satyajit Ray film.
- (C) Yogi is the only film buff to see the Ritwik Ghatak film.
- (D) Exactly two film buffs see the Ritwik Ghatak film.

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93.

Directions: Each group of questions in this section is based on a set of conditions. In answering some of the questions, it may help to draw a rough diagram. Choose the response that most accurately and completely answers each question.

Questions 91 to 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 film buff 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.

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?

- (A) Gangadhar, Maheshwar
- (B) Gangadhar, Rudra
- (C) Gangadhar, Indra, Rudra
- (D) Gangadhar, Vyomkesha, Yogi

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94.

Directions: Each group of questions in this section is based on a set of conditions. In answering some of the questions, it may help to draw a rough diagram. Choose the response that most accurately and completely answers each question.

Questions 91 to 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 film buff 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.

94. If exactly one film buff sees the Ritwik Ghatak film, then which one of the following must be true?

- (A) Vyomkesha sees the Satyajit Ray film.
- (B) Gangadhar sees the Guru Dutt film.
- (C) Maheshwar sees the Guru Dutt film.
- (D) Indra sees the Guru Dutt film.

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95.

Directions: Each group of questions in this section is based on a set of conditions. In answering some of the questions, it may help to draw a rough diagram. Choose the response that most accurately and completely answers each question.

Questions 91 to 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 film buff 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.

95. If Vyomkesha and Gangadhar see the same film, then which one of the following could be true?

- (A) Gangadhar sees the Guru Dutt film.
- (B) Indra sees the Satyajit Ray film.
- (C) Rudra sees the Ritwik Ghatak film.
- (D) Vyomkesha sees the Satyajit Ray film.

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96.

Directions: Each group of questions in this section is based on a set of conditions. In answering some of the questions, it may help to draw a rough diagram. Choose the response that most accurately and completely answers each question.

Questions 91 to 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 film buff sees exactly one of the three films. The films are shown only once, one film at a time. The following restrictions apply:

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- 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.

96. Each of the following could be a complete and accurate list of the film buffs who see the Guru Dutt film EXCEPT:

- (A) Gangadhar, Indra
- (B) Gangadhar, Maheshwar
- (C) Indra, Rudra
- (D) Vyomkesha, Yogi

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97.

Directions: Each group of questions in this section is based on a set of conditions. In answering some of the questions, it may help to draw a rough diagram. Choose the response that most accurately and completely answers each question.

Questions 97 to 101: 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.

97. 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.

• • •

98.

Directions for Questions 97 to 101: A company launches eight products, Q, R, S, T, V, W, Y and Z, in one of the four metros of India. The products are launched one after another over a period of six months in 2006. The order of launch follows these 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.

Q98. If 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.

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99.

Directions for Questions 97 to 101: A company launches eight products, Q, R, S, T, V, W, Y and Z, in one of the four metros of India. The products are launched one after another over a period of six months in 2006. The order of launch follows these 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.

Q99. 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.

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100.

Directions for Questions 97 to 101: A company launches eight products, Q, R, S, T, V, W, Y and Z, in one of the four metros of India. The products are launched one after another over a period of six months in 2006. The order of launch follows these 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.

Q100. If R is the second product to be launched, which one of the following **MUST** be true?

- (A) S gets launched some time before T.
- (B) T gets launched some time before W.
- (C) W gets launched some time before V.
- (D) Y gets launched some time before Q.

• • •

101.

Directions for Questions 97 to 101: A company launches eight products, Q, R, S, T, V, W, Y and Z, in one of the four metros of India. The products are launched one after another over a period of six months in 2006. The order of launch follows these 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.

Q101. 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) Z is the sixth product to be launched.

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102.

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

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

Q102. 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

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103.

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

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

Q103. 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.

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104.

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

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

Q104. 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 music player.

• • •

105. Directions: Each group of questions is based on a set of conditions. Read the passage below and answer the question that follows.

A retail electronics chain has six new mobile phone models, T, V, W, X, Y and Z. Each model comes with at least one of three options: digital camera, music player and office document viewer. No model has any other option. The following conditions apply:

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

Suppose no two mobile phone models have exactly the same set of 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 four of the six mobile phones have document viewer.

• • •

106. Directions: Each group of questions is based on a set of conditions. Read the passage below and answer the question that follows.

A retail electronics chain has six new mobile phone models, T, V, W, X, Y and Z. Each model comes with at least one of three options: digital camera, music player and office document viewer. No model has any other option. The following conditions apply:

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

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 have exactly one option in common.
- (D) W and Z have exactly one option in common.

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107. Directions: Each group of questions is based on a set of conditions. Read the passage below and answer the question that follows.

A retail electronics chain has six new mobile phone models, T, V, W, X, Y and Z. Each model comes with at least one of three options: digital camera, music player and office document viewer. No model has any other option. The following conditions apply:

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

For this question only, replace the rule "X has more options than W" with this new rule: "X and W have exactly two options in common." All the other rules above still apply.

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.

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108. Directions: Each group of questions is based on a set of conditions. Read the passage below and answer the question that follows.

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

- Each member votes for at least one of the bills and against at least one of the bills.
- Exactly two members vote for the recreation bill.
- Exactly one member votes for the school bill.
- Exactly one member 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.

Which one of the following statements could be true?

- (A) Arjun and Karn vote the same way on the tax bill.
- (B) Karn and Bhim vote the same way on the recreation bill.
- (C) Karn and Bhim vote the same way on the school bill.
- (D) Arjun votes for two of the bills and Karn votes for two of the bills.

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109. Directions: Each group of questions is based on a set of conditions. Read the passage below and answer the question that follows.

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

- Each member votes for at least one of the bills and against at least one of the bills.
- Exactly two members vote for the recreation bill.
- Exactly one member votes for the school bill.
- Exactly one member 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.

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?

- (A) Arjun votes for the tax bill.
- (B) Karn votes for the recreation bill.
- (C) Karn votes against the school bill.
- (D) Bhim votes against the school bill.

• • •

110. Directions: Each group of questions is based on a set of conditions. Read the passage below and answer the question that follows.

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

- Each member votes for at least one of the bills and against at least one of the bills.
- Exactly two members vote for the recreation bill.
- Exactly one member votes for the school bill.
- Exactly one member 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.

If Karn votes for the tax bill, then which one of the following statements could be true?

- (A) Arjun and Karn each vote for exactly one bill.
- (B) Karn and Bhim each vote for exactly one bill.
- (C) Arjun votes for exactly two bills.
- (D) Karn votes for the recreation bill.

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111. Directions: Each group of questions is based on a set of conditions. Read the passage below and answer the question that follows.

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

- Each member votes for at least one of the bills and against at least one of the bills.
- Exactly two members vote for the recreation bill.
- Exactly one member votes for the school bill.
- Exactly one member 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.

If Karn votes for exactly two of the three bills, which one of the following statements must be true?

- (A) Arjun votes for the tax bill.
- (B) Karn votes for the recreation bill.
- (C) Karn votes for the school bill.
- (D) Karn votes against the tax bill.

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112. Directions: Each group of questions in this section is based on a set of conditions. Choose the response that most accurately and completely answers each question.

(Questions 108 to 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.

112. 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?

- (A) Arjun votes for the tax bill
- (B) Karn votes for the recreation bill.
- (C) Karn votes against the school bill.
- (D) Bhim votes for exactly one bill.

• • •

113. 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?

- (A) 4
- (B) 3
- (C) 2
- (D) 1

• • •

114. 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:

- (A) 1
- (B) 2
- (C) 3
- (D) 4

• • •

115. (Questions 115 to 117): The year 2004 was a great year for Top-Cloth cotton mill. Manufacturing towels for the export market and 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 mess be air-conditioned. The proposal was discussed in a meeting 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 degrees C with a relative humidity of 99%. The air-conditioned mess would represent management's appreciation of the employees' hard work.

At the end of 2005, management reviewed the mill's performance. Profits were higher, and employee attrition was negligible. The 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, asking 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):

- A. 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.
- B. The personnel director was responsible for employees' reactions.
- C. The personnel director had failed in his duty of maintaining constant touch with employees.
- D. The cost of air-conditioning is a waste, since its beneficiaries did not feel any benefit.

- (A) B only
- (B) C only
- (C) D only
- (D) A, C and D

• • •

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Miscellaneous comments	2

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 their impact on society. In view of this consideration, what could have been considered before deciding on profit sharing?

- A. communicating management's intentions via employee newsletters
- B. taking employees' inputs in designing the cafeteria's interiors and installation of air-conditioning
- C. considering employees' views on different ways of sharing excess profits
- D. investing in capacity expansion to take care of the booming export market
- E. dividing the profits equally among the workers and shareholders

The options in decreasing order of their impact on society:

- (A) B, C, E, D, A
- (B) D, E, C, B, A
- (C) C, B, A, D, E
- (D) E, D, C, B, A

• • •

117. (Questions 115 to 117): The year 2004 was a great year for Top-Cloth cotton mill. Manufacturing towels for the export market and 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 mess be air-conditioned. The proposal was discussed in a meeting 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 degrees C with a relative humidity of 99%. The air-conditioned mess would represent management's appreciation of the employees' hard work.

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"It is OK."	2
Miscellaneous comments	2

117. This decision-making situation best highlights:

- (A) managerial short-sightedness in decision making
- (B) managerial benevolence in sharing profits among the workers
- (C) managerial incompetence in handling a negative feedback in employee survey
- (D) inefficient infrastructure management

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118. Directions for questions 118 to 121: For each question, an answer (A) and a reason (R) has been given. Base your analysis on the information presented in the passage. Mark:

1. if both A and R are based on information given in the passage and R is the correct explanation of A.
2. if both A and R are based on information given in the passage but R is not the correct explanation of A.
3. if A is based on information given in the passage but R is not based on the facts given.
4. if A is not based on information given in the passage but R is based on the information given in the passage.
5. 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 the 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 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 realized 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. Realizing that he was not making any

effective contribution, 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?

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.

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

(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.

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Directions: For each question below, an answer (A) and a reason (R) are given. Base your analysis only on the information in the passage above. Mark your response using the code:

1. if both A and R are based on information given in the passage, and R is the correct explanation of A.
2. if both A and R are based on information given in the passage, but R is not the correct explanation of A.
3. if A is based on information given in the passage, but R is not based on the facts

given.

4. if A is not based on information given in the passage, but R is based on the information given in the passage.

5. if both A and R are not based on information given in the passage.

Question: What responsibilities were shouldered by Mr Bibek in his first year of employment?

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

R: The board members wanted to systematize the recruitment and selection of the entire organization.

(A) Both A and R are based on information given in the passage, and R is the correct explanation of A.

(B) Both A and R are based on information given in the passage, but R is not the correct explanation of A.

(C) A is based on information given in the passage, but R is not based on the facts given.

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3. if A is based on information given in the passage, but R is not based on the facts

given.

4. if A is not based on information given in the passage, but R is based on the information given in the passage.

5. if both A and R are not based on information given in the passage.

Question: How were the changes in the recruitment and selection process received by the principals?

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

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

(A) Both A and R are based on information given in the passage, and R is the correct explanation of A.

(B) Both A and R are based on information given in the passage, but R is not the correct explanation of A.

(C) A is based on information given in the passage, but R is not based on the facts given.

(D) Both A and R are not based on information given in the passage.

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121.

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Directions: For each question below, an answer (A) and a reason (R) are given. Base your analysis only on the information in the passage above. Mark your response using the code:

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given.

4. if A is not based on information given in the passage, but R is based on the information given in the passage.

5. if both A and R are not based on information given in the passage.

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

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

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) Both A and R are based on information given in the passage, and R is the correct explanation of A.

(B) Both A and R are based on information given in the passage, but R is not the correct explanation of A.

(C) A is based on information given in the passage, but R is not based on the facts given.

(D) A is not based on information given in the passage, but R is based on the information given in the passage.

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122.

Sayan, a recent MBA graduate with a specialization 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. He felt that he was becoming an alcoholic, since he had recently been overindulging even when not entertaining customers. The problem became progressively worse until he found himself in a constantly inebriated condition, unable to work without resorting to drinking at work.

On reporting 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 argued 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, one that would prevent a recurrence of such a situation.

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

- A. 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.
- B. State the requirements of the 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 employment with complete knowledge of job details.
- C. Social drinking does not imply that a person has to drink excessively. So 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.
- D. Provide guidance to all sales managers, both experienced and newly appointed, on how to behave during social occasions. This will help those who are otherwise moderate drinkers but end up drinking beyond their capacity because of suggestions from peers and friends.
- E. Test the validity of claims of being moderate drinkers during the selection process itself. This will screen out persons who only claim to be moderate drinkers to obtain the job.

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

- (A) A + B, C, D + E
- (B) C + D, B + E, A + E
- (C) C + E, B + D, B + E
- (D) A + B, B + D, B + E

• • •

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Question: 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:

- A. All that is required to sell the product is to entertain the purchase officers. The company should predominantly hire college graduates, particularly those who know how to interact socially.
- B. The firm would be better off hiring sales managers from the market rather than those fresh out of business schools.
- C. The firm should have only one sales manager. The sales manager should know 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 responsible for developing contacts and reporting back to the sales manager for follow-up.
- D. The firm should have an intense induction period where newly appointed employees are trained in the managerial aspects of the job and given training in social skills, including how to manage drinks.
- E. People passing out of MBA colleges 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 management, in increasing order of alignment with respect to its policy of non-discrimination, is:

- (A) A, B, C, E
- (B) A, C, B, D
- (C) A, E, C, D
- (D) A, C, E, D

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124.

Sayan, a recent MBA graduate with a specialization 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. He felt that he was becoming an alcoholic, since he had recently been overindulging even when not entertaining customers. The problem became progressively worse until he found himself in a constantly inebriated condition, unable to work without resorting to drinking at work.

On reporting 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 argued 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, one that would prevent a recurrence of such a situation.

Question: 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 firm 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.

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125. Directions for Q125-129: The following set of questions is based on a decision-making situation described below. Read the passage and answer the questions that follow.

Ram Kumar, an overworked executive in Delhi, has to decide on the travel plan for attending his friend's marriage in Ajmer, Rajasthan. He has barely managed to get leave from his boss, so he must make sure he reaches Ajmer at least on the day of the marriage. Since it had been a while since his last break, he also planned to visit a few tourist spots along the way to de-stress after a year of demanding work.

As per his plan, Ram would start from Delhi and first visit the Bharatpur bird sanctuary, staying at the forest guest house for some time. He would then travel to Jodhpur for a day or two of sightseeing, and from Jodhpur move to Jaipur to spend a few days visiting the city. After that he would travel on to Ajmer, where his friend's wedding would take place.

Leg 1, Delhi to Bharatpur (bus, taxi or train, all three taking 12 hours): the probability of reaching on time is 0.65 by bus, 0.75 by taxi and 0.9 by train.

Leg 2, Bharatpur to Jodhpur (train, bus or private taxi): the probability of reaching on time is 0.9 by train (12 hours), 0.8 by bus (16 hours) and 0.85 by taxi (14 hours).

Leg 3, Jodhpur to Jaipur (flight, train, bus or taxi): the probability of reaching on time is 0.85 by flight (2 hours), 0.9 by train (10 hours), 0.65 by bus (15 hours) and 0.7 by taxi (15 hours).

Leg 4, Jaipur to Ajmer (train, bus or taxi): the probability of reaching on time is 0.75 by train (4 hours), 0.55 by bus (5 hours) and 0.55 by taxi (5 hours).

Since both Jaipur and Jodhpur have airports, Ram could also fly directly from Delhi to either city, or use a flight partway along with a combination of land transport.

Q125. 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

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126. Directions for Q125-129: The following set of questions is based on a decision-making situation described below. Read the passage and answer the questions that follow.

Ram Kumar, an overworked executive in Delhi, has to decide on the travel plan for attending his friend's marriage in Ajmer, Rajasthan. He has barely managed to get leave from his boss, so he must make sure he reaches Ajmer at least on the day of the marriage. Since it had been a while since his last break, he also planned to visit a few tourist spots along the way to de-stress after a year of demanding work.

As per his plan, Ram would start from Delhi and first visit the Bharatpur bird sanctuary, staying at the forest guest house for some time. He would then travel to Jodhpur for a day or two of sightseeing, and from Jodhpur move to Jaipur to spend a few days visiting the city. After that he would travel on to Ajmer, where his friend's wedding would take place.

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Leg 2, Bharatpur to Jodhpur (train, bus or private taxi): the probability of reaching on time is 0.9 by train (12 hours), 0.8 by bus (16 hours) and 0.85 by taxi (14 hours).

Leg 3, Jodhpur to Jaipur (flight, train, bus or taxi): the probability of reaching on time is 0.85 by flight (2 hours), 0.9 by train (10 hours), 0.65 by bus (15 hours) and 0.7 by taxi (15 hours).

Leg 4, Jaipur to Ajmer (train, bus or taxi): the probability of reaching on time is 0.75 by train (4 hours), 0.55 by bus (5 hours) and 0.55 by taxi (5 hours).

Since both Jaipur and Jodhpur have airports, Ram could also fly directly from Delhi to either city, or use a flight partway along with a combination of land transport.

Q126. 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 to Bharatpur by train; Bharatpur to Jodhpur by taxi; Jodhpur to Jaipur by bus; Jaipur to Ajmer by train
- (B) Delhi to Bharatpur by taxi; Bharatpur to Jodhpur by train; Jodhpur to Jaipur by flight; Jaipur to Ajmer by train
- (C) Delhi to Bharatpur by train; Bharatpur to Jodhpur by train; Jodhpur to Jaipur by train; Jaipur to Ajmer by train
- (D) Delhi to Bharatpur by train; Bharatpur to Jodhpur by taxi; Jodhpur to Jaipur by train; Jaipur to Ajmer by train

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127. Directions for Q125-129: The following set of questions is based on a decision-making situation described below. Read the passage and answer the questions that follow.

Ram Kumar, an overworked executive in Delhi, has to decide on the travel plan for attending his friend's marriage in Ajmer, Rajasthan. He has barely managed to get leave from his boss, so he must make sure he reaches Ajmer at least on the day of the marriage. Since it had been a while since his last break, he also planned to visit a few tourist spots along the way to de-stress after a year of demanding work.

As per his plan, Ram would start from Delhi and first visit the Bharatpur bird sanctuary, staying at the forest guest house for some time. He would then travel to Jodhpur for a day or two of sightseeing, and from Jodhpur move to Jaipur to spend a few days visiting the city. After that he would travel on to Ajmer, where his friend's wedding would take place.

Leg 1, Delhi to Bharatpur (bus, taxi or train, all three taking 12 hours): the probability of reaching on time is 0.65 by bus, 0.75 by taxi and 0.9 by train.

Leg 2, Bharatpur to Jodhpur (train, bus or private taxi): the probability of reaching on time is 0.9 by train (12 hours), 0.8 by bus (16 hours) and 0.85 by taxi (14 hours).

Leg 3, Jodhpur to Jaipur (flight, train, bus or taxi): the probability of reaching on time is 0.85 by flight (2 hours), 0.9 by train (10 hours), 0.65 by bus (15 hours) and 0.7 by taxi (15 hours).

Leg 4, Jaipur to Ajmer (train, bus or taxi): the probability of reaching on time is 0.75 by train (4 hours), 0.55 by bus (5 hours) and 0.55 by taxi (5 hours).

Since both Jaipur and Jodhpur have airports, Ram could also fly directly from Delhi to either city, or use a flight partway along with a combination of land transport.

Q127. Ram's younger brother Shyam gets to know of Ram's travel plans and wants to come along. Unlike Ram, Shyam enjoys the scenery en route and wants Ram to maximise the total travel time. To do this, the itinerary Ram should decide on is:

- I. Delhi to Bharatpur by train; Bharatpur to Jodhpur by bus; Jodhpur to Jaipur by bus; Jaipur to Ajmer by bus
- II. Delhi to Bharatpur by bus; Bharatpur to Jodhpur by bus; Jodhpur to Jaipur by taxi; Jaipur to Ajmer by taxi
- III. Delhi to Bharatpur by bus; Bharatpur to Jodhpur by bus; Jodhpur to Jaipur by bus; Jaipur to Ajmer by bus
- IV. Delhi to Bharatpur by taxi; Bharatpur to Jodhpur by bus; Jodhpur to Jaipur by taxi; Jaipur to Ajmer by bus
- V. Delhi to Bharatpur by taxi; Bharatpur to Jodhpur by taxi; Jodhpur to Jaipur by taxi; Jaipur to Ajmer by taxi

- (A) I only
- (B) I and II
- (C) I, II and III
- (D) I, II, III and IV

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128. Directions for Q125-129: The following set of questions is based on a decision-making situation described below. Read the passage and answer the questions that follow.

Ram Kumar, an overworked executive in Delhi, has to decide on the travel plan for attending his friend's marriage in Ajmer, Rajasthan. He has barely managed to get leave from his boss, so he must make sure he reaches Ajmer at least on the day of the marriage. Since it had been a while since his last break, he also planned to visit a few tourist spots along the way to de-stress after a year of demanding work.

As per his plan, Ram would start from Delhi and first visit the Bharatpur bird sanctuary, staying at the forest guest house for some time. He would then travel to Jodhpur for a day or two of sightseeing, and from Jodhpur move to Jaipur to spend a few days visiting the city. After that he would travel on to Ajmer, where his friend's wedding would take place.

Leg 1, Delhi to Bharatpur (bus, taxi or train, all three taking 12 hours): the probability of reaching on time is 0.65 by bus, 0.75 by taxi and 0.9 by train.

Leg 2, Bharatpur to Jodhpur (train, bus or private taxi): the probability of reaching on time is 0.9 by train (12 hours), 0.8 by bus (16 hours) and 0.85 by taxi (14 hours).

Leg 3, Jodhpur to Jaipur (flight, train, bus or taxi): the probability of reaching on time is 0.85 by flight (2 hours), 0.9 by train (10 hours), 0.65 by bus (15 hours) and 0.7 by taxi (15 hours).

Leg 4, Jaipur to Ajmer (train, bus or taxi): the probability of reaching on time is 0.75 by train (4 hours), 0.55 by bus (5 hours) and 0.55 by taxi (5 hours).

Since both Jaipur and Jodhpur have airports, Ram could also fly directly from Delhi to either city, or use a flight partway along with a combination of land transport.

Ram's statistically minded friend Rocky feels that Ram should not use just one criterion to decide on a plan. "Decision making has to bring in all the criteria together. That is what makes a decision sound," Rocky said.

"How do I do that?" Ram asked. "Simple," said Rocky. "Give a weight to each criterion, multiply the value of each criterion by its weight, and add up the products for each option."

Rocky explained with an example: "For each option there are two criteria, the probability of not making it to the wedding and the travel time. The probability of not reaching on time is 1 minus the probability of reaching on time. Say you hate the thought of missing the wedding after all this effort, so give that criterion a weight of 80%. You also want to keep the travel time low, so give that a weight of 20%. For each option, add up (value of each criterion times its weight) and compare the totals across options. Pick the option with the lowest total."

"That simple?" Ram asked. "Well, it is, for a start," Rocky admitted.

Q128. As the foggy winter conditions continue, flights out of Delhi remain uncertain and unreliable. Using Rocky's elementary decision-making framework, which of the following itineraries should Ram adopt?

- (A) Delhi to Bharatpur by train; Bharatpur to Jodhpur by taxi; Jodhpur to Jaipur by bus; Jaipur to Ajmer by train
- (B) Delhi to Bharatpur by taxi; Bharatpur to Jodhpur by train; Jodhpur to Jaipur by flight; Jaipur to Ajmer by train
- (C) Delhi to Bharatpur by train; Bharatpur to Jodhpur by train; Jodhpur to Jaipur by train; Jaipur to Ajmer by train
- (D) Delhi to Bharatpur by train; Bharatpur to Jodhpur by taxi; Jodhpur to Jaipur by train; Jaipur to Ajmer by train

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129. Directions for Q125-129: The following set of questions is based on a decision-making situation described below. Read the passage and answer the questions that follow.

Ram Kumar, an overworked executive in Delhi, has to decide on the travel plan for attending his friend's marriage in Ajmer, Rajasthan. He has barely managed to get leave from his boss, so he must make sure he reaches Ajmer at least on the day of the marriage. Since it had been a while since his last break, he also planned to visit a few tourist spots along the way to de-stress after a year of demanding work.

As per his plan, Ram would start from Delhi and first visit the Bharatpur bird sanctuary, staying at the forest guest house for some time. He would then travel to Jodhpur for a day or two of sightseeing, and from Jodhpur move to Jaipur to spend a few days visiting the city. After that he would travel on to Ajmer, where his friend's wedding would take place.

Leg 1, Delhi to Bharatpur (bus, taxi or train, all three taking 12 hours): the probability of reaching on time is 0.65 by bus, 0.75 by taxi and 0.9 by train.

Leg 2, Bharatpur to Jodhpur (train, bus or private taxi): the probability of reaching on time is 0.9 by train (12 hours), 0.8 by bus (16 hours) and 0.85 by taxi (14 hours).

Leg 3, Jodhpur to Jaipur (flight, train, bus or taxi): the probability of reaching on time is 0.85 by flight (2 hours), 0.9 by train (10 hours), 0.65 by bus (15 hours) and 0.7 by taxi (15 hours).

Leg 4, Jaipur to Ajmer (train, bus or taxi): the probability of reaching on time is 0.75 by train (4 hours), 0.55 by bus (5 hours) and 0.55 by taxi (5 hours).

Since both Jaipur and Jodhpur have airports, Ram could also fly directly from Delhi to either city, or use a flight partway along with a combination of land transport.

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Rocky explained with an example: "For each option there are two criteria, the probability of not making it to the wedding and the travel time. The probability of not reaching on time is 1 minus the probability of reaching on time. Say you hate the thought of missing the wedding after all this effort, so give that criterion a weight of 80%. You also want to keep the travel time low, so give that a weight of 20%. For each option, add up (value of each criterion times its weight) and compare the totals across options. Pick the option with the lowest total."

"That simple?" Ram asked. "Well, it is, for a start," Rocky admitted.

For reference, the five itineraries under discussion (labelled A to E on the x-axis of each bar chart) are:

A: Delhi to Bharatpur by train; Bharatpur to Jodhpur by taxi; Jodhpur to Jaipur by bus; Jaipur to Ajmer by train

B: Delhi to Bharatpur by taxi; Bharatpur to Jodhpur by train; Jodhpur to Jaipur by flight; Jaipur to Ajmer by train

C: Delhi to Bharatpur by train; Bharatpur to Jodhpur by train; Jodhpur to Jaipur by train; Jaipur to Ajmer by train

D: Delhi to Bharatpur by train; Bharatpur to Jodhpur by taxi; Jodhpur to Jaipur by train; Jaipur to Ajmer by train

E: Delhi to Bharatpur by train; Bharatpur to Jodhpur by bus; Jodhpur to Jaipur by flight; Jaipur to Ajmer by train

Q129. Of the diagrams given as options, which one best represents the contribution of each of the two criteria to the overall score, for each of the five itineraries A to E listed above, where the bottom portion of each bar shows the contribution of the probability of NOT reaching the destination on time, and the top portion shows the contribution of travel time?

- (A) \includegraphics{images/q129_A.png}
- (B) \includegraphics{images/q129_B.png}
- (C) \includegraphics{images/q129_C.png}
- (D) \includegraphics{images/q129_D.png}

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130. Q130. Mr Basu looks at the calendar for the year 20ab. He finds that April 20ab has exactly four Mondays and four Fridays. 1st April 20ab would fall on a

_____.

- (A) Saturday
- (B) Sunday
- (C) Wednesday
- (D) Thursday