# CAT 1998 Question Paper

Common Admission Test · Indian Institutes of Management

**185 Questions**

## General Instructions

(i) This paper contains **185 questions** from **CAT 1998**. The original examination was a **paper-based test**.

(ii) The question groups appear in their original sequence: **Verbal Ability** (50 questions); **Quantitative Ability** (45 questions); **Reading Comprehension** (50 questions); **Data Interpretation** (40 questions).

(iii) Each question has **four choices**. Select the single best answer, using the shared passage, table or diagram wherever indicated.

(iv) Read the directions for every question group carefully. Question numbers continue across the paper.

(v) Passages and questions may continue onto the following page. Read each question and all its choices before answering.

## Verbal Ability · Questions 1-50

**1.** Select the option that best replaces the phrase in quotes. British Airspace has been 'focusing on building European links'.

(A) concentrating on creating European links

(B) pursuing ways of building European connectivity

(C) stressing on building European links

(D) focusing on forging European links

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**2.** Select the option that best replaces the phrase in quotes. The appetite of banks for funds was lost under the onslaught of the slowdown, corporates refused to borrow even as 'bank deposits flourished'.

(A) bank deposits flourished

(B) bank deposits swelled

(C) bank deposits were enhanced

(D) bank deposits flummoxed

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**3.** Select the option that best replaces the phrase in quotes. The 8th-century revival of Byzantine learning is 'an inexplicable phenomenon', and its economic and military precursors have yet to be discovered.

(A) a phenomenon yet to be discovered

(B) a phenomenon incompletely explained

(C) an inexplicable phenomenon

(D) an unidentifiable phenomenon

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**4.** Select the option that best replaces the phrase in quotes. The management can still hire freely but 'cannot scold freely'.

(A) cannot scold at will

(B) cannot give umbrage

(C) cannot take decisions to scold

(D) cannot scold willfully

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**5.** Select the option that best replaces the phrase in quotes. Many people mistake familiarity for a vulgar style, and suppose that to write without affectation 'is to write at random speed'.

(A) is to write at random

(B) is to write randomly

(C) is to write fast

(D) is to do speed writing

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**6.** Fill in the blanks: Football evokes a ___ response in India compared to cricket, that almost ___ the nation.

(A) tepid ... boiling

(B) lukewarm ... electrifies

(C) turbid ... fascinating

(D) apocryphal ... genuinely fascinates

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**7.** Fill in the blanks: Social studies, science matters of health and safety, the very atmosphere of the classroom —these areas are few of the ___ for the ___ of proper emotional reactions.

(A) things ... growth

(B) fertile areas ... basis

(C) fertile fields ... inculcation

(D) important areas ... formation

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**8.** Fill in the blanks: When children become more experienced with words as visual symbols, they find that they can gain meaning without making ___ sounds.

(A) aural
(B) audible
(C) vocal
(D) intelligible

**9.** Fill in the blanks: Learning is more efficient when it is ___. It is less efficient when it is ___.

(A) fast ... slow
(B) rapid ... turtle-slow
(C) tedious ... like a joy ride
(D) fun ... drudgery

**10.** Fill in the blanks: To a greater or lesser degree all the civilized countries of the world are made up of a small class of rulers ___ and of a large class of subjects ___.

(A) formed by a small minority ... who are uncivilized
(B) powerfully corrupt ... pointless crusaders
(C) corrupted by too much power ... corrupted by too much passive obedience
(D) who are ruled ... who ruled

**11.** Fill in the blanks: Simple arithmetic tells us that there is more ___ than ___.

(A) imitation ... innovation
(B) improvisation ... improvement
(C) impracticality ... knowledge
(D) improbability ... probability

**12.** Fill in the blanks: As a step towards protesting against the spiralling prices, the farmers have decided to stage a picket in an effort to ___.

(A) show their virility
(B) make themselves heard
(C) curb the prices
(D) topple the government

**13.** Fill in the blanks: Science is a sort of news agency comparable ___ to other news agencies.

(A) principally
(B) in principle
(C) in principal
(D) in spirit and form

**14.** Fill in the blanks: Most political leaders acquire their position by causing a large number of people to believe that these leaders are ___ by altruistic desires.

(A) actuated
(B) convinced
(C) categorised
(D) led

**15.** Fill in the blanks: Everyone will admit that swindling one's fellow beings is a necessary practice; upon it is based the really sound commercial success formula — ___.

(A) sell what you cannot buy back
(B) buy what you will sell to another at a higher price
(C) buy cheap and sell dear
(D) sell what you can, do not buy from a competitor

**16.** Arrange sentences A, B, C and D between sentences 1 and 6 to form a logical sequence of six sentences. 1. Buddhism is a way to salvation. A. But Buddhism is more severely analytical. B. In the Christian tradition there is also a concern for the fate of human society conceived as a whole, rather than merely as

a sum or network of individuals. C. Salvation is a property, or achievement of individuals. D. Not only does it dissolve society into individuals, the individual in turn is dissolved into component parts and instants, a stream of events. 6. In modern terminology, Buddhist doctrine is reductionist.

(A) ABDC
(B) CBAD
(C) BDAC
(D) ABCD

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**17.** Arrange sentences A, B, C and D between sentences 1 and 6 to form a logical sequence of six sentences. 1. The problem of improving Indian agriculture is both a sociological and an administrative one. A. It also appears that there is a direct relationship between the size of a state and development. B. The issues of Indian development, and the problem of India's agricultural sector, will remain with us long into the next century. C. Without improving Indian agriculture, no liberalisation and delicensing will be able to help India. D. At the end of the day, there has to be a ferment and movement of life and action in the vast segment of rural India. 6. When it starts marching, India will fly.

(A) DABC
(B) CDBA
(C) ACDB
(D) ABCD

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**18.** Arrange sentences A, B, C and D between sentences 1 and 6 to form a logical sequence of six sentences. 1. Good literary magazines have always been good because of their editors. A. Furthermore, to edit by committee, as it were, would prevent any magazine from finding its own identity. B. The more quirky and idiosyncratic they have been, the better the magazine is, at least as a general rule. C. But the number of editors one can have for a magazine should also be determined by the number of contributions to it. D. To have four editors for an issue that contains only seven contributions, it is a bit silly to start with. 6. However, in spite of this anomaly, the magazine does acquire merit in its attempt to give a comprehensive view of the Indian literary scene as it is today.

(A) ABCD
(B) BCDA
(C) ABDC
(D) CBAD

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**19.** Arrange sentences A, B, C and D between sentences 1 and 6 to form a logical sequence of six sentences. 1. It is the success story of the Indian expatriate in the US which today hogs much of the media coverage in India. A. East and West, the twain have met quite comfortably in their person, thank you. B. Especially in its more recent romancing — the-NRI phase. C. Seldom does the price of getting there — more like not getting there — or what's going on behind those sunny smiles get so much media hype. D. Well groomed, with their perfect Colgate smiles, and hair in place, they appear the picture of confidence which comes from having arrived. 6. The festival of feature films and documentaries made by Americans of Indian descent being screened this fortnight, goes a long way in filling those gaps.

(A) ACBD
(B) DABC
(C) BDAC
(D) ABCD

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**20.** Arrange sentences A, B, C and D between sentences 1 and 6 to form a logical sequence of six sentences. 1. A market for Indian art has existed ever since the international art scene sprang to life. A. But interest in architectural conceits is an unanticipated fallout of the Festivals of India of the '80s, which were designed to increase exports of Indian crafts. B. Simultaneously, the Indian elite discarded their synthetic sarees and kitsch plastic furniture and a market came into being. C. Western dealers, unhappy in a market afflicted by violent price fluctuations and unpredictable profit margins, began to look East, and found cheap antiques with irresistible appeal. D. The fortunes of the Delhi supremos, the Jew Town dealers in Cochin and myriad others around the country were made. 6. A chain of command was established,

from the local contacts to the provincial dealers and up to the big boys, who entertain the Italians and the French, cutting deals worth lakhs in warehouses worth crores.

(A) ABCD
(B) DCAB
(C) CBAD
(D) CABD

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**21.** Arrange the following sentences to form a coherent paragraph A. He was carrying his jacket and walked with his head thrown back. B. As Annette neared the lamp she saw a figure walking slowly. C. For a while Michael walked on and she followed 20 paces behind. D. With a mixture of terror and triumph of recognition she slackened her pace.

(A) ABCD
(B) BADC
(C) BCDA
(D) ACBD

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**22.** Arrange the following sentences to form a coherent paragraph A. However, the real challenge today is in unlearning, which is much harder. B. But the new world of business behaves differently from the world in which we grew up. C. Learning is important for both people and organisations. D. Each of us has a 'mental model' that we've used over the years to make sense.

(A) CADB
(B) BDAC
(C) CDAB
(D) ACBD

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**23.** Arrange the following sentences to form a coherent paragraph A. There was nothing quite like a heavy downpour of rain to make life worthwhile. B. We reached the field, soaked to the skin, and surrounded it. C. The wet, as far as he was concerned, was ideal. D. There, sure enough, stood Claudius, looking like a debauched Roman emperor under a shower.

(A) DCBA
(B) BDCA
(C) BADC
(D) BACD

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**24.** Arrange the following sentences to form a coherent paragraph A. Alex had never been happy with his Indian origins. B. He set about rectifying this grave injustice by making his house in his own image of a country manor. C. Fate had been unfair to him; if he had had his wish, he would have been a count or an Earl on some English estate, or a medieval monarch in a chateau in France. D. This illusion of misplaced grandeur, his wife felt, would be Alex's undoing.

(A) ACDB
(B) ABDC
(C) ACBD
(D) CABD

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**25.** Arrange the following sentences to form a coherent paragraph A. The influence is reflected the most in beaded evening wear. B. Increasingly, the influence of India's colours and cuts can be seen on western styles. C. And even as Nehru jackets and Jodhpurs remain staples of the fashion world, designers such as Armani and McFadden have turned to the sleek silhouette of the churidar this year. D. Indian hot pink, paprika and saffron continue to be popular colours, year in and year out.

(A) BADC
(B) ABCD
(C) BCAD
(D) DABC

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**26.** Arrange the following sentences to form a coherent paragraph A. Such a national policy will surely divide and never unite the people. B. In fact, it suits the purpose of the politicians; they can drag the

people into submission by appealing to them in the name of religion. C. In order to inculcate the unquestioning belief they condemn the other states, which do not follow their religion. D. The emergence of the theocratic states, where all types of crimes are committed in the name of religion, has revived the religion of the Middle Ages.

(A) ABCD
(B) DBCA
(C) DBAC
(D) CDAB

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**27.** Arrange the following sentences to form a coherent paragraph A. His left-hand concealed a blackjack, his right-hand groped for the torch in his pocket. B. The meeting was scheduled for 9 o'clock, and his watch showed the time to be a quarter to nine. C. The man lurked in the corner, away from the glare of light. D. His heart thumped in his chest, sweat beads formed themselves on his forehead, his mouth was dry.

(A) CABD
(B) BDAC
(C) BADC
(D) ABCD

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**28.** Arrange the following sentences to form a coherent paragraph A. The director walked into the room and took a look around the class. B. Mitch wanted to scream — the illogicality of the entire scene struck him dumb. C. The managers stared at him with the look of fear that no democratic country should tolerate in its people. D. He walked out of the room — it was his irrevocable protest against an insensible and insensitive situation.

(A) ACBD
(B) BDAC
(C) BCAD
(D) ABCD

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**29.** Arrange the following sentences to form a coherent paragraph A. The establishment of the Third Reich influenced events in American history by starting a chain of events which culminated in war between Germany and the United States. B. The Neutrality Acts of 1935 and 1936 prohibited trade with any belligerents or loans to them. C. While speaking out against Hitler's atrocities, the American people generally favoured isolationist policies and neutrality. D. The complete destruction of democracy, the persecution of Jews, the war on religion, the cruelty and barbarism of the allies, caused great indignation in this country and brought on fear of another World War.

(A) ABCD
(B) CBDA
(C) CDBA
(D) ADCB

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**30.** Arrange the following sentences to form a coherent paragraph A. An essay which appeals chiefly to the intellect is Francis Bacon's Of Studies. B. His careful tripartite division of studies expressed succinctly in aphoristic prose demands the complete attention of the mind of the reader. C. He considers studies as they should be; for pleasure, for self-improvement, for business. D. He considers the evils of excess study: laziness, affectation, and preciosity.

(A) DCBA
(B) ABCD
(C) CDBA
(D) ACBD

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**31.** Arrange the following sentences to form a coherent paragraph A. By reasoning we mean the mental process of drawing an inference from two or more statements or going from the inference to the statements, which yield that inference. B. So logical reasoning covers those types of questions, which imply drawing an inference from the problems. C. Logic means, if we take its original meaning, the science of

valid reasoning. D. Clearly, for understanding arguments and for drawing the inference correctly, it is necessary that we should understand the statements first.

(A) ACBD
(B) CABD
(C) ABCD
(D) DBCA

**32.** Select the pair of sentences that relates logically to the given statement. Either Sita is sick or she is careless. A. Sita is not sick. B. Sita is not careless. C. Sita is sick. D. Sita is careless.

(A) AB
(B) AD
(C) BA
(D) DA

**33.** Select the pair of sentences that relates logically to the given statement. Ram gets a swollen nose whenever he eats hamburgers. A. Ram gets a swollen nose. B. Ram does not eat hamburgers. C. Ram does not get a swollen nose. D. Ram eats hamburgers.

(A) AB
(B) DC
(C) AC
(D) CB

**34.** Select the pair of sentences that relates logically to the given statement. Either the employees have no confidence in the management or they are hostile by nature. A. They are not hostile by nature. B. They are hostile by nature. C. They have confidence in the management. D. They have no confidence in the management.

(A) BA
(B) CB
(C) DA
(D) BD

**35.** Select the pair of sentences that relates logically to the given statement. Whenever Ram reads late into the night, his father beats him. A. His father does not beat Ram. B. Ram reads late into the night. C. Ram reads early in the morning. D. Ram's father beats him in the morning.

(A) CD
(B) BD
(C) AB
(D) None of these

**36.** Select the pair of sentences that relates logically to the given statement. All irresponsible parents shout if their children do not cavort. A. All irresponsible parents do not shout. B. Children cavort. C. Children do not cavort. D. All irresponsible parents shout.

(A) AB
(B) BA
(C) CA
(D) All of these

**37.** Choose the set in which the third statement is a logical conclusion of the first two. A. Some Xs are Ps. Some Ps are Ys. Some Xs are Ys. B. All Sonas are bright. Some bright are crazy. Some Sonas are crazy. C. No faith is strong. Only strong have biceps. No faith has biceps. D. All men are weak. Some weak are strong. Some strong are weak.

(A) A and D
(B) C only
(C) D only
(D) None of these

**38.** Choose the set in which the third statement is a logical conclusion of the first two. A. Some icicles are cycles. All cycles are men. Some icicles are men. B. All girls are teeth. No teeth is yellow. No girls are

yellow. C. No hand is foot. Some foot are heads. Some hands are heads. D. Every man has a wife. All wives are devoted. No devoted has a husband.

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

**39.** Choose the set in which the third statement is a logical conclusion of the first two. A. No sun is not white. All moon is sun. All moon is white. B. All windows are open. No open space is allocated. All window is closed space. C. No German can fire. All Americans bombard. Both, Germans and Americans can fight. D. No X is Z. No Z is Y. No X is Y.

(A) A only
(B) B only
(C) C only
(D) D only

**40.** Choose the set in which the third statement is a logical conclusion of the first two. A. All Ts are square. All squares are rectangular. All Ts are rectangular. B. Some fat are elongated. Some elongated things are huge. Some fat are huge. C. Idiots are bumblers. Bumblers fumble. Idiots fumble. D. Water is good for health. Health foods are rare. Water is rare.

(A) D only
(B) C only
(C) Both A and C
(D) All of these

**41.** Efficiency is all right in its place, in the shop, the factory, the store. The trouble with efficiency is that it wants to rule our play as well as our work; it won't be content to reign in the shop, it follows us home. It can be inferred from the above passage that

(A) efficiency can become all-pervading.

(B) efficiency does not always pay.

(C) efficiency can be more of a torture than a blessing.

(D) None of these

**42.** In order to ease the traffic congestion, the transport planners decided to have a sophisticated system of elevated monorail travel in the city. However, it was pointed out by somebody that a metro rail system would be a more effective solution to the traffic problem. The plan was thus stalled. Moreover, since a budget had not been drawn up for the project, it was deemed fit to stall the work of the monorail for some time. In the meanwhile, the traffic planners of the city decided to build an efficient system of subways and flyovers in the city with the aim of easing the same problem. At the instant when the planners were preparing to award the contracts to the concerned parties, the transport planners came up with the contention that the subways interfered with the site of a pillar of the monorail system. The traffic planners had to give up the idea and think of other possible solutions. Which of the following can we infer from the above passage?

(A) The city authorities felt that the monorail system was essentially impractical.

(B) There is a strong contention between the two groups of planners in the city.

(C) The projects would be stalled for an indefinite period.

(D) None of these

**43.** The company encourages its managers to interact regularly, without a pre-set agenda, to discuss issues concerning the company and society. This idea has been borrowed from the ancient Indian concept

of religious congregation, called satsang. Designations are forgotten during these meetings; hence, it is not uncommon in these meetings to find a sales engineer questioning the CEO on some corporate policy or his knowledge of customers. Based on the information provided in the above passage, it can be inferred that

(A) the company is concerned about its reputation with its employees.

(B) the company believes in fostering the spirit of dialogue without degenerating it into a positioning based debate.

(C) the company had some inter-personnel problems in the past due to which it felt the need for these corporate satsangs.

(D) All of these

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**44.** From Cochin to Shimla, the new culture vultures are tearing down acres of India's architectural treasures. Ancestral owners are often fobbed off with a few hundred rupees for an exquisitely carved door or window, which fetches fifty times that much from foreign dealers, and yet more from the drawing room sophisticates of Europe and the US. The reason for such shameless rape of the Indian architectural wealth can perhaps, not wrongly, be attributed to the unfortunate blend of activist disunity and the local indifference. It can be inferred from the above passage that

(A) the environment created by the meeting between activist disunity and local indifference is ideal for antique dealers to strive in India.

(B) only Indians are not proud of their cultural heritage and are hungry for the foreign currency that is easily available in return of artifacts.

(C) most Indian families have heirlooms which can be sold at high prices to Europeans and Americans.

(D) India provides a rich market for unscrupulous antique dealers.

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**45.** Deepa Metha's Fire is under fire from the country's self-appointed moral police. Their contention is that the film is a violation of the Indian cultural mores and cannot be allowed to influence the Indian psyche. According to them, such films ruin the moral fabric of the nation, which must be protected and defended against such intrusions at all cost, even at the cost of cultural dictatorship. Based on the information in the above passage, it can be inferred that

(A) the assumption underlying the moral police's critique of Fire is that the Indian audience is vulnerable to all types of influence.

(B) the assumption underlying the moral police's critique of Fire is that the Indian audience is impressionable and must be protected against 'immoral' influences.

(C) the moral police thinks it has the sole authority to pass judgement on films screened in India.

(D) None of these

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**46.** The dominant modern belief is that the soundest foundation of peace would be universal prosperity. One may look in vain for historical evidence that the rich have regularly been more peaceful than the poor, but then it can be argued that they have never felt secure against the poor; that their aggressiveness stemmed from fear; and that the situation would be quite different if everybody were rich. It can be inferred from the above passage that

(A) a lot of aggression in the world stems from the desire of the haves to defend themselves against the have-nots.

(B) universal prosperity as a foolproof measure of peace can no longer be accepted.

(C) Both a and b

(D) Neither a nor b

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**47.** The effect produced on the mind by travelling depends entirely on the mind of the traveller and on the way in which he conducts himself. The chief idea of one very common type of traveller is to see as many objects of interest as he possibly can. If he can only after his return home say that he has seen such and such temple, castle, picture gallery, or museum, he is perfectly satisfied. Far different is the effect of travels upon those who leave their country with a mind prepared by culture to feel intelligent admiration for all the beauties of nature and art to be found in foreign lands. When they visit a new place, instead of hurrying from temple to museum to picture gallery, they allow the spirit of the place to sink into their minds, and only visit such monuments as the time they have at their disposal allows them to contemplate without irreverent haste. It can be inferred from the above passage that

(A) the writer prefers the second type of traveller.

(B) the first type of traveller is the lay traveller who does not understand the worth of any place he travels to.

(C) the objective of the second type of traveller is not to see much, but to see well.

(D) All of these

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**48.** Whether we look at the intrinsic value of our literature, or at the particular situation of this country, we shall see the strongest reason to think that of all foreign tongues, the English tongue is that which would be the most useful to our native subjects. It can be inferred that

(A) the speaker is a die-hard colonist.

(B) the speaker has the good of the nation at heart.

(C) the speaker is addressing an issue related to a colonial empire.

(D) None of these

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**49.** Where the film Bombay loses out is where every commercial film congenitally goes awry — becoming too simplistic to address serious issues and failing to translate real life to reel. Which of the following can be inferred from the above line?

(A) The film's director aimed at recreating real life on the silver screen.

(B) The film was too simplistic for the audience's taste.

(C) The film was successful in spite of its shortcomings.

(D) None of these

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**50.** Aspiration is nothing new. Neither is the debate over what the Indian middle class is, what it wants and what it buys. Since the mid-80s, that has been the focus of the economic policy papers so called pro- and anti-poor budgets and marketing strategies that have successfully broken the barrier of urban selling and reached deeper into rural India with increasing income levels and aspirations. Based on the above passage, it can be inferred that

(A) the Indian middle class has been the focus of economic policies for a long time.

(B) the Indian middle class has graduated from being the 'deprived' middle class to the 'pampered' middle class.

(C) Both a and b

(D) Neither a nor b

**51.** A company has a job to prepare certain number cans and there are three machines A, B and C for this job. A can complete the job in 3 days, B can complete the job in 4 days, and C can complete the job in 6 days. How many days will the company take to complete the job if all the machines are used simultaneously?

(A) 4 days
(B) $\frac{4}{3}$ days
(C) 3 days
(D) 12 days

**52.** $n^3$ is odd. Which of the following statement(s) is/are true? I. $n$ is odd. II.$n^2$ is odd. III.$n^2$ is even.

(A) I only
(B) II only
(C) I and II
(D) I and III

**Questions 53 to 54**

Answer the questions based on the following information. Production pattern for number of units (in cubic feet) per day.

| Days | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| Number of units | 150 | 180 | 120 | 250 | 160 | 120 | 150 |

The finished goods are to be transported to the market by a truck having a capacity of 2000 cubic feet. Any finished goods (ready at the end of the day) retained overnight at the factory will incur a storage cost of Rs 5 per cubic foot for each night of storage. The hiring cost for the truck is Rs 1000 per day.

**53.** If all the units should be sent to the market, then on which days should the trucks be hired to minimize the cost?

(A) 2nd, 4th, 6th, 7th
(B) 7th
(C) 2nd, 4th, 5th, 7th
(D) None of these

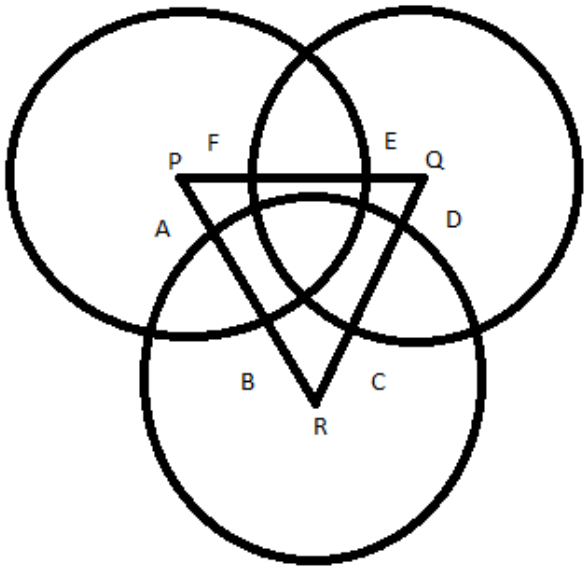
**54.** If the storage cost is reduced to Re 0.80 per cubic feet per day, then on which day(s), should the truck be hired?

(A) 4th
(B) 7th
(C) 4th and 7th
(D) None of these

**55.** One bacterium splits into eight bacteria of the next generation. But due to environmental condition only 50% survives and remaining 50% dies. If the seventh generation number is 4,096 million, what is the number in first generation?

(A) 1 million
(B) 2 million
(C) 4 million
(D) 8 million

**56.** Three circles, each of radius 20, have centres at P, Q and R. Further, AB = 5, CD = 10 and EF = 12. What is the perimeter of ΔPQR ?




(A) 120
(B) 66
(C) 93
(D) 87

**Questions 57 to 59**

Answer the questions based on the following information. The following operations are defined for real numbers.

a # b=a + b, if a and b both are positive else a # b=1

a ▽ b=$(a \times b)^{a+b}$ if $a \times b$ is positive else a ▽b=1.

**57.** $\frac{(2\#1)}{(1\triangledown 2)}$ =

(A) $\frac{1}{8}$
(B) 1
(C) $\frac{3}{8}$
(D) 3

**58.** $\frac{((1\#1)\#2) - (10^{1.3}\triangledown \log_{10} 0.1)}{1\triangledown 2}$

(A) $\frac{3}{8}$
(B) $\frac{4.\log_{10} 0.1}{8}$
(C) $\frac{(4+10^{13})}{8}$
(D) None of these

**59.** $\left(\frac{(X\# - Y)}{(-X\triangledown Y)}\right) = \frac{3}{8}$, then which of the following must be true?

(A) $X = 2, Y = 1$
(B) $X > 0, Y < 0$
(C) X, Y both positive
(D) X, Y both negative

**60.** $(BE)^2 = MPB$, where B, E, M and P are distinct integers. Then M =

(A) 2 (B) 3

(C) 9 (D) None of these

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**61.** Five-digit numbers are formed using only 0, 1, 2, 3, 4 exactly once. What is the difference between the maximum and minimum number that can be formed?

(A) 19800 (B) 41976

(C) 32976 (D) None of these

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**62.** How many five digit numbers can be formed from 1, 2, 3, 4, 5, without repetition, when the digit at the unit's place must be greater than that in the ten's place?

(A) 54 (B) 60

(C) 17 (D) $2 \times 4!$

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**63.** Distance between A and B is 72 km. Two men started walking from A and B at the same time towards each other. The person who started from A travelled uniformly with average speed of 4 km/hr. While the other man travelled with varying speed as follows: in the first hour his speed was 2 km/hr, in the second hour it was 2.5 km/hr, in the third hour it was 3 km/hr, and so on. When will they meet each other?

(A) 7 hr (B) 10 hr

(C) 35 km from A (D) Mid-way between A and B

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**64.** P, Q, R and S are four statements. Relation between these statements is as follows. I. If P is true, then Q must be true. II. If Q is true, then R must be true. III. If S is true, then either Q is false or R is false. Which of the following must be true?

(A) If P is true, then S is false (B) If S is false, then Q must be true

(C) If Q is true, then P must be true (D) If R is true, then Q must be true

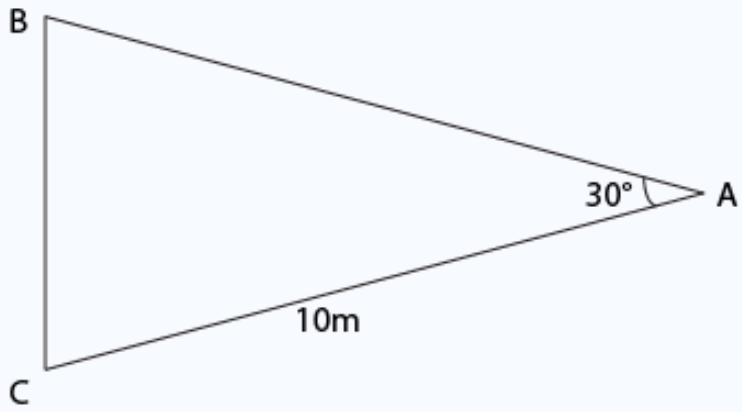
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## Questions 65 to 66

Answer the questions based on the following information. A cow is tethered at point A by a rope. Neither the rope nor the cow is allowed to enter ΔABC.

$\angle BAC = 30°$

$I(AB) = I(AC) = 10$ m




**65.** What is the area that can be grazed by the cow if the length of the rope is 8 m?

(A) $134\pi\frac{1}{3}$ sq.m

(B) $121\pi$ sq. m

(C) $132\pi$ sq. m

(D) $176\frac{\pi}{3}$ sq. m

**66.** What is the area that can be grazed by the cow if the length of the rope is 12 m?

(A) $\frac{403\pi}{3}$ sq. m

(B) $121\pi$ sq. m

(C) $132\pi$ sq. m

(D) $176\frac{\pi}{3}$ sq. m

## Questions 67 to 69

A, B, C and D are to be seated in a row. But C and D cannot be together. Also B cannot be at the third place.

**67.** Which of the following must be false?

(A) A is at the first place

(B) A is at the second place

(C) A is at the third place

(D) A is at the fourth place

**68.** If A is not at the third place, then which of the following options does C have?

(A) The first place only

(B) The third place only

(C) The first and third place only

(D) Any of the places

**69.** If A and B are together, then which of the following must be necessarily true?

(A) C is not at the first place

(B) A is at the third place

(C) D is at the first place

(D) C is at the first place

**70.** A yearly payment to the servant is Rs. 90 plus one turban. The servant leaves the job after 9 months and receives Rs. 65 and a turban. Then find the price of the turban.

(A) Rs. 10
(B) Rs. 15
(C) Rs. 7.50
(D) Cannot be determined

---

**71.** Four identical coins are placed in a square. For each coin the ratio of area to circumference is same as the ratio of circumference to area. Then find the area of the square that is not covered by the coins.

(A) 16($\pi$ - 1)
(B) 16(8 - $\pi$)
(C) 16(4 - $\pi$)
(D) 16 $(4 - \frac{\pi}{2})$

---

**72.** Three wheels can complete 60, 36 and 24 revolutions per minute. There is a red spot on each wheel that touches the ground at time zero. After how much time, all these spots will simultaneously touch the ground again?

(A) $\frac{5}{2}$ s
(B) $\frac{5}{3}$ s
(C) 5 s
(D) 7.5 s

---

**73.** A certain number, when divided by 899, leaves a remainder 63. Find the remainder when the same number is divided by 29.

(A) 5
(B) 4
(C) 1
(D) Cannot be determined

---

**74.** A is the set of positive integers such that when divided by 2, 3, 4, 5, 6 leaves the remainders 1, 2, 3, 4, 5 respectively. How many integers between 0 and 100 belong to set A?

(A) 0
(B) 1
(C) 2
(D) None of these

---

**Questions 75 to 77**

Direction for the following three questions: Answer the questions based on the following information. A, B, C and D collected one-rupee coins following the given pattern. Together they collected 100 coins. Each one of them collected even number of coins. Each one of them collected at least 10 coins. No two of them collected the same number of coins.

**75.** The maximum number of coins collected by any one of them cannot exceed

(A) 64
(B) 36
(C) 54
(D) None of these

---

**76.** If A collected 54 coins, then the difference in the number of coins between the one who collected maximum number of coins and the one who collected the second highest number of coins must be at least

(A) 12
(B) 24
(C) 30
(D) None of these

---

**77.** If A collected 54 coins and B collected two more coins than twice the number of coins collected by C, then the number of coins collected by B could be

(A) 28
(B) 20
(C) 26
(D) 22

---

**Questions 78 to 79**

Direction for the following two questions: Answer the questions based on the following information. Amar, Akbar and Anthony are three friends. Only three colours are available for their shirts, viz. red, green and blue. Amar does not wear red shirt. Akbar does not wear green shirt. Anthony does not wear blue shirt.

**78.** If Akbar and Anthony wear the same colour of shirts, then which of the following is not true?

(A) Amar wears blue and Akbar wears green
(B) Amar wears green and Akbar wears red
(C) Amar wears blue and Akbar does not wear blue
(D) Anthony wears red

---

**79.** If two of them wear the same colour, then how many of the following must be false? I. Amar wears blue and Akbar does not wear green II. Amar does not wear blue and Akbar wears blue III. Amar does not wear blue and Akbar does not wear blue IV. Amar wears green, Akbar does not wear red, Anthony does not wear green

(A) None
(B) One
(C) Two
(D) Three

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**80.** Number of students who have opted for subjects A, B and C are 60, 84 and 108 respectively. The examination is to be conducted for these students such that only the students of the same subject are allowed in one room. Also the number of students in each room must be same. What is the minimum number of rooms that should be arranged to meet all these conditions?

(A) 28
(B) 60
(C) 12
(D) 21

---

**81.** How many five-digit numbers can be formed using the digits 2, 3, 8, 7, 5 exactly once such that the number is divisible by 125?

(A) 0
(B) 1
(C) 4
(D) 3

---

**82.** You can collect as many rubies and emeralds as you can. Each ruby is worth Rs. 4 crore and each emerald is worth Rs. 5 crore. Each ruby weighs 0.3 kg. And each emerald weighs 0.4 kg. Your bag can carry at the most 12 kg. What should you collect to get the maximum wealth?

(A) 20 rubies and 15 emeralds
(B) 40 rubies
(C) 28 rubies and 9 emeralds
(D) None of these

---

**83.** I have one-rupee coins, 50-paisa coins and 25-paisa coins. The number of coins are in the ratio 2.5 : 3 : 4. If the total amount with me

is Rs. 210, find the number of one-rupee coins.

(A) 90
(B) 85
(C) 100
(D) 105

**84.** My son adores chocolates. He likes biscuits. But he hates apples. I told him that he can buy as many chocolates he wishes. But then he must have biscuits twice the number of chocolates and should have apples more than biscuits and chocolates together. Each chocolate cost Re 1. The cost of apple is twice the chocolate and four biscuits are worth one apple. Then which of the following can be the amount that I spent on that evening on my son if number of chocolates, biscuits and apples brought were all integers?

(A) Rs. 34
(B) Rs. 33
(C) Rs. 8
(D) None of these

**Questions 85 to 86**

Answer the following questions based on the following information.

A company purchases components A and B from Germany and USA respectively. A and B form 30% and 50% of the total production cost. Current gain is 20%. Due to change in the international scenario, cost of the German mark increased by 30% and that of USA dollar increased by 22%. Due to market conditions, the selling price cannot be increased by more than 10%.

**85.** What is the maximum current gain possible?

(A) 10%
(B) 12.5%
(C) 0%
(D) 7.5%

**86.** If the USA dollar becomes cheap by 12% over its original cost and the cost of German mark increased by 20%, what will be the gain? (The selling price is not altered.)

(A) 10%
(B) 20%
(C) 15%
(D) 7.5%

**Questions 87 to 90**

Direction for the following four questions: Answer the questions based on the following information. Mr Bankatlal acted as a judge for the beauty contest. There were four participants, viz. Ms Andhra Pradesh, Ms Uttar Pradesh, Ms West Bengal and Ms Maharashtra. Mrs Bankatlal, who was very anxious about the result, asked him about it as soon as he was back home. Mr Bankatlal just told that the one who was wearing the yellow saree won the contest. When Mrs Bankatlal pressed for further details, he elaborated as follows: All of them were sitting in a row. All of them wore sarees of different colours, viz. green, yellow, white, red. There was only one runner-up and she was sitting beside Ms. Maharashtra. The runner-up was wearing the green saree. Ms West Bengal was not sitting at the ends and was not the runner up. The winner and the runner-up are not sitting adjacent to each other. Ms Maharashtra was wearing white saree. Ms Andhra Pradesh was not wearing the green saree. Participants wearing yellow saree and white saree were at the ends.

**87.** Who wore the red saree?

(A) Ms Andhra Pradesh
(B) Ms West Bengal
(C) Ms Uttar Pradesh
(D) Ms Maharashtra

**88.** Ms. West Bengal was sitting adjacent to

(A) Ms Andhra Pradesh and Ms Maharashtra
(B) Ms Uttar Pradesh and Ms Maharashtra
(C) Ms Andhra Pradesh and Ms Uttar Pradesh
(D) Ms Uttar Pradesh

**89.** Which saree was worn by Ms Andhra Pradesh?

(A) Yellow
(B) Red
(C) Green
(D) White

**90.** Who was the runner-up?

(A) Ms Andhra Pradesh
(B) Ms West Bengal
(C) Ms Uttar Pradesh
(D) Ms Maharashtra

**91.** I started climbing up the hill at 6 a.m. and reached the top of the temple at 6 p.m. Next day I started coming down at 6 a.m. and reached the foothill at 6 p.m. I walked on the same road. The road is so short that only one person can walk on it. Although I varied my pace on my way, I never stopped on my way. Then which of the following must be true?

(A) My average speed downhill was greater than that of uphill
(B) At noon, I was at the same spot on both the days.
(C) There must be a point where I reached at the same time on both the days.
(D) There cannot be a spot where I reached at the same time on both the days.

**92.** What is the digit in the unit's place of $2^{51}$?

(A) 2
(B) 8
(C) 1
(D) 4

**93.** There are two containers: the first contains 500 ml of alcohol, while the second contains 500 ml of water. Three cups of alcohol from the first container is taken out and is mixed well in the second container. Then three cups of this mixture is taken out and is mixed in the first container. Let A denote the proportion of water in the first container and B denote the proportion of alcohol in the second container. Then,

(A) $A > B$
(B) $A < B$
(C) $A = B$
(D) Cannot be determined

**94.** A number is formed by writing first 54 natural numbers next to each other as 12345678910111213 ... Find the remainder when this number is divided by 8.

(A) 1
(B) 7
(C) 2
(D) 0

**95.** A, B, C, D, ..., X, Y, Z are the players who participated in a tournament. Everyone played with every other player exactly once. A win scores 2 points, a draw scores 1 point and a loss scores 0 point. None of the matches ended in a draw. No two players scored the same score. At the end of the tournament, by ranking list is published which is in accordance with the alphabetical order. Then

(A) M wins over N
(B) N wins over M

(C) M does not play with N

(D) None of these

Questions 96 to 107

The narrator of Midnight's Children describes it as a kind of collective fantasy. I suppose what he, or I, through him was trying to say, was that there never had been a political entity called India until 1947. The thing that became independent had never previously existed, except that there had been an area, a zone called India. So it struck me that what was coming into being, this idea of a nation-state, was an invention. It was an invention of the nationalist movement. And a very successful invention.

One could argue that nation-states are a kind of collective fantasies. Very similar things happened with the unification of Italy, and also with the unification of Germany. The history of India is a history of independent nation-states. It is a history of Oudh or Bengal or Maratha kingdoms. All those independent histories agreed to collectivise themselves into the idea of the nation of India. In the case of Pakistan, it was less successful. Pakistan was under-imagined. It did not survive as a nation-state.

If you ask people in general, they would have absolutely no problem with the idea of India at all. I think, in a way the strength of the nationalist idea is shown by its ability to survive the extraordinary stresses that it was placed under. I think the stresses of things — communalism, the high degree of public corruption, of regional rivalries, of the tension between the centre and the state, the external pressures of bad relations with Pakistan — these are colossal pressures which any state could be forgiven for being damaged by. I think the thing to say about the success of the idea is that it remains an idea though people might not find it very easy to give a simple definition of it. But that it does exist and that it is something to which people feel they belong, I think is now the case. That it survives these stresses is an indication of its strength.

I'm not interested in an idealised, romantic vision of India, I know it is the great pitfall of the exile. So you know for me, always, the issue of writing about India has been not to write as an outsider. On the other hand, evidently something has changed in the last 10 years, which is that as a result of various circumstances, I've not been able to return. All I can say is that I have felt it as the most profound loss and I still do. There have been many losses in the last decade but the loss of the easy return to India has been for me an absolute anguish, an inescapable anguish. I feel as if I've lost a limb. I am very anxious to bring that period to an end.

I do not think that one of the most interesting phenomena for India as a country is the phenomenon of the Indian Diaspora. I often think Indian — Indian Indians — find that very hard to understand. In England, when people call themselves British Indian, they mean both halves of that. And yet, what it means to be a British Indian is very alien to an Indian Indian. The same is true in the Caribbean, in Africa, in Canada, in the United States, and so on. The thing that has interested me is that there are now many, many ways of being something which you can legitimately call Indian. Being an Indian in India is just one of those ways.

The forces of disintegration are always there. I think in every society there is the tension between the forces that bring it together and the forces that pull it apart. I'm worried, above all, of the communal issue because half a century is no time at all in the eye of history, and half a century ago something of colossally horrible proportion took place. The fact that it hasn't happened for 50 years on quite the same scale means nothing. It could still happen tomorrow. One of the things that I remember very vividly, being there 10 years ago at about the time of the killings that took place in Assam, is discussing this with good friends and fellow writers. And I remember somebody said to me, until we understand that we are capable of these things, we can't begin to move beyond them.

Because it's a very easy response to atrocities, to say: oh those terrible people did that, and we are not like that. I think the difficult response is to accept we are also capable of that, the thing that happened there could also, in certain circumstances, be something that we were able to perpetrate. The civilising influence is what prevents most of us from giving vent to those terrible urges. Those urges are part of humanity as well as the more civilized urges.

Of course, I fear in India the recurrence of communal or regionalist inter-community violence. I fear the long-term damage to a democracy that can be done by mass corruption. I think corruption is in a way a subversion of democracy and the commonplace view in India is that corruption is everywhere. In a sense, you could say that is not a democratic society. If money, favour and privilege is what makes the place work, then that's not a democracy. At least it runs the danger of being no longer able to call itself a democracy.

What was happening, I thought, was that people were trying to seize control of that rhetoric. That is to say, special interest groups. You could say Hindus are a very large special interest group. If any group inside such a complex and many faceted country tries to define the nation exclusively in its own terms, then it begins to create terrible stresses. I do think that the kind of attempt to define India in Hindu terms is worrying for that reason. It creates backlashes, it creates polarisation, and it creates the risk of more upheaval. Partly, I am saying this as a kind of objective observer, but nobody is an objective observer.

I come from an Indian minority, I no doubt have a minority perspective. I can't ignore that and nor would I wish to. Partly, also I am speaking temperamentally. That is to say, the kind of religious language in politics is something I find temperamentally unpleasant. I don't like people who do that, whether they be sectarians in Northern Ireland or India. I believe in, if possible, separating one's personal spiritual needs and aspirations from the way in which a country is run. I think in those countries where that separation has not taken place, one can see all kinds of distortions of social and ordinary life which are unpleasant. Iran is an obvious example. The country in which that kind of separation has completely fragmented it.

Where Naipaul is right, although I don't share his conclusions about it, but I think where he is right, is in saying that this is a great historical moment. One reason why the 50th anniversary is interesting is that it does seem to represent the end of the first age and the beginning of second age. And to that extent that is true now, if someone was born today, they would be born into a very different set of cultural assumptions and hopes than somebody born 50 years ago. We were entirely sold on the Nehru-Gandhi kind of plan. We grew up and that was the portrait of the nation we had hung on our wall, and to the extent that you never entirely lose those formative ideas, that's still the picture of the country I've got on my wall. But it's clear that for somebody being born now, they are being born into a very different country.

I also think of taking the Naipaul point on what would happen if the BJP were to form a government. Well, what I would like to think is that in order for the BJP or anybody of that persuasion to form a government, they would have to change. There is even some kind of suggestion that it may even be happening a little bit because they are intelligent people. They understand their weaknesses as well as their strengths. Clearly, for a Hinduist party to form the government of the country is not at all unlikely. So I think one does have to engage with that in the same way as many people in the country who, like myself, were not remotely in tune with the Thatcherite revolution but have to engage with it because it was in fact happening, and kept winning elections, and the world was not going to go back. So, of course, both people inside the Hindu political enterprise and people outside it will have to shift. I am optimistic about India's ability to force those changes that are necessary because I do believe it is not fundamentally an intolerant country and will

not fundamentally accept intolerant politics.

On the other hand, there has to be reckoning with the fact that these are ideas, which are gaining in popularity. I'll tell you where I would draw the line myself. I think there was a great historical mistake made in Europe about the Nazi Party. People attempted to see whether they could live with it and discovered very rapidly that was a mistake, that appeasement was a great historical mistake. So, it seems to me, the question is: What do we make of this political enterprise? Is it fundamentally democratic or fundamentally anti-democratic? If democratic, then we must all learn to make the best of it. If anti-democratic, then we must fight it very hard.

What happened in India happened before the book (Satanic Verses) had actually entered. It happened because of an article in India Today, which, I must say, I thought was an irresponsibly written article, because it was written by somebody, who, as a friend, asked me for an early copy of the book, and then presented that book in the most inflammatory sort of way.

This was one of the things that disappointed me, that after a lifetime of having written from a certain sensibility, and a certain point of view, I would have expected people in India to know about it since it was all entirely about India. It was written from a deep sense of connection and affection for India. I would have expected that I had some money in the bank. That is to say, if Salman Rushdie wrote any book, then we know who he is. He is not some idiot who just arrived from nowhere shouting abuse. This is somebody whose work, whose opinions, whose lectures and whose stories we know. I would have hoped that my work would have been judged in the context of what people already knew about me. Instead, it seemed as if everything I had been in my life up to that point suddenly vanished out of the window and this other Rushdie was invented who was this complete bastard who had done this terrible thing. There did not seem to be any attempt to correct that or to combat that. I was surprised and disappointed it did not. It didn't happen here either. It didn't happen anywhere in the world. It was as if the force of history, the force of a historical event was so huge that it erases all that goes before it.

The negative response to the Satanic Verses, let us remember that there was also a positive response, was such that it erased my personality and put in its place some other guy who they didn't recognize at all. Anybody who knows anything about these countries, and I do know something about these countries, knows that every cheap politician can put a demonstration in the street in five minutes. That doesn't represent in any sense the people's will. It represents a certain kind of political structure, political organization. It doesn't represent truth. But I always believed and I still believe that India would come back. I never believe that the loss of India is forever. Because India is not Iran, it's not even Pakistan, and I thought good sense will prevail in India because that's my life experience of Indian people and of the place.

**96.** The idea of India that inspired the writer's generation was the one dominated or formed by

(A) the Nehru-Gandhi politics.

(B) the Nehru-Gandhi ideology.

(C) the Nehru-Gandhi idea regarding India's formative years.

(D) the Nehruvian idea of socialism.

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**97.** The writer does not share

(A) Naipaul's stand that the 50th anniversary is a historical moment.

(B) Naipaul's stand that the 50th anniversary is not a historical moment.

(C) Naipaul's conclusion on the 50th anniversary being a historical moment.

(D) Naipaul's conclusion on the 50th anniversary not being a historical moment.

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**98.** The writer shows faith in India's basic

(A) stability.

(B) resilience.

(C) fortitude.

(D) democracy.

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**99.** According to the writer,

(A) politicians incite the general public to demonstrate against writers.

(B) a politician's demonstration does not reflect the people's will.

(C) Both a and b

(D) Neither a nor b

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**100.** The writer's view of India is determined mainly by

(A) his experience.

(B) his fondness for the country.

(C) his love for the resilience of the Indian people.

(D) his love of writing about India.

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**101.** According to the writer's friend,

(A) we should fight against communal pressure.

(B) the fact that communal conflagrations haven't occurred in India for half a century, is something to be proud of.

(C) we can move beyond things, only after we know we are capable of those things.

(D) we have to identify with the people who were involved in inciting communal passions.

---

**102.** What according to the passage prevents us from giving in to violent, terrible urges?

(A) Our education

(B) Our upbringing

(C) Our cultural influences

(D) The civilising influence

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**103.** According to the writer, what disqualifies India from being called a democracy?

(A) Its communalism

(B) Its corruption

(C) Its anti-minority stance

(D) All of these

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**104.** The writer contradicts his assertion of being an 'objective observer' on the basis that

(A) no one can be an 'objective observer'.

(B) no one is an 'objective observer'.

(C) he is a subjective observer.

(D) everybody is a subjective observer.

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**105.** In the first paragraph of the passage, the writer questions

(A) the existence of a political entity called India prior to independence.

(B) the contention that a political entity called India did not exist.

(C) the stand that India was an invention.

(D) the stand that India needs to think in terms of its being a nation-state.

**106.** According to the writer, the difference between India and Pakistan was that

(A) India and Pakistan both did not survive as a nation-state.

(B) Indians were full of fantastic ideas in 1947.

(C) Pakistan was born out of another nation.

(D) the creation of Pakistan suffered from under-imaginativeness.

**107.** According to the passage, the secret of India's survival lies in

(A) its ability to fight back in the face of tremendous stress and strains.

(B) the highly fertile imagination of the Indian people.

(C) a sense of belonging that people feel for it.

(D) Both a and c

**Questions 108 to 117**

If Western civilization is in a state of permanent crisis, it is not far-fetched to suggest that there may be something wrong with its education. No civilization, I am sure, has ever devoted more energy and resources to organised education, and if we believe in nothing else, we certainly believe that education is, or should be, the key to everything. In fact, the belief in education is so strong that we treat it as the residual legatee of all our problems. If the nuclear age brings new danger; if the advance of genetics engineering opens the doors of new abuses; if commercialism brings new temptations, the answer must be more and better education. The modern way of life is becoming more complex: this means that everybody must become more highly educated.

“By 1984,” it was said recently, “it will be desirable that the most ordinary of men is not embarrassed by the use of a logarithm table, the elementary concepts of the calculus, and by the definitions and uses of such words as electron, coulomb, and volt. He should further have become able not only to handle a pen, and ruler but also a magnetic tape, valve, and transistor.

The improvement of communications between individuals and groups depends on it.” Most of all, it appears, the international situation calls for prodigious educational efforts. The classical statement on this point was delivered by Sir Charles (now Lord Snow in his Rede Lecture some years ago:

To say that we must educate ourselves or perish, is a little more melodramatic than the facts warrant. To say we have to educate ourselves or watch a steep decline in our lifetime, is about right. According to Lord Snow, the Russians are apparently doing much better than anyone else and will 'have a clear edge', unless and until the Americans and we educate ourselves both sensibly and imaginatively'. Lord Snow, it will be recalled, talked about 'The Two Cultures and the Scientific Revolution' and expressed his concern that 'the intellectuals life of the whole of western society is increasingly being split into two polar groups . . . At one pole we have the literary intellectuals . . . at the other the scientists'. He deplores the 'gulf of mutual incomprehension' between these two groups and wants it bridged. It is quite clear how he thinks this 'bridging' operation is to be done; the aims of his educational policy would be, first, to get as many 'alpha-plus scientists as the country can throw up'; second, to train 'a much larger stratum of alpha professionals' to do the supporting

research, high class design and development; third, to train 'thousands upon thousands' of other scientists and engineers; and finally, to train 'politicians, administrators, and entire community, who know enough science to have a sense of what the scientists are talking about'. If this fourth and last group can at least be educated enough to 'have sense' of what the real people, the scientists and engineers, are talking about, so Lord Snow seems to suggest, the gulf of mutual incomprehension between the 'Two Cultures' may be bridged.

These ideas on education, which are by no means unrepresentative of our times, leave one with the uncomfortable feeling that ordinary people, including politicians, administrators, and so forth, are really not much use, they have failed to make the grade: but, at least, they should be educated enough to have a sense of what is going on, and to know what the scientists mean when they talk to quote Lord Snow's example about the Second Law of Thermodynamics. It is an uncomfortable feeling, because the scientists never tire of telling us that the fruits of their labours are 'neutral': whether they enrich humanity or destroy it depends on how they are used.

And who is to decide how they are used? There is nothing in the training of scientists and engineers to enable them to take such decision, or else, what becomes of the neutrality of science? If so much reliance is today being placed in the power of education to enable ordinary people to cope with the problems thrown up by scientific and technological progress, then there must be something more to education than Lord Snow suggests. Can education help us to turn the potentiality into a reality to the benefit of man? To do so, the task of education would be, first and foremost the transmission of ideas of value, of what to do with our lives. There is no doubt also the need to transmit know-how but this must take second place, for it is obviously somewhat foolhardy to put great powers into the hands of people without making sure that they have a reasonable idea of what to do with them. At present, there can be little doubt that the whole of mankind is in mortal danger, not because we are short of scientific and technological know-how, but because we tend to use it destructively, without wisdom. More education can help us only if it produces more wisdom.

The essence of education, I suggested, is the transmission of values, but values do not help us to pick our way through life unless they have become our own, a part, so to say, of our mental make-up. This means that they are more than mere formulae or dogmatic assertions: that we think and feel with them, that they are the very instruments through which we like and interpret, and experience the world. When we think, we do not just think: we think with ideas. Our mind is not a blank, a tabula rasa. When we begin to think we can do so only because our mind is already filled with all sorts of ideas with which to think. All through our youth and adolescence, before the conscious and critical mind begins to act as a sort of censor and guardian at the threshold, ideas seep into our mind, multitudes of them. These years are, one might say, our Dark Ages during which we are nothing but inheritors; it is only in later years that we can gradually learn to sort out our inheritance. First of all, there is language. Each word is an idea. If the language which seeps into us during our Dark Ages is English, our mind is thereby furnished by a set of ideas which is significantly different from the set represented by Chinese, Russian, German, or even American. Apart from words there are the rules of putting them together: grammar, another bundle of ideas, the study of which has fascinated some modern philosophers to such an extent that they thought they could reduce the whole of philosophy to a study of grammar. All philosophers and others have always paid a great deal of attention to ideas seen as the result of thought and observation; but in modern times all too little attention has been paid to the study of the ideas which form the very instruments by which thought and observation proceed. On the basis of experience and conscious thought small ideas may easily be dislodged, but when it comes to bigger, more universal, or more subtle ideas, it may not be so easy to change them. Indeed, it is often difficult to become aware of them, as they are the instruments and not the result of our thinking just as you can see what is outside you, but cannot

easily see that with which you see, the eye itself.

And even when one has become aware of them it is often impossible to judge them on the basis of ordinary experience. We often notice the existence of more or less fixed ideas in other people's minds — ideas with which they think without being aware of doing so. We then call them prejudices, which is logically quite correct because they have merely seeped into the mind and are in no way the result of judgement. But the word prejudice is generally applied to ideas that are patently erroneous and recognisable as such by anyone except the prejudiced man. Most of the ideas with which we think are not of that kind at all. To some of them, like those incorporated in words and grammar, the notions of truth or error cannot even be applied, others are quite definitely not prejudices but the result of a judgement; others again are tacit assumptions or presuppositions which may be very difficult to recognise. I say, therefore, that we think with or through ideas and that what we call thinking is generally the application of pre-existing ideas to a given situation or set of facts. When we think about, say the political situation.

we apply to that situation our political ideas, more or less systematically, and attempt to make that situation' 'intelligible' to ourselves by means of these ideas. Similarly, everywhere else we evaluate the situation in the light of our value-ideas. The way in which we experience and interpret the world obviously depends very much indeed on the kind of ideas that fill our minds. If they are mainly small, weak, superficial, and incoherent, life will appear insipid, uninteresting, petty and chaotic. It is difficult to bear the resultant feeling of emptiness, and the vacuum of our minds may only too easily be filled by some big, fantastic notion-political or otherwise — which suddenly seem to illumine everything and to give meaning and purpose to our existence. We feel that education will help solve each new problem or complexity that arises. It needs no emphasis that herein lies one of the great dangers of our times. When people ask for education they normally mean something more than mere training, something more than mere knowledge of facts, and something more than a mere diversion.

Maybe they cannot themselves formulate precisely what they are looking for; but I think what they are really looking for is ideas that could make the world, and their own lives, intelligible to them. When a thing is intelligible you have a sense of participation; when a thing is unintelligible you have a sense of estrangement. 'Well, I don't know', you hear people say, as an impotent protest against the unintelligibility of the world as they meet it. If the mind cannot bring to the world a set — or, shall we say, a tool box — of powerful ideas, the world must appear to it as a chaos, a mass of unrelated phenomena, of meaningless events. Such a man is like a person in a strange world and without any signs of civilization, without maps or signposts or indicators of any kind. Nothing has any meaning to him; nothing can hold his vital interest; he has no means of making anything intelligible to himself.

**108.** The writer's contention in the passage is that the crisis in Western civilization can be explained by

(A) the presence of some flaws in its education.

(B) some inherent lack of coordination among its various elements.

(C) some basic misunderstanding in its society.

(D) the energy it has devoted to education.

**109.** According to the writer, Lord Snow sees the intellectual life of Western society as split between

(A) the educated and the uneducated.

(B) the government servants and the plebeians.

(C) scientists and literary intellectuals.

(D) administrators and intellectuals.

**110.** The writer seems to criticise the belief that

(A) education gives rise to further complexities as civilization progresses.

(B) all new problems and complexities can be tackled and solved by more and better education.

(C) people need to learn more in order to earn more.

(D) None of these

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**111.** What, according to the author, would be the definition of 'prejudice'?

(A) Ideas that help people to identify with new situations.

(B) Fixed ideas with which people think without being aware of doing so.

(C) Ideas that people cull from experience in order to judge a situation.

(D) Fixed ideas that see a person through the trials and tribulations of life.

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**112.** According to Lord Snow, which of the following groups needs to be educated enough to at least understand the works of scientists and engineers?

(A) Politicians, administrators, and the entire community

(B) Politicians and literary intellectuals

(C) Politicians and the layman

(D) All of these

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**113.** In the passage, the writer questions

(A) the neutrality of science.

(B) scientists' stand on the neutrality of science.

(C) scientists' stand on the neutrality of their labours.

(D) Lord Snow's assertion regarding the potential of intellectuals in society.

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**114.** The author's assertion in the passage is that education's main responsibility is to

(A) transmit ideas of value.

(B) transmit technical knowledge.

(C) Both a and b

(D) transmit the values regarding human and societal norms.

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**115.** The author believes that

(A) the gulf between science and literature needs to be bridged.

(B) ideas should be maintained for a holistic view of society and its problems.

(C) words are not ideas.

(D) None of these

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**116.** Which of the following sentences is not true according to the author?

(A) Values must be part of one's psyche.

(B) Values are merely dogmatic assertions.

(C) One identifies with values.

(D) Values are the means to interpret and experience the world.

**117.** Thinking is

(A) being.

(B) knowing.

(C) application of pre-existing ideas to a situation.

(D) application of fixed ideas to a situation.

**Questions 118 to 124**

The highest priced words are ghost-written by gagmen who furnish the raw material for comedy over the air and on the screen. They have a word-lore all their own, which they practise for five to fifteen hundred dollars a week, or fifteen dollars a gag at piece rates. That's sizable rate for confounding acrimony with matrimony, or extracting attar of roses from the other.

Quite apart from the dollar sign on it, gagmen's word-lore is worth a close look, if you are given to the popular American pastime of playing with words — or if you're part of the 40 per cent who make their living in the word trade. Gag writers' tricks with words point up the fact that we have two distinct levels of language: familiar, ordinary words that everybody knows; and more elaborate words that don't turn up so often, but many of which we need to know if we are to feel at home in listening and reading today.

To be sure gagmen play hob with the big words, making not sense but fun of them. They keep on confusing bigotry with bigamy, illiterate with illegitimate, monotony with monogamy, osculation with oscillation. They trade on the fact that for many of their listeners, these fancy terms linger in a twilight zone of meaning. It's their deliberate intent to make everybody feel cozy at hearing big words, jumbled up or smacked down. After all, such words loom up over-size in ordinary talk, so no wonder they get the bulldozer treatment from the gagmen.

Their wrecking technique incidentally reveals our language as full of tricky words, some with 19 different meanings, others which sound alike but differ in sense. To ring good punning changes, gag writers have to know their way around in the language. They don't get paid for ignorance, only for simulating it.

Their trade is a hard one, and they regard it as serious business. They never laugh at each other's jokes; rarely at their own. Like comediennes, they are usually melancholy men in private life.

Fertile invention and ingenious fancy are required to clean up 'blue' burlesque gags for radio use. These shady gags are theoretically taboo on the air. However, a gag writer who can leave a faint trace of bluing when he launders the joke is all the more admired — and more highly paid. A gag that keeps the blue tinge is called a 'double intender', gag-land jargon for double entendre. The double meaning makes the joke funny at two levels. Children and other innocents hearing the crack for the first time take it literally, laughing at the surface humour; listeners who remember the original as they heard it in vaudeville or burlesque, laugh at the artfulness with which the blue tinge is disguised.

Another name for a double meaning of this sort is 'insinuendo'. This is a portmanteau word or 'combo', as the gagmen would label it, thus abbreviating combination. By telescoping insinuation and innuendo, they get insinuendo, on the principle of blend words brought into vogue by Lewis Caroll. 'Shock logic' is another favourite with gag writers. Supposedly a speciality of women comediennes, it

is illogical logic more easily illustrated than defined. A high school girl has to turn down a boy's proposal, she writes:

Dear Jerry, I'm sorry, but I can't get engaged to you. My mother thinks I am too young to be engaged and besides, I'm already engaged to another boy. Yours regretfully. Guess who.

Gag writers' lingo is consistently funnier than their gags. It should interest the slang-fancier. And like much vivid jargon developed in specialised trades and sports, a few of the terms are making their way into general use. Gimmick, for instance, in the sense either of a trick devised or the point of a joke, is creeping into the vocabulary of columnists and feature writers.

Even apart from the trade lingo, gagmen's manoeuvres are of real concern to anyone who follows words with a fully awakened interest. For the very fact that gag writers often use a long and unusual word as the hinge of a joke, or as a peg for situation comedy, tells us something quite significant: they are well aware of the limitations of the average vocabulary and are quite willing to cash in on its shortcomings.

When Fred Allens' joke-smiths work out a fishing routine, they have Allen referring to the bait in his most arch and solemn tones: "I presume you mean the legless invertebrate." This is the old minstrel trick, using a long fancy term, instead of calling a worm a worm. Chico Marx can stretch a pun over 500 feet of film, making it funnier all the time, as he did when he rendered, "Why a duck?"

And even the high-brow radio writers have taken advantage of gagmen's technique. You might never expect to hear on the air such words as lepidopterist and entymologist. Both occur in a very famous radio play by Norman Corvine, ‘My client Curly’, about an unusual caterpillar which would dance to the tune ‘yes, sir, she's my baby’ but remained inert to all other music. The dancing caterpillar was given a real New York buildup, which involved calling in the experts on butterflies and insects which travel under the learned names above. Corvine made mild fun of the fancy professional titles, at the same time explaining them unobtrusively.

There are many similar occasions where any one working with words can turn gagmen's trade secrets to account. Just what words do they think outside the familiar range? How do they pick the words that they ‘kick around’? It is not hard to find out.

**118.** According to the writer, a large part of the American population

(A) indulges in playing out the role of gag writers.

(B) indulges in the word trade.

(C) seeks employment in the gag trade for want of something better.

(D) looks down on gag writers.

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**119.** The hallmark of gag writers is that they

(A) ruin good, simple language.

(B) have fun with words.

(C) make better sense of words.

(D) play with words to suit the audience's requirements.

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**120.** According to the passage, the second level of language is important if

(A) one wants to feel at home reading and listening today.

(B) one wants to be a gag writer.

(C) one wants to understand clean entertainment.

(D) All of these

**121.** According to the writer, gag writers thrive on

(A) the double-layered aspect of language.

(B) audience craze for double entendres.

(C) vulgar innuendoes.

(D) commonplace jugglery with language.

**122.** In gag writers' trade

(A) long words are abbreviated for effect.

(B) parts of words are combined to produce a hilarious portmanteau effect.

(C) long words play a major role.

(D) Both b and c

**123.** When the writer says, "They don't get paid for ignorance, only for simulating it," he means to say

(A) the audience likes to think the gag writers are an ignorant lot.

(B) gag writers are terrific with insinuations.

(C) simulating ignorance is the trick that makes gag writers tick.

(D) None of these

**124.** Gag writers have influenced

(A) television artistes.

(B) radio writers.

(C) circus clowns.

(D) All of these

**Questions 125 to 134**

From ancient times, men have believed that, under certain peculiar circumstances, life could arise spontaneously: from the ooze of rivers could come eels and from the entrails of dead bulls, bees; worms from mud, and maggots from dead meat. This belief was held by Aristotle, Newton and Descartes, among many others, and apparently the great William Harvey too. The weight of centuries gradually disintegrated men's beliefs in the spontaneous origin of maggots and mice, but the doctrine of spontaneous generation clung tenaciously to the question of bacterial origin.

In association with Buffon, the Irish Jesuit priest John Needham declared that he could bring about at will the creation of living microbes in heat-sterilised broths, and presumably, in propitiation, theorised that God did not create living things directly but bade the earth and water to bring them forth. In his Dictionaire Philosophique, Voltaire reflected that it was odd to read of Father Needham's claim while atheists conversely should deny a Creator yet attribute to themselves the power of creating eels. But, wrote Thomas Huxley, 'The great tragedy of science — the slaying of a beautiful hypothesis by an ugly fact — which is so constantly being enacted under the eyes of philosophers, was played, almost immediately, for the benefit of Buffon and Needham.

The Italian Abbé Spallanzani did an experiment. He showed that a broth sealed from the air while boiling never develops bacterial growths and hence never decomposes. To Needham's objection that Spallanzani had ruined his broths and the air above them by excessive boiling, the Abbé replied by

breaking the seals of his flasks. Air rushed in and bacterial growth began! But the essential conflict remained. Whatever Spallanzani and his followers did to remove seeds and contaminants was regarded by the spontaneous generationists as damaging to the 'vital force' from whence comes new life.

Thus, doubt remained, and into the controversy came the Titanic figure of Louis Pasteur. Believing that a solution to this problem was essential to the development of his theories concerning the role of bacteria in nature, Pasteur freely acknowledged the possibility that living bacteria very well might be arising anew from inanimate matter. To him, the research problem was largely a technical one: to repeat the work of those who claimed to have observed bacterial entry. For the one that contended that life did not enter from the outside, the proof had to go to the question of possible contamination. Pasteur worked logically. He found during the experiments that after prolonged boiling, a broth would ferment only when air was admitted to it. Therefore, he contended, either air contained a factor necessary for the spontaneous generation of life or viable germs were borne in by the air and seeded in the sterile nutrient broth. Pasteur designed ingenious flasks whose long S-shaped necks could be left open. Air was trapped in the sinuous glass tube. Broths boiled in these flask tubes remained sterile. When their necks were snapped to admit ordinary air, bacterial growth would then commence — but not in every case. An occasional flask would remain sterile presumably because the bacterial population of the air is unevenly distributed. The forces of spontaneous generation would not be so erratic. Continuous scepticism drove Pasteur almost to fanatical efforts to control the ingredients of his experiments to destroy the doubts of the most sceptical. He ranged from the mountain air of Montanvert, which he showed to be almost sterile, to those deep, clear wells whose waters had been rendered germfree by slow filtration through sandy soil. The latter discovery led to the familiar porcelain filters of the bacteriology laboratory. With pores small enough to exclude bacteria, solutions allowed to percolate through them could be reliably sterilised.

The argument raged on and soon spilled beyond the boundaries of science to become a burning religious and philosophical question of the day. For many, Pasteur's conclusions caused conflict because they seemed simultaneously to support the Biblical account of creation while denying a variety of other philosophical systems. The public was soon caught up in the crossfire of a vigorous series of public lectures and demonstrations by leading exponents of both views, novelists, clergymen, their adjuncts and friends. Perhaps the most famous of these evenings in the theatre — competing perhaps with a great debate between Huxley and Bishop Wiberforce for elegance of rhetoric — was Pasteur's public lecture at the Sorbonne on April 7, 1864. Having shown his audience the swan necked flasks containing sterile broths, he concluded, "And, therefore, gentlemen, I could point to that liquid and say to you, I have taken my drop of water from the immensity of creation, and I have taken it full of the elements appropriated to the development of inferior beings. And I wait, I watch, I question it! — begging it to recommence for me the beautiful spectacle of the first creation. But it is dumb, dumb since these experiments were begun several years ago; It is dumb because I have kept it from the only thing man does not know how to produce: from the germs that float in the air, from life, for life is a germ and a germ is life. Never will the doctrine of spontaneous generation recover from the mortal blow of this simple experiment." And it is not. Today these same flasks stand immutable: they are still free of microbial life.

It is an interesting fact that despite the ringing declaration of Pasteur, the issue did not die completely. And although far from healthy, it is not yet dead. In his fascinating biography of Pasteur, Rene Dubos has traced the later developments which saw new eruptions of the controversy, new technical progress and criticism, and new energetic figures in the breach of the battle such as Bastion, for, and the immortal Tyndall, against, the doctrine of spontaneous generation. There was also new 'sorrow' for Pasteur as he read years later, in 1877, the last jottings of the great physiologist Claude Bernard

and saw in them the 'mystical' suggestion that yeast may arise from grape juice. Even at this late date, Pasteur was stirred to new experiments again to prove to the dead Bernard and his followers the correctness of his position.

It seems to me that spontaneous generation is not only a possibility, but a completely reasonable possibility which should never be relinquished from scientific thought. Before men knew of bacteria, they accepted the doctrine of spontaneous generation as the 'only reasonable alternative' to a belief in supernatural creation. But today, as we look for satisfaction at the downfall of the spontaneous generation hypothesis, we must not forget that science has rationally concluded that life once did originate on earth by spontaneous generation. It was really Pasteur's evidence against spontaneous generation that for the first time brought the whole difficult question of the origin of life before the scientific world. In the above controversy, what was unreasonable was the parade of men who claimed to have 'proved' or who resolutely 'believed in' spontaneous generation on the face of proof — not that spontaneous generation cannot occur — but that their work was shot through with experimental error. The acceptable evidence also makes it clear that spontaneous generation, if it does not occur, must obviously be a highly improbable event under present conditions. Logic tells us that science can only prove an event improbable: it can never prove it impossible — and Gamow has appropriately remarked that nobody is really certain what would happen if a hermetically sealed can were opened after a couple of million years. Modern science agrees that it was highly improbable for life to have arisen in the pre-Cambrian seas, but it concluded, nevertheless, that there it did occur. With this, I think, Pasteur would agree.

Aside from their theoretical implications, these researchers had the great practical result of putting bacteriology on a solid footing. It was now clear how precisely careful one had to be to avoid bacterial contamination in the laboratory. We now knew what 'sterile' meant and we knew that there could be no such thing as 'partial sterilization'. The discovery of bacteria high in the upper atmosphere, in the mud of the deep sea bottom, in the waters of hot springs, and in the Arctic glaciers established bacterial ubiquity as almost absolute. In recognition of this Lord Lister introduced aseptic technique into the practice of surgery. It was the revolution in technique alone that made possible modern bacteriology and the subsequent research connecting bacteria to phenomena of human concern, research, which today is more prodigious than ever. We are just beginning to understand the relationship of bacteria to certain human diseases, to soil chemistry, nutrition, and the phenomenon of antibiosis, wherein a product of one organism (e.g. penicillin) is detrimental to another. It is not an exaggeration then to say that the emergence of the cell theory represents biology's most significant and fruitful advance. The realisation that all plants and animals are composed of cells which are essentially alike, that cells are all formed by the same fundamental division process, that the total organism is made up of activities and inter-relations of its individual cells, opened up horizons we have not even begun to approach. The cell is a microcosm of life, for in its origin, nature and continuity resides the entire problem of biology.

**125.** Needham's theory that 'God did not create living things directly' was posited as

(A) an attempt to support his assertion by religious doctrine.

(B) an attempt to placate his religious peers.

(C) an attempt at propitiating a possibly offended God or the religious psyche of the time.

(D) All of these

**126.** It can be inferred from the passage that

(A) Huxley, Buffon and Needham were contemporaries.

(B) Buffon, Needham, Voltaire and Huxley were contemporaries.

(C) Voltaire wrote a treatise on Needham's claim.

(D) None of these

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**127.** According to the passage,

(A) Pasteur's precursors in the field worked on the basis of spontaneous generation.

(B) unlike his predecessors, Pasteur worked on logical premises rather than arbitrary and spontaneous discoveries.

(C) Pasteur stood to benefit largely from the work of his predecessors.

(D) Pasteur developed the ideas set forth by Voltaire and Needham.

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**128.** Pasteur began his work on the basis of the contention that

(A) either air contained a factor necessary for the spontaneous generation of life or viable germs were borne in by the air and seeded in the sterile nutrient broth.

(B) after prolonged boiling, a broth would ferment only when air was admitted to it.

(C) Both a and b

(D) Neither a nor b

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**129.** The porcelain filters of the bacteriology laboratories owed their descent to

(A) Pasteur's homeland.

(B) the well water of Montanvert that had been rendered germ-free by slow filtration through sandy oil.

(C) Both a and b

(D) None of these

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**130.** What according to the passage was Pasteur's declaration to the world?

(A) Nobody could deny the work done by him.

(B) Science would forever be indebted to his experiments in bacteriology.

(C) The doctrine of spontaneous generation would never recover from the mortal blow dealt to it by his experiments.

(D) Those who refused to acknowledge his experiments would regret their scepticism.

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**131.** What according to the writer, was the problem with the proponents of spontaneous generation?

(A) Their work had no scientific basis.

(B) Their work was ruined by experimental errors.

(C) Both a and b

(D) Neither a nor b

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**132.** One of the results of the theoretical cross fire regarding bacteriology was that

(A) partial sterilization as a possibility was ruled out.

(B) aseptic technique was introduced in surgery.

(C) the meaning of sterile was clear to all.

(D) All of these

**133.** One of the reasons for the conflict caused by Pasteur's experiments was that

(A) they denied the existence of God as the creator.

(B) they seemed simultaneously to support the Biblical account of creation while denying a variety of other philosophical systems.

(C) academicians and scientists refused to accept his theories.

(D) there were too many debates on the topic and this left the people confused.

**134.** According to the author,

(A) it is an exaggeration to say that cell theory represents biology's most significant and fruitful advance.

(B) Pasteur could not hold his own against the contenders.

(C) cell theory rendered null and void all the other bacteriological theories of the time.

(D) the emergence of the cell theory represents biology's most significant and fruitful advance.

**Questions 135 to 145**

The end of mutual funds, when it came, was sudden but not unexpected. For over 10 years, mutual fund has been scripting its own growth demise, embarking on a reckless course of high risks, unhealthy pastimes, and unchecked maladies. Ironically but fittingly too, the very hand that had supported and sustained it through the turbulent early period of its existence was the one that, finally wielded the euthanasian syringe. The individual investor it was who had made the mutual fund post-liberalisation, India's most vibrant vehicle for individual investment. The individual investor it was who brought the curtain down on an act that had started with a virtuoso performance, only to putrefy into a show of ineptitude, imprudence, and irresponsibility.

The mutual fund, as we know it, may be dead. It died of many things. But, primarily, of a cancer that ate away at its innards. A cancer that destroyed the value of the investments, the mutual funds was made to service the Rs. 85,000 crore that India's investors had entrusted them with ever since they began life way back in 1964 as The Unit Trust Of India's (UTI), now disgraced Unit Scheme 64(US 64). A cancer that grew from the refusal of the men and women to manage the mutual fund to exercise a mixture of caution and aggression, but to adopt, instead, an indisciplined, unplanned, fire-from-the hip approach to investment. A cancer that ultimately, robbed the mutual funds of the resources they would have to use to pay back their investors, leaving them on Death Row. Indeed, the scandal that US 64 had been brewing for years, was only one, but not the first, of the warning bells that pointed to the near emptiness of many a mutual fund's coffers. In quick succession have emerged reports of more and more fund-schemes that have been laid bare, their corpuses empty, their ability to meet their promises of assured returns to investors demolished. At least 37 per cent of the 235 fund schemes in operation in the country have promised investors assured returns of over 15 per cent for 5 years, and repurchase-prices well above their Net Asset Values (NAVs).

According to a study conducted by the Delhi-based Value Research, at least 18 big schemes due for redemption over the next three years will be unable to service their investors, or even return their money at the time of redemption. The shortfall? Rs. 4,685.10 crore. Or 75.87 per cent of the amount handed over by trusting investors to fund managers. Worries Ajai Kaul, 38, president, Alliance Capital Asset Management: "When an assured-returns scheme runs into problems, investors view it

as one more let-down by the mutual funds." Had they but known of the actual practices seen in the offices and hallways of the mutual funds, which have translated into these results, investors would have shown their disgust long ago.

Take the case of a mutual fund company that manages more than a dozen schemes. According to an unwritten, but formalised, principle, each scheme takes it in turn to sell some of its holdings to its sister-schemes, booking fat notional gains and posting NAVs. While investors responded by pouring in even more of their savings, the profits were clearly only on paper. In the offices of another asset management company half way across Mumbai, the demand for cellular-phones peaked six months ago. Its employees had, suddenly, realised that making their personal deals using information gathered in the course of their professional work, was best done over cell phones so that the company's records wouldn't show the call being made. Obviously, the hot tips went to fatten their — and not investors' — pockets. Earlier, quite a few merchant bankers entered the mutual funds industry to use the corpus to subscribe to the issues they were managing. It took a crash in the primary market — not ethics or investigations — for this practice to stop. Filled with fear and loathing — and righteous anger — the investor has, therefore, decided to adjure the mutual fund. According to Marketing And Development Research Associates (MDRA) opinion poll of 342 investors conducted last fortnight in the five metros — Bangalore, Kolkata, Chennai, Delhi and Mumbai — mutual funds as an investment instrument now ranks a lowly fourth on safety — after bank deposits, gold, and real estate — and fifth on returns — ahead only of bank deposits and gold. And only 14.20 per cent of the sample will even consider investing in a mutual fund in the future. Still, it is the species that has died, not its every member. The ones that have survived are the bright performers who beat the market benchmark — the 100 — scrip. The Bombay Stock Exchange (BSE) National Index — by the widest margins within their three genres: growth, income and balance. However, even their star turns have not been able to stave off the stench of death over the business. In fact, an autopsy of the late — and, at the moment not particularly lamented — mutual funds reveal a sordid saga of callousness and calumny. Sheer disaster stares the mutual funds in the face and a cataclysm could destroy the savings of lakhs of investors too. A Value Research estimate of probable shortfall that 18 assured-returns schemes will face at the time of their scheduled redemptions over the three years adds up to a sense-numbing Rs. 4,685 crore. An independent audit of the 60 assured-returns schemes managed by the public sector mutual funds conducted by Price Waterhouse Coopers at the behest of the Securities and Exchange Board of India (SEBI) estimated a shortfall of between Rs. 2,500 crore and Rs. 3,000 crore. In 1999 alone judging from their present NAVs, the four schemes due for redemption — Canbank Asset Management Company's Cantriple, IndBank Asset Management Company's IndPrakash, SBI Funds Management's Magnum Triple Plus, and BOI Mutual Fund's (BOIMF) Double Square Plus — are heading for a collective shortfall of Rs. 1,639.55 crore.

As of June 30, 1998, the country's 252 fund-schemes managed assets with a market value of Rs. 69,599 crore, with the UTI alone controlling the fate of Rs. 50,000 crore. That is Rs. 11,000 crore less than the money invested in these schemes as of June 30, 1997, which means that the mutual funds have wiped out Rs. 11,000 crore from the investors' hard earned money in the intervening 12 months. Of course, every fund is paying for the sins of the black sheep.

For, the villain of the piece was UTI and the 95 funds managed by the public sector banks and institutions, the value of whose corpuses fell from Rs. 66,748 crore to Rs. 57,350 crore in the past year. In fact, these funds contributed 85.40 per cent of the overall value-loss, with the private sector funds boosting their corpuses from Rs. 4,000 crore to Rs. 4,120 crore to lower the extent of the erosion. For investors, that has translated into an option of either exiting at a loss — or holding on in vain hope. On November 20, 1998, a depressing 77 per cent of the 58 listed fund schemes were quoting at discounts of between 5 per cent and 40 per cent to their NAVs. And what of the NAVs themselves?

The units of a shoulder-slumping 15 per cent of the schemes were worth less than their par values. And US 64, of course continued to languish, with an estimated NAV of Rs. 9.68. Even if there are schemes that have performed individually well, that the mutual funds have collectively failed to deliver couldn't be more obvious. So investors' murderous mood can hardly be debated. Their genesis and growth reveals just what blinded the mutual funds to the possibility of failure. Forty per cent of the banks-and-insurance companies-promoted funds in operation were launched between 1987 and 1993, when the stock markets were bull-dominated. In a period that saw only one bear phase, the BSE Sensitivity Index (the Sensex) climbed by 346 per cent.

Being successful with equity investments required no skills; only investible funds. Nor was fund-raising a problem, as investors desperately sought ways to grab a piece of equity boom. Between 1984 and 1989, the mutual funds collected Rs. 13,455 crore as subscriptions, but, in the next five years, they picked up Rs. 45,573 crore. In January, 1994, the UTI's Mastergain mopped up a stunning Rs. 4,700 crore while the most awaited Morgan Stanley Growth — a showcase for the fabled fund-management metier of the foreign mutual funds — took in Rs. 1,000 crore in just three days. Low entry-barriers — a so called sound track-record, a general reputation of fairness and integrity, an application-fee of Rs. 25,000, a registration fee of Rs. 25 lakh and an annual fee of Rs. 2.50 lakh — made entering the business a snap. Explains Ajay Srinivasan, 34, CEO, Prudential ICICI Mutual Fund: "Mutual funds were misunderstood by investors. Everyone thought they were a one way ticket to a jackpot." Intoxicated, fund-managers poured in more and more of their corpuses into equity, ignoring the downsides, confident that the boom would last forever. In the process, they ignored the very concept of risk-management, blithely ignoring the safety net of fixed-income instruments, and accusing those who advised caution of being cowards. In 1995, for instance, ABN estimated 70 per cent of the money being managed by the mutual funds had been funnelled into equity.

Whether they knew it or not, they were breaking away from the trend set by the mutual funds in the US, where the industry began by investing primarily in the money market, with only 25 per cent of their corpus set aside for stocks. Only in the past 15 years, after operating for more than seven decades, have those funds ventured into equity. Unfortunately, their success blinded the fund-managers to the fact that they were riding a wave-not navigating the treacherous seas. As Vivek Reddy, 36, CEO, Kothari-Pioneer Mutual Fund, puts it: "It was the stock market conditions that helped the mutual funds deliver returns, not superior investment skills." Then, the stock markets collapsed and never quite recovered. Between July 1997 and October 1998, the Sensex free-fell from 4306 to 2812 finally nullifying the theory that if you wait long enough, share-prices are always bound to rise. And the mutual fund, unused to a diet of falling equity indices, collapsed too. The quantum of money mopped up by the mutual fund may suggest that the reports of its extinction have been greatly exaggerated. In 1997-98, Indians entrusted Rs. 18,701 crore to the mutual funds, with new schemes alone mopping up Rs. 12,279 crore. Questions R. G Sharma, 58, CEO, LIC Mutual Fund: "How do you explain that Dhanvarsha 12 and Dhanvarsha 13, floated in April and September 1998, managed to mop up Rs. 335 crore?" Not quite a loss of faith, would you say? Think again. In those 12 months, those very investors also took away Rs. 16,227 crore in the form of repurchases and redemptions, leaving only Rs. 2,474 crore more in the hands of fund-managers. What's more, since none of the withdrawals could have been made from the new schemes, the old schemes, obviously, gave it all up, effectively yielding Rs. 9,805 crore to angry investors who took away their money. It is the same story this year: in the first quarter of 1998-99, old schemes collected Rs. 2,340 crore, compared to the new schemes' Rs. 1,735 crore but they gave up Rs. 2,749 crore ending up Rs. 409 crore poorer. Sure, some people are still putting money into the mutual funds. The real reason: money is flowing in from two genres of investors — neither of whom is the quintessential urban. The first comprises people in the semi-urban and rural areas, for whom names like the LIC and GIC still represent safety

and assured schemes of income. Importantly, this category investor isn't clued into the financial markets, and is not, accordingly, aware of the problems that confront the mutual funds. Confirms Nikhil Khatau, 38, Managing Director, Sun F & C Asset Management: "That market is fairly stable. "However, as soon as the fundamental problems hit their dividend-paying ability, even the die hard mutual fund investor from India's villages and small towns — who, don't forget, has already been singed by the disappearance of thousands of nonbanking finance companies — will swear off their favourite investment vehicle. The second genre of investor explains why the private sector funds have been successful in soaking up large sums: 31.10 per cent of the total takings in 1997-98, and 10.70 per cent in the first quarter of 1998-99. They are the so called high net worth players — corporates and individuals — who in Khatau's terms, 'are aggressive about managing their wealth, and look closely at comparative performance'. While their fastidiousness has forced them to pick the private sector mutual funds, whose disclosures and performance has both been ahead of their public sector cousins, their interest does not represent every investor's disillusionment.

**135.** The amount of money entrusted to the care of the mutual funds was

(A) Rs. 75,000 crore.
(B) Rs. 80,000 crore.
(C) Rs. 85,000 crore.
(D) Rs. 82,000 crore.

**136.** The end of mutual funds was carried out at the hands of

(A) the government.
(B) non-banking finance companies.
(C) the individual investors.
(D) banks.

**137.** According to the passage, the flaws of the mutual funds lay in their

(A) post-liberalisation syndrome.
(B) imprudent and irresponsible handling.
(C) stagnation.
(D) All of these

**138.** According to the passage, one of the reasons for the failure of the mutual funds was

(A) their indisciplined approach to investment.
(B) their devil-may-care approach to the world of finance.
(C) their ability to deceive investors.
(D) their inability to read the pulse of their investors.

**139.** According to the writer, one of the fallouts of the end of mutual funds is that

(A) at least some of the big schemes due for redemption over the next three years will be unable to service their investors.
(B) only very few of the big schemes due for redemption over the next three years will be unable to service their investors.
(C) none of the big schemes due for redemption over the next three years will be able to service their investors.
(D) None of these

**140.** It can be inferred from the passage that

(A) money was siphoned away outside the country by the mutual funds.

(B) many of the mutual fund offices indulged in malpractice.

(C) money invested in the mutual fund schemes were never returned to the investors.

(D) a sustained attack by the media exposed the anomalies in the mutual fund industry.

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**141.** The current rank of the mutual fund industry in terms of safety and returns on deposits respectively is

(A) third and fourth.

(B) tenth and twelfth.

(C) fourth and fifth.

(D) It is not ranked at all.

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**142.** The increase in the number of cell phone subscriptions in the office of an asset management company was due to the fact that

(A) calls made by employees for personal deals couldn't be lodged in the company's records.

(B) employees found it easier to deal with investors without involving the company.

(C) the company was scrupulous about maintaining correct records.

(D) the company was unscrupulous in granting personal deals to the employees.

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**143.** According to the passage, mutual funds caused a loss of

(A) Rs. 10,000 crore of the investors' money.

(B) Rs. 11,000 crore of the investors' money.

(C) Rs. 5,000 crore of the investors' money.

(D) Rs. 8,000 crore of the investors' money.

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**144.** On the basis of the passage, it may be said that, in terms of retrieving their money, the investors

(A) are caught between the devil and the deep blue sea.

(B) have a no-exit route.

(C) have to make do with little or no gain.

(D) will trust the few bright stars in the mutual fund industry.

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**145.** According to the passage, one of the reasons for the euphoria in the mutual fund industry can be attributed to

(A) the stock market boom in the late eighties and early nineties.

(B) failure of the primary market.

(C) Both a and b

(D) Neither a nor b

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**Questions 146 to 151**

The following table gives the quantities of apples (in tonnes) arriving at New Delhi market from various states in a particular year. The month in which demand was more than supply, the additional demand was met by the stock from cold storage.

| Month | State | | | Cold Storage | Total |
|---|---|---|---|---|---|
| | HP | UP | J&K | | |
| April | 7 | 0 | 7 | 59 | 73 |
| May | 12 | 1 | 0 | 0 | 13 |
| June | 9,741 | 257 | 8,017 | 0 | 18,015 |
| July | 71,497 | 0 | 18,750 | 0 | 90,247 |
| August | 77,675 | 0 | 20,286 | 0 | 97,961 |
| September | 53,912 | 0 | 56,602 | 0 | 110,514 |
| October | 12,604 | 0 | 79,591 | 24 | 92,219 |
| November | 3,499 | 0 | 41,872 | 42 | 45,413 |
| December | 1,741 | 0 | 14,822 | 15 | 16,578 |
| January | 315 | 0 | 10,922 | 201 | 11,438 |
| February | 25 | 0 | 11,183 | 77 | 11,285 |
| March | 0 | 0 | 683 | 86 | 769 |

**146.** What was the maximum percentage of apples supplied by any state in any of the months?

(A) 99%
(B) 95%
(C) 88%
(D) 100%

**147.** Which state supplied the maximum number of apples?

(A) UP
(B) HP
(C) J & K
(D) Cold storage

**148.** Which state supplied the highest percentage of apples from the total apples supplied?

(A) HP
(B) UP
(C) J & K
(D) Cannot be determined

**149.** In which of the following periods was the supply greater than or equal to the demand?

(A) August-March
(B) June-October
(C) May-September
(D) Cannot be determined

**150.** If the yield per tree was 40 kg, then from how many trees were the apples supplied to New Delhi (in millions) during the year?

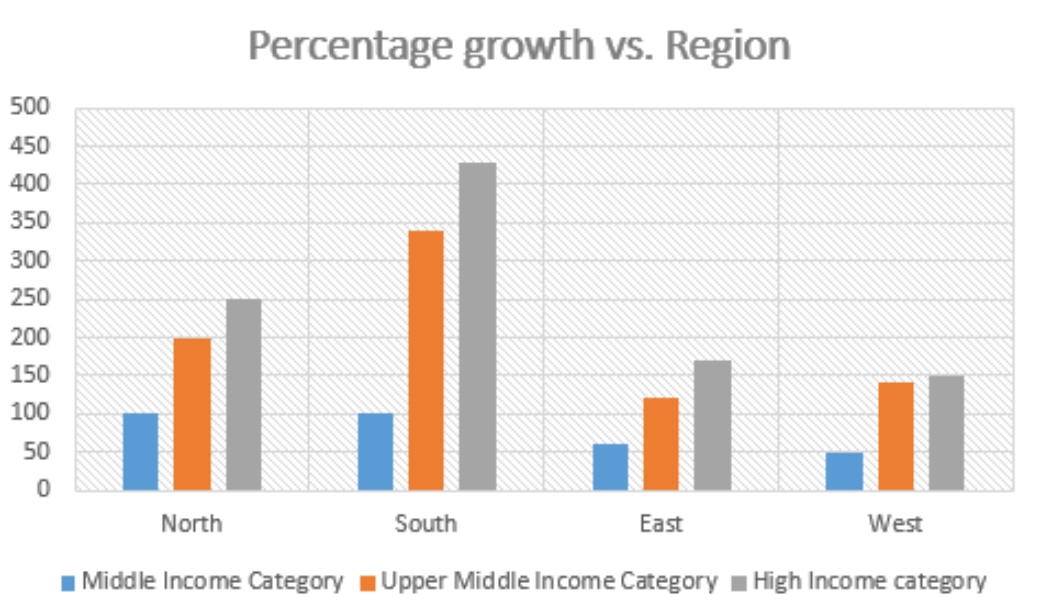
(A) 11.5
(B) 12.5
(C) 13.5
(D) Cannot be determined

**151.** Using the data in the earlier question, if there were 250 trees per hectare, then how many hectares of land was used?

(A) 9,400 hectares
(B) 49,900 hectares
(C) 50,000 hectares
(D) 49,450 hectares

**Questions 152 to 157**

Answer the questions based on the following information. The following bar chart gives the growth percentage in the number of households in the middle, upper-middle and high-income categories in the four regions for the period between 1987-88 and 1994-95.




| | Number of households in 1987-88 | Average household income in 1987-88 | Growth in average household income (1994-95 over 1987-88) |
|---|---|---|---|
| Middle Income | 40 | Rs. 30,000 | 50% |
| Upper-middle | 10 | Rs. 50,000 | 60% |
| High income | 5 | Rs. 75,000 | 90% |

(Number of households in thousands)

**152.** Which region showed the highest percentage growth in number of households in all the income categories for the period?

(A) North
(B) South
(C) West
(D) None of these

**153.** What was the total household income in northern region for upper-middle class?

(A) Rs. 50 lakh
(B) Rs. 500 million

(C) Rs. 300 million
(D) Cannot be determined

**154.** What is the percentage increase in total number of households for the northern region (upper-middle class) over the given period?

(A) 100%
(B) 200%
(C) 240%
(D) Cannot be determined

**155.** What was the average income of the high-income group in 1987-88?

(A) Rs. 75,000
(B) Rs. 25,000
(C) Rs. 2,25,000
(D) Cannot be determined

**156.** The ratio of total income for the high-income category to the upper-middle class increased by how much percentage in the given period (approximately) ?

(A) 20%
(B) 36%
(C) 25%
(D) Cannot be determined

**157.** The average income for the northern region in 1987-88 was

(A) Rs. 37,727
(B) Rs. 37,277
(C) Rs. 35,000
(D) Cannot be determined

**Questions 158 to 162**

Answer the questions based on the following information.

Krishna distributed 10-acre land to Gopal and Ram who paid him the total amount in the ratio 2 : 3. Gopal invested a further Rs. 2 lakh in the land and planted coconut and lemon trees in the ratio 5 : 1 on equal areas of land. There were a total of 100 lemon trees. The cost of one coconut was Rs. 5. The crop took 7 years to mature and when the crop was reaped in 1997, the total revenue generated was 25% of the total amount put in by Gopal and Ram together. The revenue generated from the coconut and lemon trees was in the ratio 3 : 2 and it was shared equally by Gopal and Ram as the initial amount spent by them were equal.

**158.** What was the total output of coconuts?

(A) 24,000
(B) 36,000
(C) 18,000
(D) 48,000

**159.** What was the value of output per acre of lemon trees planted?

(A) 0.24 lakh per acre
(B) 2.4 lakh per acre
(C) 24 lakh per acre
(D) Cannot be determined

**160.** What was the amount received by Gopal in 1997?

(A) Rs. 1.5 lakh
(B) Rs. 3 lakh
(C) Rs. 6 lakh
(D) None of these

**161.** What was the value of output per tree for coconuts?

(A) Rs. 36
(B) Rs. 360
(C) Rs. 3,600
(D) Rs. 240

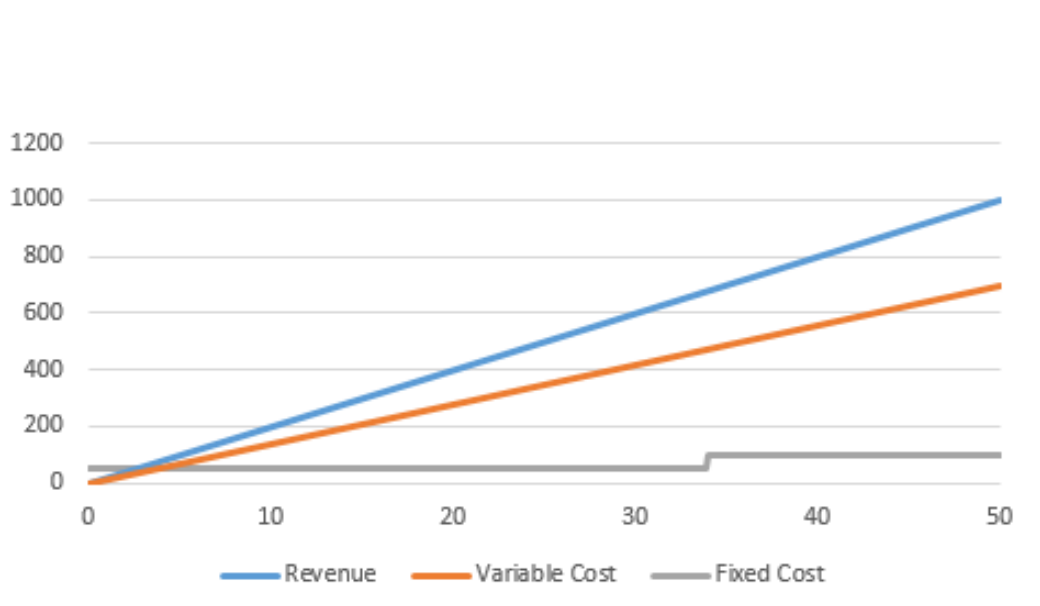
**162.** What was the ratio of yields per acre of land for coconuts and lemons (in terms of number of lemons and coconuts)?

(A) 3 : 2
(B) 2 : 3
(C) 1 : 1
(D) Cannot be determined

**Questions 163 to 167**

Answer the questions based on the following information.

Ghosh Babu has a manufacturing unit. The following graph gives the cost for the various number of units. Given: Profit = Revenue - Variable cost - Fixed cost. The fixed cost remains constant up to 34 units after which additional investment is to be done in fixed assets. In any case, production cannot exceed 50 units.




Note: The fixed cost for upto 34 units is 50 and the the fixed cost for more is 100.
The revenue from 50 units is 1000 and the variable cost from 50 units is 700

**163.** What is the minimum number of units that need to be produced to make sure that there was no loss?

(A) 5
(B) 9
(C) 20
(D) Indeterminable

**164.** What is the least number of units that should be manufactured such that the profit was at least Rs. 50?

(A) 17
(B) 34
(C) 45
(D) 30

**165.** If at the most 40 units can be manufactured, then what is the number of units that can be manufactured to maximise profit per unit?

(A) 40
(B) 34
(C) 35
(D) 25

**166.** If the production cannot exceed 45 units, then what is the number of units that can maximise profit per unit?

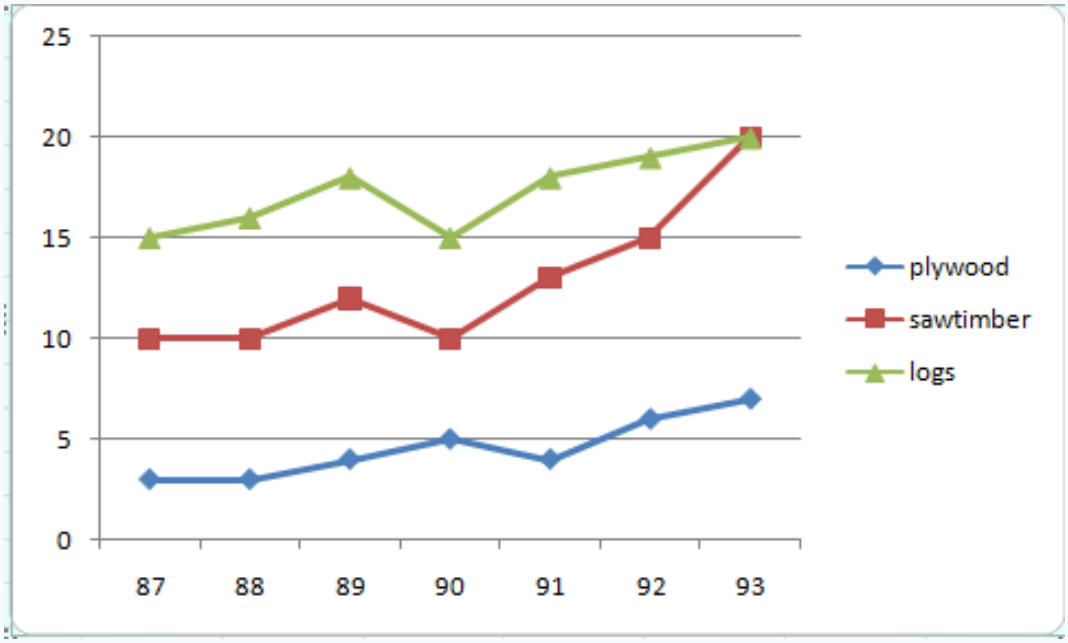
(A) 40
(B) 34
(C) 45
(D) 35

**167.** If the fixed cost of production goes up by Rs. 40, then what is the minimum number of units that need to be manufactured to make sure that there is no loss?

(A) 10
(B) 19
(C) 15
(D) 20

**Questions 168 to 173**

Answer the questions based on the following information. In the following chart, the price of logs shown is per cubic metre that of plywood and saw timber is per tonne.




**168.** What is the maximum percentage increase in price per cubic metre or per tonne over the previous year?

(A) 33.33%
(B) 85%
(C) 50%
(D) Cannot be determined

**169.** Which product shows the maximum percentage increase in price over the period?

(A) Saw timber
(B) Plywood
(C) Logs
(D) Cannot be determined

**170.** If 1 $m^3$ = 750 kg for saw timber, find in which year was the difference in prices of saw timber and logs the least?

(A) 1989 (B) 1990

(C) 1991 (D) 1992

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**171.** If one cubic metre = 700 kg for plywood and 800 kg for saw timber, find in which year was the difference in the prices of plywood and saw timber (per cubic metre) the maximum?

(A) 1989 (B) 1990

(C) 1991 (D) 1992

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**172.** If the volume sales of plywood, saw timber and logs were 40%, 30% and 30% respectively, then what was the average realisation in 1993 per cubic metre of sales? (Weight of one cubic metre of saw dust and plywood both = 800 kg)

(A) 18 (B) 15

(C) 16 (D) 13

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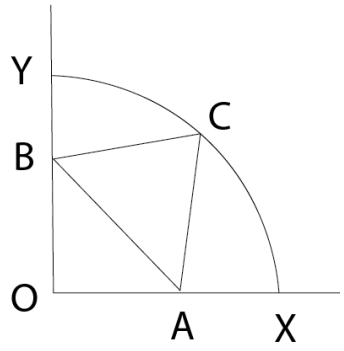
**173.** In the previous question, if in 1994, prices increased by 5%, 1% and 10% while the volume sales break-up was 40%, 30% and 30% for plywood, saw timber and logs respectively, then what was the average realisation?

(A) 18.95 (B) 16.45

(C) 13.15 (D) 10.25

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**174.** Find the length of AB if $\angle YBC = \angle CAX = \angle YOX = 90$.




I. Radius of the arc is given. II. OA = 5

(A) The question can be answered with the help of any one statement alone but not by the other statement.

(B) The question can be answered with the help of either of the statements taken individually.

(C) The question can be answered with the help of both statements together.

(D) The question cannot be answered even with the help of both statements together.

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**175.** Is n odd? I. n is divisible by 3, 5, 7 and 9. II. $0 < n < 400$

(A) The question can be answered with the help of any one statement alone but not by the other statement.

(B) The question can be answered with the help of either of the statements taken individually.

(C) The question can be answered with the help of both statements together.

(D) The question cannot be answered even with the help of both statements together.

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**176.** Find $2 \circledast 3$, where $2 \circledast 3$ need not be equal to $3 \circledast 2$ I. $1 \circledast 2 = 3$ II. $a \circledast b = \frac{a+b}{a}$, where a and b are positive.

(A) The question can be answered with the help of any one statement alone but not by the other statement.

(B) The question can be answered with the help of either of the statements taken individually.

(C) The question can be answered with the help of both statements together.

(D) The question cannot be answered even with the help of both statements together.

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**177.** Radha and Rani appeared in an examination. What was the total number of questions? I. Radha and Rani together solved 20% of the paper. II. Radha alone solved 5/3 rd of the paper solved by Rani.

(A) The question can be answered with the help of any one statement alone but not by the other statement.

(B) The question can be answered with the help of either of the statements taken individually.

(C) The question can be answered with the help of both statements together.

(D) The question cannot be answered even with the help of both statements together.

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**178.** What is the price of tea? I. Price of coffee is Rs. 5 more than that of tea. II. Price of coffee was Rs. 5 less than the price of a cold drink which cost three times the price of tea.

(A) The question can be answered with the help of any one statement alone but not by the other statement.

(B) The question can be answered with the help of either of the statements taken individually.

(C) The question can be answered with the help of both statements together.

(D) The question cannot be answered even with the help of both statements together.

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**179.** What is the value of 'a'? I. Ratio of a and b is 3 : 5, where b is positive. II. Ratio of 2a and b is 10 12 , where a is positive.

(A) The question can be answered with the help of any one statement alone but not by the other statement.

(B) The question can be answered with the help of either of the statements taken individually.

(C) The question can be answered with the help of both statements together.

(D) The question cannot be answered even with the help of both statements together.

**180.** In a group of 150 students, find the number of girls. I. Each girl was given 50 paise, while each boy was given 25 paise to purchase goods totaling Rs. 49. II. Girls and boys were given 30 paise each to buy goods totalling Rs. 45.

(A) The question can be answered with the help of any one statement alone but not by the other statement.

(B) The question can be answered with the help of either of the statements taken individually.

(C) The question can be answered with the help of both statements together.

(D) The question cannot be answered even with the help of both statements together.

**181.** There are four envelopes — E1, E2, E3 and E4 — in which one was supposed to put letters L1, L2, L3 and L4 meant for persons C1, C2, C3 and C4 respectively, but by mistake the letters got jumbled up and went in wrong envelopes. Now if C2 is allowed to open an envelope at random, then how will he identify the envelope containing the letter for him? I. L2 has been put in E1. II. The letter belonging to C3 has gone in the correct envelope.

(A) The question can be answered with the help of any one statement alone but not by the other statement.

(B) The question can be answered with the help of either of the statements taken individually.

(C) The question can be answered with the help of both statements together.

(D) The question cannot be answered even with the help of both statements together.

**182.** There are four racks numbered 1, 2, 3, 4 and four books numbered 1, 2, 3, 4. If an even rack has to contain an odd-numbered book and an odd rack contains an even-numbered book, then what is the position of book 4? I. Second book has been put in third rack. II. Third book has been put in second rack.

(A) The question can be answered with the help of any one statement alone but not by the other statement.

(B) The question can be answered with the help of either of the statements taken individually.

(C) The question can be answered with the help of both statements together.

(D) The question cannot be answered even with the help of both statements together.

**183.** Find the value of X in terms of 'a'. I. Arithmetic mean of X and Y is 'a' while the geometric mean is also 'a'. II. Y X = R; X - Y = D.

(A) The question can be answered with the help of any one statement alone but not by the other statement.

(B) The question can be answered with the help of either of the statements taken individually.

(C) The question can be answered with the help of both statements together.

(D) The question cannot be answered even with the help of both statements together.

**184.** There are two concentric circles C1 and C2 with radii r1 and r2. The circles are such that C1 fully encloses C2. Then what is the radius of C1? I. The difference of their circumference is k cm. II. The difference of their areas is m sq. cm.

(A) The question can be answered with the help of any one statement alone but not by the other statement.

(B) The question can be answered with the help of either of the statements taken individually.

(C) The question can be answered with the help of both statements together.

(D) The question cannot be answered even with the help of both statements together.

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**185.** A circle circumscribes a square. What is the area of the square? I. Radius of the circle is given. II. Length of the tangent from a point 5 cm away from the centre of the circle is given.

(A) The question can be answered with the help of any one statement alone but not by the other statement.

(B) The question can be answered with the help of either of the statements taken individually.

(C) The question can be answered with the help of both statements together.

(D) The question cannot be answered even with the help of both statements together.

**- End of Question Paper -**

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