

INSTRUCTIONS

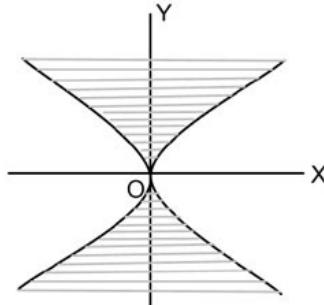
1. Read the instructions given at the beginning/end of each section or at the beginning of a group of questions very carefully.
 2. This test has three sections with 60 questions – 20, 20, and 20 respectively in the first, second and third sections. The TOTAL TIME available for the paper is 135 minutes. The student may apportion this time among various sections as he/she wishes. However, the student is expected to show his/her competence in all the three sections.
 3. All questions carry three marks each. Each wrong answer will attract a penalty of one mark.

SECTION – I
Number of Questions = 20

DIRECTIONS for questions 1 to 20: Answer the questions independently of each other.

back towards their initial destination points. This process goes on indefinitely. Every time they meet each other on the way, the speed of the faster of the two gets halved, while the speed of the slower of the two gets doubled. If in the entire process, they meet at exactly one point, how many distinct ratios of the speeds of Ankit and Bakul are possible?

17. Consider the graph shown below.



Which of the following functions would best describe the shaded region?

- (1) $y^2 \leq |x|$ (2) $y^2 \geq |x|$
 (3) $y^2 < x$ (4) $y^2 = |x|$

- 18.** Ravi forgot a telephone number which he wanted to dial. However, he remembered the following details about it:

- (a) The number was a seven-digit number.
 - (b) The digit 1 appeared exactly once in the number.
 - (c) The other six digits were three non-zero digits, each appearing exactly twice.

What is the minimum number of different numbers that Ravi would have to dial, to be certain of dialling the right number?

19. A set of several consecutive natural numbers beginning with 1 was written on the board. A number out of those numbers written was erased and the average of the remaining numbers was found to be

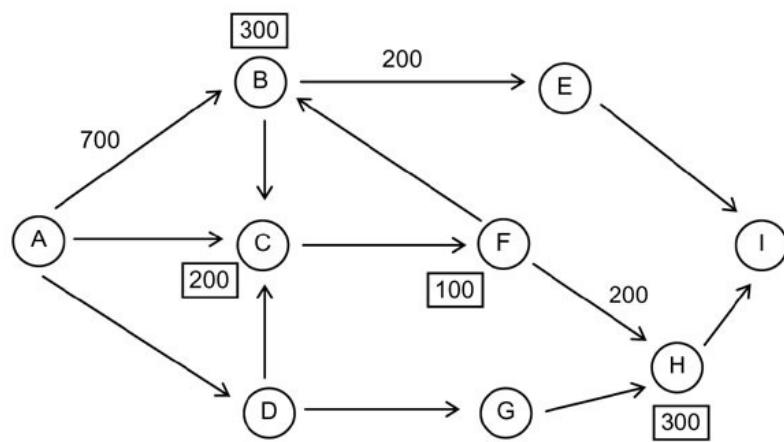
- $28\frac{4}{9}$. Find the number that was erased.

20. Find the area (in sq.cm) of a right-angled triangle whose inradius is 4 cm and circumradius is 10 cm.
(1) 96 (2) 100 (3) 108 (4) 120

SECTION – II

DIRECTIONS for questions 21 to 24: Answer the questions on the basis of the information given below.

Given below is a network of water pipelines and nine hubs – A through I. The requirement of water at the hubs is exactly met by the flow in the pipelines. The flow in some of the pipelines and the requirement at some of the hubs is also mentioned. A is the only hub which is a source hub, i.e. the hub A does not have any requirement of its own but it supplies the requirements of all the other hubs.



It is also known that

- i. The maximum capacity of any pipeline is 1000.
 - ii. The requirement at any hub except A and I is equal to the flow in exactly one of the pipelines directly connected to it.
 - iii. No two pipelines directly connected to the same hub carry the same amount of water.
 - iv. The flow in none of the pipelines shown above is zero.

21. What is the requirement at the hub I?
 (1) 100 (2) 200 (3) 300 (4) 400
22. What is the amount of water carried by the pipeline D-G?
 (1) 500 (2) 600 (3) 700 (4) 800
23. What is the total requirement that should be supplied by A?
 (1) 1800 (2) 1900 (3) 2100 (4) 2500
24. What is the amount of water carried by the pipeline C-F?
 (1) 100 (2) 300 (3) 400 (4) 600

DIRECTIONS for questions 25 and 26: Answer the questions on the basis of the information given below.

Four solids, namely a Sphere, a Cube, a Pyramid and a Cone are made of four different materials among Kryptonite, Wood, Diamond and Glass. Each solid is of a different colour among White, Green, Yellow and Black and each has a unique weight among 1 kg, 2 kg, 3 kg and 4 kg. The costs of these solids are Rs.1 thousand, Rs.1 million, Rs.1 billion and Rs.1 trillion. Each of the solids is manufactured by exactly one process among Cutting, Casting, Moulding and Forging. All the above mentioned properties of the solids are not in any particular order.

Further, the following information is available:

- (i) The Sphere is made of Diamond but it is neither Black in colour nor is it manufactured through the process of Casting.
- (ii) The Cube is the 3rd heaviest and also the cheapest but it is neither made of Wood nor manufactured through the process of Casting.
- (iii) The solid made of Kryptonite is manufactured through the process of Cutting but it is not Black in colour.
- (iv) No two solids have the same relative position in terms of cost and weight.
- (v) The Pyramid is manufactured through the process of Moulding and is neither the costliest nor the lightest and it is not made of Wood or Diamond but is Green in colour.

25. If it is given that the solid made of Diamond is the heaviest but not White in colour, then which of the following statements is true?
- (1) The Cone, which is made of Wood and manufactured through the process of Casting, is White in colour.
 - (2) The Cube, which is made of Kryptonite and manufactured through the process of Cutting, costs Rs.1,000 and is Yellow in colour.
 - (3) The Sphere, which is made of Diamond and is Yellow in colour, is manufactured through the process of Forging.
 - (4) None of these

26. Which solid is made of Wood and is manufactured through the process of Casting?
- (1) Sphere (2) Cube
 - (3) Pyramid (4) Cone

DIRECTIONS for question 27: Each question is followed by two statements, A and B. Answer each question using the following instructions:

Mark (1) if the question can be answered by using statement A alone but not by using statement B alone.

Mark (2) if the question can be answered by using statement B alone but not by using statement A alone.

Mark (3) if the question can be answered by using both the statements together but not by either of the statements alone.

Mark (4) if the question cannot be answered on the basis of the two statements.

27. On which day of the week did Venus play?
- A. 26th January of year X is a Sunday.
 - B. She played on 25th February of year X, 15 days before Serena, who played on Tuesday.

DIRECTIONS for question 28: Each question is followed by two statements, A and B, giving certain data. You have to decide whether the information provided in the statements is sufficient for answering the question.

- Choose 1 if the question can be answered by using one of the statements alone, but cannot be answered by using the other statement alone.
- Choose 2 if the question can be answered by using either statement alone.
- Choose 3 if the question can be answered by using both statements together, but cannot be answered by using either statement alone.
- Choose 4 if the question cannot be answered even by using both the statements together.

28. O is the centre of two concentric circles C_1 and C_2 . OA and OB are the radii of C_1 and C_2 respectively such that $OB = OA + AB$. C is the centre of a circle C_3 , which passes through points A and B. Is C lying on AB?
- A. AB is the diameter of C_3 .
 - B. $OC + CB > OA + AB$.

DIRECTIONS for questions 29 to 32: Answer the questions on the basis of the information given below.

A boy purchased exactly four items. The cost of each item was a two-digit prime number, such that these four numbers together consist of eight different digits.

29. If the boy purchased items worth Rs.47 and Rs.29, what is the amount spent for purchasing all the four items?
- (1) Rs.190 (2) Rs.220
 - (3) Rs.271 (4) Cannot be determined
30. Which of the following statements is false?
- (1) The boy did not purchase an item costing Rs.43.
 - (2) The total amount spent is divisible by ten.
 - (3) The boy must have purchased an item costing Rs.61 or Rs.67.
 - (4) If the boy purchased an item costing Rs.23, he could not have purchased an item costing Rs.89.

31. What is the difference (in Rs.) between the least possible amount spent and the highest possible amount spent by the boy on purchasing all the four items put together?
- (1) 30 (2) 40 (3) 50 (4) 60

32. The difference (in Rs.) between the cost of the costliest item and that of the cheapest item, is at least
(1) 32 (2) 44 (3) 36 (4) 66

DIRECTIONS for questions 33 and 34: Answer the questions on the basis of the information given below.

125 identical smaller cubes were arranged to form a cube and then the larger cube was painted blue on all its faces. From the larger cube formed, eight $2 \times 2 \times 2$ cubes were taken out, one each from every corner and each of these $2 \times 2 \times 2$ cubes was painted red on all faces and then replaced in the larger cube in the same place from where it was taken out. Now eight single smaller cubes were taken out, one each from every corner of the larger cube, and were painted green on all the faces and then they were replaced in the larger cube in the same places from where they were taken out.

33. What is the number of smaller cubes with exactly one face painted?
(1) 42 (2) 36 (3) 30 (4) 24

34. What is the number of smaller cubes with exactly three faces painted?
(1) 42 (2) 36 (3) 30 (4) 64

DIRECTIONS for question 35: Each question is followed by two statements, A and B. Answer each question using the following instructions:

Mark (1) if the question can be answered by using statement A alone but not by using statement B alone.

Mark (2) if the question can be answered by using statement B alone but not by using statement A alone.

Mark (3) if the question can be answered by using both the statements together but not by either of the statements alone.

Mark (4) if the question cannot be answered on the basis of the two statements.

35. Eight friends – A through H, sit around a circular table. Who is the only person who sits between B and D?

 - A. It is known that A sits in between F and H, and that C sits neither adjacent nor opposite to B.
 - B. It is known that D sits neither adjacent to B nor opposite to H and that E sits opposite to F and to the left of C.

DIRECTIONS for question 36: Each question is followed by two statements, A and B, giving certain data. You have to decide whether the information provided in the statements is sufficient for answering the question.

Choose 1 if the question can be answered by using one of the statements alone, but cannot be answered by using the other statement alone.

Choose 2 if the question can be answered by using either statement alone.

Choose 3 if the question can be answered by using both statements together, but cannot be answered by using either statement alone.

Choose 4 if the question cannot be answered even by using both the statements together.

36. Ajay had to give bribe to three persons in the office to get his file cleared. The amounts he paid to the persons were (in Rs) 100, 150 and 200 respectively. How many of the people who took bribe were officers?

 - A. An officer never takes a bribe less than Rs.200.
 - B. Whenever an officer takes bribe, it will always be in multiples of hundred.

DIRECTIONS for questions 37 to 40: Answer the questions based on the tables given below:

A company has six regional dealers, 7 wholesale dealers and 9 sub dealers. The regional dealers are A, B, C, D, E and F. The wholesale dealers are G, H, I, J, K, L and M and the sub dealers are N, O, P, Q, R, S, T, U and V. Table A gives the cost of transporting one truckload of the company's products from the regional dealers to the wholesale dealers. Table B gives the cost of transporting the same quantity from wholesale dealers to the sub dealers.

Table – A
(in Rupees)

	A	B	C	D	E	F
G	4641	2685	2839	2949	2949	4001
H	1555	2984	4428	3799	3799	3969
I	2255	0	1601	3901	3603	5001
J	1855	751	1751	3751	3252	4901
K	5568	1572	0	5788	5788	5117
L	3085	2584	3782	5329	5329	2032
M	3222	1496	2686	5466	5466	3119

Table – B
(in Rupees)

	G	H	I	J	K	L	M
N	2814	4216	1572	4446	0	3774	2686
O	2664	4016	1423	3953	476	3298	2210
P	2503	3901	0	2286	1028	2746	1658
Q	1164	1811	1431	1377	2618	2626	3358
R	1726	1343	1581	816	2779	2086	1139
S	2251	3221	1731	1861	4663	2014	1891
T	3272	0	2983	1113	4428	1938	1742
U	4021	748	3136	1802	5172	2686	2491
V	3230	1275	2168	688	3488	566	808

SECTION – III

DIRECTIONS for question 41: The following question consists of four sentences on a topic. Some sentences are grammatically incorrect or inappropriate. Select the option that indicates the grammatically correct and appropriate sentence(s).

DIRECTIONS for questions 43 to 46: Read the following passage and answer the questions that follow it.

It is hard to think of anyone better placed to write the first comprehensive history of American women's literature than Elaine Showalter. One of the founders of feminist literary criticism in America and Princeton University's former professor of English literature, she mixes academic respect with the common touch; she has been a television critic for 'People' magazine and has a passion for campus novels, both serious and satirical.

Ms. Showalter's 18 previous academic works include "A Literature of Their Own: British Women Novelists from Bronte to Lessing", which came out in 1977 and has since become a classic. Now, turning her attention to her own native tradition, she has produced a magisterially wide-ranging survey, which stretches from the time of the Pilgrim Fathers to the present.

Her new book is named after a short story by Susan Gaspell, published in 1917, about a sensational murder trial. A downtrodden farmer's wife from Iowa is accused of murdering her husband. While the sheriff's men miss the proof of her guilt, their more perceptive wives immediately spot what has actually been going on in the bleak farmhouse. Concluding that the wife was driven mad by domestic abuse, they plot to make absolutely sure of her acquittal by secretly destroying the evidence: the patriarchal legal system, they believe, is not fit to judge a woman.

Ms. Showalter does not attempt to unravel the intractable moral and legal conundrums raised by this unsettling parable, but she uses it as a metaphor to ask questions about literary judgment. Certainly, in the early 20th century, when literature was being defined as an academic subject, establishment male critics who wanted to make American literature "more energetic and masculine" actively attempted to exclude female writers from the canon. In the 1970s, when Ms. Showalter herself started writing about women's literature, many critics thought they had to counter this trend with feminist polemic. In this book, however, Ms. Showalter's admirable aim is less pugnacious: to rescue forgotten works for a general audience, but not to shirk from making judgments (robustly dispensed, for example, towards the "unreadable, self-indulgent and excruciatingly boring" Gertrude Stein). All the writers discussed here are interesting from a historical viewpoint, but only some reach the peaks of genius.

One perennial factor for women writers, according to Ms. Showalter, is "how they reconciled their public selves with their private lives". Unlike more abstract forms of criticism, which seem to place the work of art in a vacuum, Ms. Showalter's is grounded in the lived lives of her subjects, for whom she provides vibrant biographical sketches. This serves to counter Romantic (and, some would say, ultimately male) myths about the self-sufficiency of art, thus offering a subtle statement of her own feminist aesthetic.

From the earliest period, there seem to have been exceptional women who really were capable of having it all, such as Anne Bradstreet, a prolific 17th-century poet, who had eight children and a happy marriage, as well as critical renown. Others were pushed into writing by circumstance: Mary Rowlandson, who was captured and held hostage by native Americans in 1675, later described her experiences in a vivid account that was part anthropology (her captors' alarming diet included tortoises and horses' ears) and part adventure story.

Race is as dominant a theme as gender for Ms. Showalter's project. So she charts the tradition not only of African-American women writers, from Phillis Wheatley, an 18th-century poet, to the Nobel-prize-winning Toni Morrison, but also of white women who wrote on slavery. Pre-eminent among these was Harriet Beecher Stowe. Both Wheatley (who thanked God in heroic couplets for bringing her as a slave to America and Christianity) and the anti-slavery activist

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Stowe, whose "Uncle Tom's Cabin" depicts the lives of African-American slaves, have been accused of racism. Ms. Showalter instead treads a careful line, seeking primarily to appreciate their literary achievements in the cultural context of their times.

The most striking aspect of Ms. Showalter's survey is that it is not a history of inevitable progress. Indeed, the mid-19th-century literary marketplace was more dominated by women writers than any period before or since. Marriage and motherhood did not prevent Stowe—for whose exceptional literary craft Ms. Showalter makes a powerful case—from achieving unparalleled commercial success and political influence. It is later that female writers begin to feel routinely, sometimes suicidally, trapped by their womanhood. Modernism, with its macho ideal of the artist, seems to have provided a particularly hostile environment.

Ms. Showalter ends on an upbeat note, suggesting that women writing today are free from sexual prejudice. One warning, though: given that her overall narrative suggests that female literary status has been subject to historical ups and downs, one cannot assume women's writing will always be seen in the same light.

43. In the phrase "she uses it as a metaphor", the pronoun 'it' refers to
(1) the incompetence of the patriarchal legal system.
(2) the intractable moral and legal conundrums.
(3) the short story by Susan Gaskell.
(4) the judgement of the accused by the women.

44. When the reviewer talks of Ms. Showalter turning her attention to her own native tradition, he means that she is
(1) studying feminist literature.
(2) undertaking a critical review of feminist polemic.
(3) critically examining the work of American women novelists.
(4) passing literary judgement on American traditions.

45. The 'feminist aesthetic' in Ms. Showalter's writings is apparent in the
(1) biographical sketches she draws of her subjects.
(2) subtle statements she makes.
(3) myths about the self-sufficiency of art.
(4) all of the above.

46. Which of the following statements cannot be inferred from the passage?
(1) Gertrude Stein comes under the critical gaze of Elaine Showalter.
(2) Ms. Showalter highlighted the racist aspects of Wheatley's work
(3) Ms. Showalter recognized the literary merit of Stowe's work
(4) Womanhood became a liability for female writers of the modern era

DIRECTIONS for question 47: There are two blanks in the following sentence. From the pairs of words given below, choose the pair that fills the blanks most appropriately.

47. In the post-modern world where 'borrowings' are acceptable and the concept of 'global-local' is commonplace, the suggestion that contemporary Indian sculptors should consider western influence a/an _____ and look solely to indigenous tradition may seem _____.
(1) boon . . . heartening
(2) encumbrance . . . ironical
(3) anathema . . . risible
(4) bugbear . . . paradoxical

DIRECTIONS for question 48: The following question has a paragraph with one italicised word that does not make sense. Choose the most appropriate replacement for that word, from the options given below the paragraph.

DIRECTIONS for questions 49 and 50: Read the following passage and answer the questions that follow it.

It all sounds alarmingly like the process of self-criticism that kept Chairman Mao's China on the ideological tracks. Your company hires an outsider to grill your boss, your staff and perhaps even your spouse on the shortcomings (and strengths) of your behaviour. The outsider confronts you with the findings and together you draw up a plan for self-improvement. Your boss and staff undertake to help you to keep to the plan. From time to time, the outsider returns to check on how you are doing.

Yet top executives as self-confident as eBay's Meg Whitman and Unilever's Niall Ferguson have undergone "executive coaching". The coaching market is now worth around \$1 billion worldwide, a number that Harvard Business School expects to double in the next two years. "It's going crazy," says Brian Edwards of Optima, a British coaching firm that has been in business for five years.

Coaching might seem an obvious second career for a former chief executive keen to profit from a little mentoring. Though a few coaches are ex-bosses, most have other skills, according to the ICF's recently completed first survey of members. Two-thirds are women, it finds; a substantial minority come from teaching or counselling backgrounds. Others are former mental-health workers. Jeremy Robinson, a coach from New York, began as a psychoanalyst and often counsels clients partly on their work problems and partly on those in their home lives.

Like personal physical trainers, some coaches work for individuals. Ms Williams reckons that a quarter of her clients pay their own bills. Five years ago, however, three-quarters did. Increasingly, firms are willing to pick up the tab. Often, coaching is a way to give problem employees one last chance. Mr Schein says it is easier for managers to hire a coach than to give an unsatisfactory employee a bleak performance appraisal. And yet such "derailment coaching" is not much fun for coaches either, and it rarely achieves much, so the coaching industry is increasingly trying to accentuate the positive, even urging companies to use their services as a perk to retain high-fliers. Judging by how some American executives brag at dinner parties about their hot new coach, this strategy has potential.

Rohm and Haas, a specialty chemical company, picks half a dozen promising executives a year to go through a programme grandly called Leadership 3000. They undergo a battery of psychoanalytic tests, listen to feedback ("we like to call it feed-forward," says Joe Forish, the firm's head of human resources) which the coach collects from colleagues and subordinates, and agree to an action plan that is discussed with the firm's top executives as well as with the person's immediate boss. "We make it clear that this is an investment in people's futures," says Mr Forish. At a cost of \$15,000-20,000 for up to a year of the coach's time, an investment it clearly is.

What does coaching actually achieve? Rigorous analysis of so touchy-feely an activity is probably impossible. Karol Wasylshyn, a coach based in Philadelphia, has asked her clients to rate the "sustainability" of what they learned on a scale of one to ten. Over a third rate it nine to ten, she says proudly. However, this may reflect the attitudes of clients as much as real achievement. It seems that high-fliers compete as hard to improve their behaviour as in anything else. "They don't think I'm perfect? I'm gonna prove to them I am," mimics Marc Effron of Hewitt Associates.

Nevertheless, the perception of success may be as important as the reality. One reason why coaches strive to involve an executive's peers and boss at every stage is so that they, too, feel some responsibility for helping to bring about change. Not only does this reinforce a better approach; it may also persuade them that they are seeing the alteration they want to bring about.

The fact that the firm usually foots the bill for coaching has two big implications. First, says Mr Schein, it means that a lot of coaching is about "self-socialisation": getting the individual to conform to patterns of behaviour acceptable to the firm.

Then there is the issue of privacy. "I always tell people they have limited confidentiality," says Mr Robinson. Coaches may find themselves in an especially awkward situation if coaching persuades a client that the best way to develop his career is to quit the firm paying for the coach. Ms Wasylshyn has formulated a way to tell the human-resources department that a high-flier she is coaching is restive, without breaching confidence. "I think you might lean in and do a reality check," she will say, with delicate circumlocution.

49. Firms foot the bill for coaching for all of the following

reasons EXCEPT:

- (1) To protect the privacy of the individual.
- (2) To make individuals conform to organizational behaviour.
- (3) To incentivise high – achievers.
- (4) To deal with problem employees.

50. Which of the following statements is NOT TRUE, as per the passage?

- (1) Most coaches are former chief executives.
- (2) The coaching market may touch \$2 billion two years hence.
- (3) Most coaches are women.
- (4) Clients may benefit from a work – life balance.

DIRECTIONS for questions 51 to 54: Read the following passage and answer the questions that follow it.

"The frustrating thing about India", I was told by one of my teachers, the great Cambridge economist Joan Robinson, "is that whatever you can rightly say about India, the opposite is also true".

Is India a successful democracy? Certainly. Its multiparty democracy with free elections, free speech and civil liberties has been functioning well, and it has had fine side-results such as the elimination of famines (a frequent occurrence in British India—the last, in 1943, was just four years before independence). But no, it cannot have been entirely successful, since democratic rights have not eliminated undernourishment, ill health and other deprivations. Is the India economy doing very well? Yes, it is growing fast and there is a lot of new income around. But poverty is still very grave. Is Indian education a great success? Yes, of course, India has a large, well-educated and highly trained population and it provides skilled labour for academia, for science, for technology, for literature, for music and the fine arts, for administration, for management, for medicine—both within India and across the world. Yet nearly a third of the population is still illiterate.

Faced with this divided reality we can take Buddha's advice and try to "be moderate in speech". But there are also important and affirmative things that can be said about India that are not as clearly recognised as they could be. The practice of democracy is one of them.

When India became the first poor country in the world to opt for a fully democratic system, the air was thick with scepticism. Winston Churchill is reputed to have found the idea very funny. The scepticism continued for quite a while. The Indian correspondent of the *Times* reported after one of the regular general elections—in 1967—that he had just witnessed what must be the "last" democratic election in India, since Indian democracy could not last much longer.

That was nearly 40 years ago. The doom did not come. Systematic elections have continued to occur. Political parties have come into office after winning the elections and have left quietly after losing them. The newspapers have remained largely free. People criticise the government and each other with abandon and some gusto. The soldiers have stayed well inside the barracks, where they belong.

India's commitment to democracy is sometimes attributed simply to the impact of British influence. And yet if that were the primary reason, it would not be clear why such an influence should not have worked similarly for a hundred other countries which also emerged from the same empire on which the sun used not to set.

Democracy is, ultimately, the practice of public reasoning in the broadest sense. Voting is part of a much larger process which includes open public discussion and uncensored criticism. Traditions of public reasoning exist across the world and are not a monopoly of the West or of any other civilisation or culture. But India has been particularly fortunate in having a long and powerful argumentative tradition. Some of the earliest open general meetings in the world aimed specifically at settling disputes, through discussion between holders of different points of view, took place in India, from the sixth century BC onwards, in the series of so-called "Buddhist councils", where adherents of different points of view gathered together to argue out their differences. Emperor Ashoka, who hosted the largest of these councils in the capital city of Patna in the third century BC, also attempted to codify and promote what must have been among the earliest formulations of rules for public discussion.

I have tried to discuss all this in a book called "The Argumentative Indian", tracing the tradition of dissent from agnostic and atheistic arguments presented in ancient literature, including the epics and even the "Rigveda" (meant to be the cradle of Hinduism), through the long history of India. For example, the first systematic public discussions in the world between holders of different religious views were arranged by the great Moghul emperor Akbar in Agra in the 1590s, at a time when the Inquisitions were still going on in Europe.

Democracy is already doing more in India than is sometimes acknowledged. For example, it is helping to protect minority rights, through public criticism of violations and electoral penalties for violators (as happened in the general election in May 2004, in which the targeting of minorities in the Gujarat riots of 2002 became an important rallying point). It contributes also to the stability of Indian secularism and resistance to sectarian politics. There is some significance even in the fact that a country in which more than 80% of the electorate happen to be Hindu has chosen a Sikh prime minister (Manmohan Singh), a Muslim president (Abdul Kalam) and a Christian leader of the ruling Congress party (Sonia Gandhi).

Important as public reasoning, political liberty, civil rights, consolidation of secularism and prevention of disasters (such as famines) are, democracy can, and must, do a lot more still, by bringing persistent inequalities and deprivations more into effective public discussion. This is beginning to happen, but it must go much further. It is in the public commitment to democracy and its extensive use that India—as it finds its feet in the world, and the world pays some attention—has something really important to offer to contemporary global ideas and practice.

51. The writer's answer to the three questions raised in the second para seems to be

- (1) an emphatic 'No'.
- (2) a resounding 'yes'.
- (3) 'We still have some way to go'.
- (4) 'We have a long way to go'.

52. Which of the following views will the author of this passage least subscribe to?

- (1) India has proved her worth as the most successful democracy in the world.
- (2) The British have played a key role in nurturing Indian's commitment to democracy.
- (3) The rights of minorities have been protected in India.
- (4) India is a land of paradoxes.

53. The writer cites evidence from Ashoka's and Akbar's era to support the contention that

- (1) India was committed to democracy even before the advent of British influence.
- (2) religious differences were thrashed out in public discussions.
- (3) India has a long argumentative tradition.
- (4) there were no cases of witchhunting in India.

54. In this passage, the author

- (1) discusses India's track record as a democracy.
- (2) traces the origin of democracy in India.

(3) showcases India as a role model of democracy to the world.

(4) highlights the areas of concern in India's political system.

DIRECTIONS for question 55: The following question has a paragraph with one italicised word that does not make sense. Choose the most appropriate replacement for that word, from the options given below the paragraph.

55. Ingenuity is a quality desired in every leader. If a leader is unable to create a utopia that attracts his supporters, he is regarded as a failure; but if the utopia is abstract rather than concrete, unrealistic rather than realistic, then that very utopia may turn into a *crevashun*, the vision into a nightmare, creation into distinction.

- (1) chimera
- (2) tribulation
- (3) dystopia
- (4) fantasy

DIRECTIONS for question 56: There are two blanks in the following sentence. From the pairs of words given below, choose the pair that fills the blanks most appropriately.

56. While a constitutional monarchy or republic was the characteristic political institution of the moderate or small nations of Europe, _____, the arbitrary or

- _____ rule by fear of an all-powerful autocrat over a docile and servile populace, is the normal and distinctive political institution of the East during the medieval ages.
- (1) democracy . . . tyrannical
 - (2) autocracy . . . radical
 - (3) dictatorship . . . reformist
 - (4) despotism . . . capricious

DIRECTIONS for question 57: In the following question, there are five sentences. Each sentence has pairs of words/phrases that are italicised and highlighted. From the italicised and highlighted word(s)/phrase(s), select the most appropriate word(s)/phrase(s) to form correct sentences. Then, from the options given, choose the best one.

57. (i) ***Continual*** (A) / ***continuous*** (B) power cuts have become de rigueur in cities, particularly during summer.
- (ii) The new rule becomes ***effectual*** (A) / ***effective*** (B) from the 1st of next month.
- (iii) She had an ***incredible*** (A) / ***incredulous*** (B) expression on her face when I told her that I lost two kgs in a month's time.
- (iv) A ***complimentary*** (A) / ***complementary*** (B) box of chocolates was given to each guest.
- (v) I could ***infer*** (A) / ***imply*** (B) from his talk that he is not very happy with his new job.
- (1) BBAAA (2) BBBBA (3) ABBA (4) ABAAA

DIRECTIONS for question 58: Select the correct alternative.

58. In 'Time in a Bottle', a song from the 1970s, a person tells a loved one
 "If I had a box just for wishes,
 and dreams that had never come true,
 the box would be empty except for the memory
 of how they were answered by you."

Which of the following cannot be understood from the quoted lyric?

- a) The person had no wishes or dreams that the loved one could not answer.
- b) No one other than the loved one could answer the person's wishes or dreams.
- c) The person had no wishes or dreams left to be answered.
- d) The person had wishes and dreams that only the loved one could answer.

- e) The loved one could answer all wishes and dreams.

- | | |
|-------------|----------------|
| (1) b and d | (2) a and c |
| (3) c and e | (4) b, d and e |

DIRECTIONS for question 59: The following question has a paragraph from which the last sentence has been deleted. From the given options, choose the one that completes the paragraph in the most appropriate way.

59. Creativity is known to be associated with an increased risk of depression, schizophrenia and bipolar disorder. Similarly, people who have mental illness in their families have a higher chance of being creative. Professor Fredrick Ullen looked at the brain's dopamine (D2) receptor genes which experts believe govern divergent thought. _____
- (1) Creativity is certainly about not being constrained by rules or accepting the restrictions that society places on us; the more people break the rules, the more likely they are to be perceived as 'mentally ill'.
 - (2) Fewer D2 receptors probably means a lower degree of signal filtering, and thus a higher flow of information.
 - (3) Professor Ullen believes that it is the barrage uncensored information that ignites the creative spark.
 - (4) Professor Ullen found highly creative people who did well on tests of divergent thought had a lower than expected density of D2 receptors as do people with schizophrenia

DIRECTIONS for question 60: The following question consists of four sentences on a topic. Some sentences are grammatically incorrect or inappropriate. Select the option that indicates the grammatically correct and appropriate sentence(s).

60. (A) American cinema is omnivorous.
 (B) It has almost swallowed every subject from the trivial to great historical events and then spewed them up.
 (C) However, there is one subject it has refused to tackle directly – the bombing of Hiroshima and their consequences.
 (D) As it is now 65 years since the historic event, the omission seems even more astounding.
- (1) A and D (2) B and C
 - (3) A, C and D (4) A, B and D

(Key and Solutions for AIMCAT1104-Form-6)

Key

1. 3	7. 1	13. 4	19. 2	25. 3	31. 4	37. 1	43. 3	49. 1	55. 3
2. 4	8. 2	14. 1	20. 1	26. 4	32. 1	38. 3	44. 3	50. 1	56. 4
3. 4	9. 4	15. 3	21. 4	27. 2	33. 3	39. 2	45. 1	51. 4	57. 3
4. 1	10. 4	16. 2	22. 4	28. 2	34. 4	40. 1	46. 2	52. 2	58. 1
5. 3	11. 2	17. 2	23. 2	29. 4	35. 3	41. 2	47. 4	53. 3	59. 4
6. 1	12. 4	18. 1	24. 3	30. 4	36. 4	42. 1	48. 1	54. 1	60. 1

Solutions

SECTION – I

Solutions for questions 1 to 20:

1. Let the cost of 2 pens = cost of 3 erasers = cost of 4 sharpeners = Rs.12
 \Rightarrow Cost of 1 pen = Rs.6, 1 eraser = Rs.4 and 1 sharpener = Rs.3. Therefore cost of 6 pens, 4 erasers and 3 sharpeners = $6 \times 6 + 4 \times 4 + 3 \times 3 =$ Rs.61.
 Now, new prices after the increase are 1 pen = Rs.6, 1 eraser = Rs.4.8, 1 sharpener = Rs.3.9.
 Therefore new cost of 6 pens, 4 erasers and 3 sharpeners = $6 \times 6 + 4 \times 4.8 + 3 \times 3.9 =$ Rs.66.9
 \Rightarrow Percentage increase required = $\frac{66.9 - 61}{61} = \frac{5.9}{61}$ which is slightly less than 10% Choice (3)

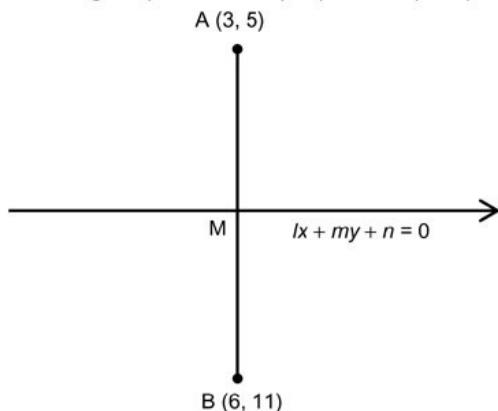
2. $(1012)_5 = (246)_x$
 $1 \times 5^3 + 0 \times 5^2 + 1 \cdot 5^1 \cdot 2 \cdot 5^0 = 2x^2 + 4x + 6$
 $125 + 0 + 5 + 2 = 2x^2 + 4x + 6$
 $2x^2 + 4x + 6 - 132 = 0$
 $2x^2 + 4x - 126 = 0$
 $x^2 + 2x - 63 = 0$
 $x^2 + 9x - 7x - 63 = 0$
 $(x + 9)(x - 7) = 0$
 $x = -9$ or $x = 7$
 Since x is always positive,
 $\therefore x = 7$ Choice (4)

3. Let the price per kg of the three varieties be p_1, p_2 and p_3 .
 Let the quantities of the three varieties purchased be q_1, q_2 and q_3 .
 $\therefore \frac{q_1 p_1 + q_2 p_2}{q_1 + q_2} = 50 \Rightarrow q_1 p_1 + q_2 p_2 = 50(q_1 + q_2)$ ----- (1)
 Similarly $q_2 p_2 + q_3 p_3 = 60(q_2 + q_3)$ ----- (2) and
 $q_3 p_3 + q_1 p_1 = 68(q_3 + q_1)$ ----- (3)
 Adding (1), (2) and (3), we get
 $\Rightarrow 2(q_1 p_1 + q_2 p_2 + q_3 p_3) = 118q_1 + 110q_2 + 128q_3$
 $\Rightarrow q_1 p_1 + q_2 p_2 + q_3 p_3 = 59q_1 + 55q_2 + 64q_3$
 Hence, $\frac{(q_1 p_1 + q_2 p_2 + q_3 p_3)}{(q_1 + q_2 + q_3)}$ lies between 64 and 55 (both exclusive). Choice (4)

4. Let the distance PQ = 1. When Zoysa and Yuva to meet they together cover a distance of 2 PQ i.e. 2.
 Speed of Zoysa = $\frac{1}{3}$ and the speed of Yuva = $\frac{1}{6}$
 \therefore The time taken by them to together cover 2PQ = $\frac{2}{\frac{1}{3} + \frac{1}{6}} = 4$ hours
 So, they will meet at 1:00 p.m. Choice (1)

5. $\log_{x+5}(2x-1) = \pm 1$
 $\text{If } \log_{x+5}(2x-1) = 1, \text{ then } x+5 = 2x-1 \text{ or } x = 6$
 (OR)
 $\text{if } \log_{x+5}(2x-1) = -1, \text{ then } 2x-1 = (x+5)^{-1}$
 $\Rightarrow (2x-1)(x+5) = 1 \Rightarrow 2x^2 + 9x - 6 = 0$
 $\Rightarrow x = \frac{-9 \pm \sqrt{129}}{4}$
 $\text{for } \log_{x+5}(2x-1) \text{ to be defined, } x \text{ must exceed } 1/2.$
 $\text{this is satisfied only if } x = \frac{-9 + \sqrt{129}}{4}$
 Hence, only 2 values are possible for x . Choice (3)

6. Let the given points be A = (3, 5) and B = (6, 11)



Let B(6, 11) be the image of A(3, 5), with respect to $lx + my + n = 0$. The midpoint of AB lies on $lx + my + n = 0$, and AB is perpendicular to $lx + my + n = 0$.

\therefore The midpoint of A(3, 5) and B(6, 11) is $M\left(\frac{9}{2}, 8\right)$.

Slope of a line perpendicular to AB = $-\frac{1}{2}$

$$\left(\because \text{slope of AB} = \frac{11-5}{6-3} = 2 \right)$$

\therefore The equation of the line passing through $\left(\frac{9}{2}, 8\right)$ and

having slope $-\frac{1}{2}$ is

$$y - 8 = \frac{-1}{2}\left(x - \frac{9}{2}\right)$$

$$y - 8 = \frac{-1}{4}(2x - 9)$$

$$4y - 32 = -2x + 9$$

$$2x + 4y - 41 = 0 \quad \text{--- (1)}$$

$$\text{Hence, } \frac{l+m}{n} = \frac{2+4}{-41} = \frac{-6}{41}$$

Choice (1)

7. Consider $13 \times 5 = 65 = 2^6 + 1$

First, find the remainder of $\frac{2^{1500}}{65} = \frac{(2^6)^{250}}{2^6 + 1}$, the remainder of which is $(-1)^{250} = 1$. Since the remainder of 2^{1500} , when divided by 65 (which is a multiple of 13, is 1), the remainder when 2^{1500} is divided by 13 will also be 1.

Choice (1)

8. If Bhavan finally had 90 marbles, then the other two finally have a total of $150 - 90 = 60$ marbles with them. But they have 60 marbles after Bhavan doubled their respective number of marbles. Hence, the other two had a total of $\left(\frac{60}{2}\right) = 30$ marbles with them (before Bhavan gave to

them) and Bhavan had a total of $90 + \left(\frac{60}{2}\right) = 120$ marbles

before giving. But Bhavan had 120 marbles with him only after Ajay had doubled the number of marbles with him (and Chetan as well). Hence, Bhavan must have had $\frac{120}{2} = 60$ marbles initially.

Alternative solution:

Let the numbers of marbles which Ajay, Bhavan and Chetan initially had be a, b and c respectively.

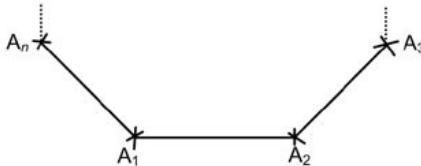
Numbers of marbles	Ajay	Bhavan	Chetan
Initially	a	b	c
After Ajay gives	$a - b - c$	$2b$	$2c$
After Bhavan gives	$2(a - b - c)$	$3b - a - c$	$4c$

When Ajay gives marbles, he would give a total of $b + c$ marbles. He would then remain with $a - b - c$ marbles. Similarly Bhavan would finally remain with $3b - a - c$ marbles.

$$\begin{aligned} \therefore 3b - a - c &= 90 \\ \Rightarrow 4b - (a + b + c) &= 90 \\ \Rightarrow b = \frac{90 + 150}{4} &= 60. \end{aligned}$$

Choice (2)

9. Let A_n, A_1, A_2, A_3 be any four consecutive vertices of the polygon, having n vertices. If the side A_1, A_2 is to be the only side common to the triangle and the polygon, then,



A_1 and A_2 shall be joined to any of the vertices other than A_n and A_3 i.e., A_1 and A_2 can be joined, to any one of the remaining $(n - 4)$ vertices. Hence, $(n - 4)$ such triangles are formed and all of them are distinct.

Hence, the total number of triangles with only one side being common = $n(n - 4) \rightarrow (1)$

Consider the vertex A_2 . $A_1 A_2 A_3$ is a triangle which has two of its sides (i.e. $A_1 A_2$ and $A_2 A_3$) in common with those of the polygon. Similarly, at each vertex, there is one such triangle. All these triangles are distinct.

Hence, the number of triangles, having two sides in common is $n \rightarrow (2)$

As per the given data, $n(n - 4) + n = 28 \Rightarrow n^2 - 3n - 28 = 0$

$n = 7$ or -4 . Ignoring the negative value, $n = 7$.

∴ The polygon is a Heptagon.

Choice (4)

10. Given $E = 2x^2 + 3y^2 - 6x + 9y + 15$
 $= 2x^2 - 6x + 3y^2 + 9y + 15 = 2(x^2 - 3x) + 3(y^2 + 3y) + 15$

$$\begin{aligned} &= 2\left(x - \frac{3}{2}\right)^2 + 3\left(y + \frac{3}{2}\right)^2 + 15 - 2\left(\frac{9}{4}\right) - 3\left(\frac{9}{4}\right) \\ &= 2\left(x - \frac{3}{2}\right)^2 + 3\left(y + \frac{3}{2}\right)^2 + \frac{15}{4} \end{aligned}$$

So, if $x = \frac{3}{2}$ and $y = -\frac{3}{2}$, E has its minimum value, i.e., $\frac{15}{4}$. The smallest integer greater than $\frac{15}{4}$ is 4.

∴ The minimum integral value of E is 4. Choice (4)

11. Let the three real numbers be a, b and c ,

$$\text{then } a \times b \times c = 336 \quad \text{--- (1)}$$

$$\text{and } a + b + c = 21 \quad \text{--- (2)}$$

$$\text{and } ab + bc + ca = 146 \quad \text{--- (3)}$$

Since all the choices are natural numbers, it is very probable that a, b, c are all integers.

Factorising 336 as $2^4 \times 3 \times 7$, and then applying equation (2) we can write by trial and error as $(a, b, c) = (7, 6, 8)$.

Now this should also satisfy equation (3).

Since $7 \times 6 + 6 \times 8 + 7 \times 8 = 42 + 48 + 56 = 146$, equation (3) is also satisfied.

Hence $a^3 + b^3 + c^3 = 7^3 + 6^3 + 8^3 = 343 + 216 + 512 = 1071$

Alternative solution:

Let the three numbers be a, b and c .

$$a + b + c = 21$$

$$abc = 336$$

$$ab + bc + ca = 146$$

$$a^2 + b^2 + c^2 = (a + b + c)^2 - 2(ab + bc + ca) = 149$$

$$a^3 + b^3 + c^3 - 3abc = (a + b + c)(a^2 + b^2 + c^2 - ab - bc - ca)$$

$$a^3 + b^3 + c^3 - 3(336) = (21)(149 - 146)$$

$$a^3 + b^3 + c^3 = 1071$$

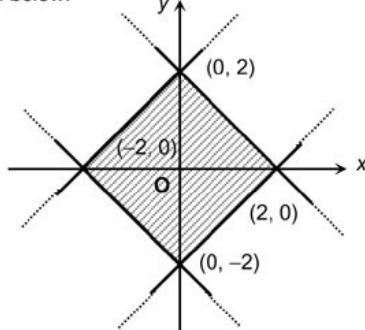
Choice (2)

12. There are 3 bumble bees on the 1st day, 9 on the second, 27 on the 3rd etc. After 8 weeks i.e. 56 days there will be 3^{56} bees.

Now we need the remainder when 3^{56} is divided by 5 which is 1.

Choice (4)

13. Consider the area enclosed by the graph of $|x| + |y| = 2$, given below.



The area of the shaded region will be

$$\left(\frac{\text{The product of the diagonals}}{2} \right) = \frac{4 \times 4}{2} = 8 \text{ sq.units}$$

This graph can be shifted in the plane (without changing its size and shape), from the origin as its centre, to any point (a, b) as its centre.

Then the new (shifted) graph will be $|x - a| + |y - b| = 2$ [Note: The area enclosed by such a graph is independent of the values of a and b].

Hence the area enclosed by the graph $|x - 1| + |y - 1| = 2$ is also 8 sq.units.

Choice (4)

14. If the second meeting point is same as the first, then it must be that they interchange their speeds each time they meet. This is possible only when the ratio of speeds is 2 : 1. Hence only two distinct ratios are possible (depending on who starts with the higher speed) i.e., 2 : 1 and 1 : 2.
Choice (1)

15. Let the cost price and selling price be C and S respectively
 $S = C(1.4)$ (0.9)
 $\therefore \text{Gross Profit (P)} = C(1.4 \times 0.9 - 1) = 0.26C$
 $\text{Net Profit} = P(0.9) = 468$
 $\Rightarrow P = 520 \Rightarrow C(0.26) = 520 \Rightarrow C = 2000$ Choice (3)

16. Let the number be $N = a^p \cdot b^q \cdot c^r$ with $p > q > r$ Where a, b, c, \dots are prime numbers and p, q and r are natural numbers.
Number of factors $N = (p+1)(q+1)(r+1) \dots = 4$
 $4 = (1)(4) = (2)(2)$
 $\therefore \text{the possibilities are}$
 $p+1 = 4$ OR
 $p+1 = q+1 = 2$
 $\therefore p = 3$ or $p = q = 1$
 $\therefore \text{Either } N = a^3 \text{ or } N = ab.$ In either case, sum of the factors of n excluding 1 and N is 56.
If $N = a^3$, $a + a^2 = 56$
 $\Rightarrow a = 7$. $N = 343$
if $N = ab$, $a + b = 56$
Assuming $a < b$, $(a, b) = (3, 53), (13, 43)$ or $(19, 37)$.
 $\therefore \text{Required sum} = 343 + (3)(53) + (13)(43) + (19)(37)$
 $= 343 + 159 + 559 + 703 = 1764$ Choice (2)

17. $y^2 \geq |x|$
If $x \geq 0$, $y^2 \geq x$. This corresponds to figure I.
If $x < 0$, $y^2 \geq -x$. This corresponds to figure II.
Figure (I) Figure (II)
-

Combining (I) & (II) gives the required shaded region.
Choice (2)

18. The number of ways of choosing the three non-zero and non-unity digits out of 8 digits = ${}^8C_3 = 56$. These can be arranged in $\frac{6!}{2! \times 2! \times 2!} = 90$ ways and the digit 1 can be placed in any of the seven possible locations with respect to the six digits ($7 \times 56 \times 90$ as 35280)
 \therefore There are 35280 trials that are needed. Choice (1)

19. Let the largest natural number written be n and let the erased number be x .

$$\frac{n(n+1)}{2} - x = 28 \frac{4}{9} = \frac{256}{9}$$
 $\Rightarrow (n-1) \text{ is a multiple of 9.}$
The average of n natural numbers is $\left(\frac{n+1}{2}\right)$

$\therefore 28 \frac{4}{9}$ should be close to $\left(\frac{n+1}{2}\right)$ as $(n-1)$ is divisible by 9,

$\therefore n$ is of the form $9k + 1$ close to $(2 \times 28) = 56$
Only value of ' n ' satisfying this is $n = 55$

$$\therefore n = 55$$
 $\text{when } n-1 = 54 \Rightarrow n = 55$

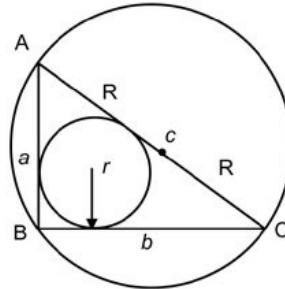
$$\therefore \frac{55 \times 56}{2} - x = \frac{256}{9}$$
 $\Rightarrow 55 \times 28 - x = 256 \times 6$
 $\Rightarrow x = 1540 - 1536 = 4$

Choice (2)

20. The area of a right-angled triangle whose inradius is r and circumradius is R is given by $(r^2 + 2Rr)$. In the given problem, $r = 4$ cm and $R = 10$ cm.
 \therefore The area is 96 sq.cm.

Proof:

Consider the right-angled triangle ABC shown below, wherein radius = r and circumradius = R



Let $AB = a$, $BC = b$ and $AC = c$

$$\text{Then area} = A = \frac{1}{2} ab = \frac{1}{2} r(a+b+c)$$

$$\Rightarrow 2A = r(a+b) + rc$$

$$\text{But } c = 2R \text{ and } a+b$$

$$= \sqrt{(a+b)^2} = \sqrt{a^2 + b^2 + 2ab} = \sqrt{(2R)^2 + 4A}$$

$$\Rightarrow 2A = r\sqrt{4R^2 + 4A} + 2Rr$$

$$\Rightarrow A - Rr = r\sqrt{R^2 + A}$$

$$\Rightarrow A^2 - 2ARr + R^2r^2 = R^2r^2 = r^2R^2 + r^2 \Rightarrow A = R^2 + 2Rr$$

$$\text{Now, given } r = 4 \text{ and } R = 10$$

$$\Rightarrow r^2 + 2Rr = 96$$

Alternative solution:

It can be noted that for a 3/4/5 right-angled triangle, inradius = 1 cm (i.e., because $rs = 1/2 ab$ OR $r(3+4+5) = \frac{1}{2} \times 3 \times 4$) and circumradius = 10 cm.

Hence for the given right-angled triangle, each parameter has become exactly four times that for a 3/4/5 right-angled triangle. Hence, the ratio of the dimension is 1 : 4 (i.e., $\frac{10}{25} = \frac{4}{1} = 4$) and the ratio of areas will be 1 : 16.

Hence, the area of the given triangle = $16 \times \left(\frac{1}{2} \times 3 \times 4\right)$
= 96 sq.cm

Difficulty level wise summary - Section I	
Level of Difficulty	Questions
Very Easy	-
Easy	2
Medium	1, 4, 6, 8, 11, 13, 15, 18, 20
Difficult	3, 5, 7, 9, 10, 12, 14, 16, 17, 19
Very Difficult	-

SECTION – II

Solutions for questions 21 to 24:

As no two pipelines connecting same place are carrying same amount, and at least one of the pipelines should carry same as that of the place, either H-I or G-H must carry 300. If G-H carries 300, then H-I must carry 200, which is not possible.

\therefore H-I must carry 300 and G-H must carry 400.

D-G should carry 400 more than the requirement at 6.

\therefore G's requirement must equal that of G-H.

\therefore Requirement at G = 400

D-G = 800

The maximum capacity of A-D is 1000.

\therefore D cannot be more than 100, as then A-D will be more than 1000.

\therefore D must be 100 and D-C must be 100.

A-D is 1000.

Similarly, E is 100 and E-I is 100.

\therefore I is $100 + 300 = 400$

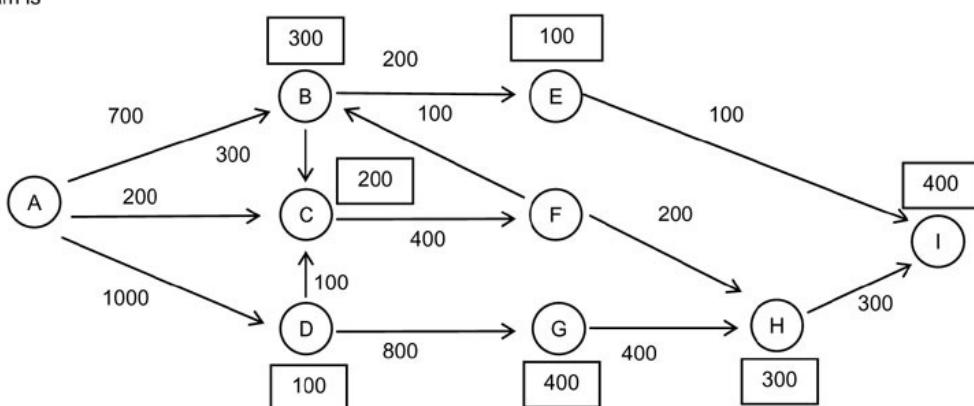
Total requirements of all the places given is

$300 + 200 + 100 + 100 + 400 + 300 + 400$ i.e., 1900. \therefore A-C = $1900 - (1000 + 700) = 200$

Now C-F cannot be 100.

\therefore F-B must be 100 and B-C must be 300 and C-F is 400.

The final diagram is



21.

Choice (4)

22.

Choice (4)

23.

Choice (2)

24.

Choice (3)

Solutions for questions 25 and 26:

From (i), we get the Sphere is made of diamond.

From (ii), we get the Cube is 3rd in weight and 4th in cost i.e., the cost of the Cube is 1000/-.

From (v), we get the Pyramid is green in colour and is manufactured through the process of Moulding. Hence, the Cone is made through the process of Casting.

From (iii), we get the Cube is made of Kryptonite and is manufactured through the process of Cutting. We can infer that the Pyramid is made of Glass and the Cone is made of Wood and is in Black colour.

The final arrangement we get is as follows.

Solid	Colour	Material	Process	Weight	Cost
Sphere		Diamond	Forging		
Cube		Kryptonite	Cutting	2 kg	1000/-
Pyramid	Green	Glass	Moulding		
Cone	Black	Wood	Casting		

25. If it is given that the solid made of Diamond is the heaviest but is not white then the arrangement we get is as follows

Solid	Colour	Material	Process	Weight	Cost
Sphere	Yellow	Diamond	Forging	4 kg	1 trillion
Cube	White	Kryptonite	Cutting	2 kg	1000/-
Pyramid	Green	Glass	Moulding	3 kg	1 million
Cone	Black	Wood	Casting	1 kg	1 billion

"The Sphere which is made of Diamond is Yellow in colour and is manufactured through the process of Forging" is definitely true.
Choice (3)

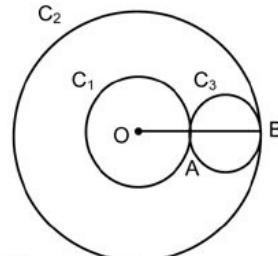
26. The Cone is made of Wood and is manufactured through the process of Casting.
Choice (4)

Solution for question 27:

27. From A alone, unless the date on which Venus played is known, the question cannot be answered.
Hence A alone is not sufficient.
From B alone, the 15th day is Tuesday and number of odd days in one. Hence 25th February is a Tuesday.
Hence B alone is sufficient.
Choice (2)

Solution for question 28:

28. From statement (A)
AB is the diameter of $C_3 \Rightarrow C$ is lying on AB.



Statement B
 $OC + CB > OA + AB$.
 $\Rightarrow OC + CB > OB$
 $\Rightarrow C$ is not lying on AB.
Choice (2)

Solutions for questions 29 to 32:

Since, the cost price of each item is a two digit prime number, each of the unit's digit in the cost price has to be 1, 3, 7 or 9. Since all the digits are to be different, the tens digit of each cost price has to be one of 2, 4, 5, 6 or 8.

∴ The available prime numbers are 23, 29, 41, 47, 53, 59, 61, 67, 83 and 89.

29. If Rs.47 and Rs.29 are the cost prices of two items, then the cost price of the third item would be Rs.61 and the cost price of the fourth item can be either Rs.53 or Rs.83. Accordingly the total amount spent will be Rs.190 or Rs.220.
Choice (4)

30. Choice (1) – The boy has to purchase one item costing Rs.41 or Rs.47. ∴ He cannot purchase the item costing Rs.43.

Choice (2) – The units digits of all the four cost prices are 1, 3, 7 and 9, whose sum is 20. Hence, the total cost is divisible by ten.

Choice (3) – Since, the cost prices with units digit 1 or 7 are 41, 47, 61 and 67, one item costing Rs.61 or Rs.67 has to be purchased.

Choice (4) – The boy can purchase items costing Rs.23, Rs.89, Rs.61 and Rs.47. Hence choice (4) is false.
Choice (4)

31. The cost of two items must be (41, 67) or (61, 47)
∴ Total cost of these two items will be the same. The costs of one of the remaining items is 23, 53, 83 and the other is 29, 59, 89.
∴ Difference is at the most 60.
Choice (4)

32. The difference will be the least if the costs of the items are 29, 47, 53, 61. In this case the difference is 32.
Choice (1)

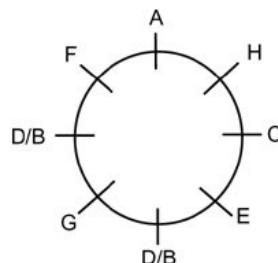
Solutions for questions 33 and 34:

33. Initially in the larger cube, the number of smaller cubes with exactly one side painted was $9 \times 6 = 54$ (i.e. 9 cubes on each face). When the smaller cubes were carved out of it and painted, the number of cubes with one side painted becomes $5 \times 6 = 30$.
Choice (3)

34. In the larger cube, there were exactly eight smaller cubes at the corners with exactly three faces painted. Now when a $2 \times 2 \times 2$ cube was carved out, all the smaller cubes in it become corner cubes and would have three sides painted. As each 2×2 cube also includes a corner cube of the larger cube, the total number of cubes with three faces painted = $8 \times 8 = 64$.
Choice (4)

Solution for question 35:

35. From A alone, we cannot determine who sits in between B and D. A alone is not sufficient.
From B alone, we cannot determine who sits in between B and D. So, B alone is not sufficient.
Combining A and B we get



G sits in between B and D.
Choice (3)

Solution for question 36:

36. Let the number of people who took bribe and were officers = n .

From statement A :

An officer never takes a bribe less than Rs.200.

Some of the following implications:

(i) An officer may or may not take a bribe.

(ii) If an officer takes a bribe, he takes more than or equal to Rs.200.

(iv) A non-officer may take a bribe.

Here, (A) alone is not sufficient.

From statement B :

- (i) If an officer takes bribe, it will be in 100, 200 and multiplies of 100.

This implies that a person taking bribe in 100, 200 may or may not be an officer.

Both statements (A) and (B) together are also not sufficient.
Choice (4)

Solutions for questions 37 to 40:

37. From B to I = 0

From I to P = 0

∴ Total cost = Rs.0
Choice (1)

38. From C to K = 0

From K to O = 476

Minimum total cost = Rs.476.
Choice (3)

39. The minimum cost is when sending from A to H, 1555 and then H to T = 0

∴ Total minimum cost = Rs.1555.
Choice (2)

40. Minimum cost is for sending from A to I and then from I to N
Rs.2255 + Rs.1572 = Rs.3827.
Choice (1)

Difficulty level wise summary - Section II	
Level of Difficulty	Questions
Very Easy	–
Easy	28, 36, 37, 38, 39, 40
Medium	25, 26, 27, 33, 34, 35
Difficult	21, 22, 23, 24, 29, 30, 31, 32
Very Difficult	–

SECTION – III

Solution for question 41:

41. Statement B is erroneous because the word order is incorrect here. The correction is 'so high is the court from where justice is delivered' Statement C is incorrect because the pronoun 'itself' does not agree with the plural word 'bretheren'. Therefore, the correction is '..... the robed bretheren as a class are a wonder in themselves. A and D are free of errors.
Choice (2)

Solution for question 42:

42. Levying fine on someone or inflicting punishment on someone means penalizing them or punishing them. Hence the words punish and penalize suit the context. The word accuse and torment do not suit the context. Hence 2 and 3 are inapt. The word retributive (requital usually for evil done) is most appropriate in the given context. Penalizing the perpetrator of evil is based on retributive justice. Hence choice 1 fits in most perfectly in the given context.
Choice (1)

Solutions for questions 43 to 46:

Number of words and Explanatory notes for RC:

Number of words : 792

43. The sentence appears in para (3) and the pronoun stands for the immediate precedent (parable). So, the reference is to the short-story by Susan Gaspell as stated in the

previous para. All the other options are distractors. Choice (2) seems right, but is logically flawed. Note that noun conundrums is plural and can't be followed by pronoun 'it'.
Choice (3)

44. Choice (3) is the answer. Refer to paras (1) and (2). It is clear that her own native tradition is criticism of American literature produced by women. From British women literature, she has turned to American literature. Choice (1) is not specific. Choice (2) is not suggested. "American traditions" renders choice (4) incorrect.
Choice (3)

45. Refer to para (6), where the idea is discussed. Read in context, we can easily arrive at choice (1) as the answer. Choice (2) is vague and incomplete. Choice (3) is an absurd suggestion.
Choice (1)

46. Choice (1) can be inferred in the lines 'boring Gertrude Stein'. Choice (2) is not true. Ms. Showalter does not level the charges of racism on Wheatley.. She 'instead ...appreciates their literary achievements'. Choice (3) can be inferred from 'Ms. Showalter makes a powerful case' for Stowe's 'exceptional literary craft. Choice (4) can be inferred from as 'modernism' drew a 'macho' image of the artist'.
Choice (2)

Solution for question 47:

47. It is evident from the sentence that Indian sculptors are not favourably disposed towards 'borrowings'. Hence we cannot say that the Indian sculptors consider it a boon, therefore option 1 is ruled out. The word encumbrance is a misfit here because 'borrowings' cannot be called an encumbrance. Hence option 2 can be eliminated. Although the word anathema may fit into the first blank, the word risible (laughable) does not make sense in the second blank. When 'borrowings' are acceptable and the concept of 'global-local' is common place in the post-modern world, it is paradoxical that the Indian scholars consider it a bug bear. Hence option 4 is most logical.
Choice (4)

Solution for question 48:

48. Only the word explosion suits the context perfectly, because here we are talking in terms of the steep increase in the number of people. The words proliferation, burgeoning and eruption are not suitable in this context because we cannot say the rapid proliferation, burgeoning or eruption in the number of people. Hence only 1 is apt.
Choice (1)

Solutions for questions 49 and 50:

Number of words and Explanatory notes for RC:

Number of words : 769

49. Choice (1) is the answer. The last two paras discuss the implications of firms footing the bill for coaching. While option (2) is a reason, option (1) is clearly not. Options (3) and (4) are supported by para (4).
Choice (1)

50. Choice (1) is not true, '...a few coaches are exbosses...' choice (2) is true '...coaching market\$1 billion... double...' Choice (3) is true 'Two thirds are women ...' choice (4) is stated '...counsel clients... work problems ...home lives.
Choice (1)

Solutions for questions 51 to 54:

Number of words and Explanatory notes for RC:

Number of words : 891

51. Choices (1) and (2) are categorical and hence ruled out. Choices (3) and (4) are probable. By reading the second para and the last para, we can arrive at choice (4) as the

best pick. "Poverty is still very grave," and 'a third of the population is still illiterate' in para 2 and the phrase "it must go much further" in the last para support option (4).
Choice (4)

52. Choice (2) is the answer. In para (6), the author contests the claim that the India's commitment to democracy is due to the British influence (why has this not happened in a hundred other countries which were under colonial rule). He subscribes to all the other views, at least partially.
Choice (2)

53. Both examples are cited to support the point '....India... having a long ... argumentative tradition' and '... the tradition of dissent. Hence, choice (3) is the answer....'. Choice (1) is not specific. Choice (2) explains what happened in the conclaves, but not the conclusion that can be drawn from the same. Choice (4) is irrelevant.
Choice (3)

54. Choice (1) is the answer. The author begins by asking have we been a successful democracy, points out the areas we could have done better and concludes by stating where we stand now. Choice (2) is an easy elimination. Choice (3) – showcases India is not apt, certainly not the author's objective. Choice 4 is irrelevant.
Choice (1)

Solution for question 55:

55. The sentence states that a leader should be able to create a utopia. But if the utopia is abstract rather than concrete, unrealistic rather than realistic then the utopia will obviously turn into the opposite of utopia i.e. dystopia. Therefore choice 3 is apt.
Choice (3)

Solution for question 56:

56. The word which fits into the first blank should contrast with what is stated in the first part of the sentence. While the first part of the sentence speaks about a constitutional republic (a state in which supreme power is held by the people or their elected representatives). The second part of the sentence talks about dictatorship or monarchy. The expression '....fear of an all powerful autocrat' indicates that the reference is to a dictatorial leadership. Hence we look at options 2, 3 and 4 only. But options 2 and 3 can be ruled out because an autocratic or dictatorial form of government cannot be radical or reformist. The word capricious (irregular, unpredictable) is most appropriate in the second blank. Hence choice 4.
Choice (4)

Solution for question 57:

57. The word continual means happening repeatedly in an annoying or inconvenient way. The word continuous means without a pause or interruption. Only the former is appropriate in the context. Choice A.
To become effective means to come to effect or to become functional. Effectual means to be effective and successful. Only the former is effective in the given context. Hence B.
The word incredulous means not wanting or not able to believe something, and usually showing this. It fits aptly in the given sentence. The word incredible which means impossible or very difficult to believe is inappropriate in comparison.
The word complimentary is suitable in the given context. If tickets, books or other items are complimentary, they are given free, especially by a business. Only A suits the context.
If you infer something you form an opinion or guess that something is true because of the information that you have. To imply is to communicate an idea without saying it directly. Only the former suits the context. Hence A.
The correct sequence is ABAA. Choice (3)

Solution for question 58:

58. The lyric indicates that the box no longer contains any wishes or dreams since these have been answered by the loved one. It must be kept in mind that, since the person is not talking about 'a box for my wishes....', but about 'a box for wishes....', this would, logically, indicate anybody's (and everybody's) unfulfilled wishes and dreams.

With these expressions:

- (a) can be understood.
- That the loved one could 'answer' does not indicate that no one else could. Thus, (b) cannot be inferred.
- The last 2 lines indicate that (c) can be understood.
- For the same reasons as for (b), (d) cannot be inferred.
- Since the box can, conceivably, contain all unfulfilled wishes and dreams, (e) can be inferred. Choice (1)

59. The sentence preceding the blank introduces the idea of 'divergent thought'. Hence, only option 4 logically concludes the paragraph. Options, 1, 2 and 3 are unrelated.

Choice (4)

60. Statement B is erroneous due to the inappropriate positioning of the adverb 'almost'. The correction is 'it has swallowed almost every subject.....'. In statement C the pronoun 'their' does not agree with the subject 'bombing'. The correction is '..... the bombing of Hiroshima and its consequences.' Statements A and D are free of errors.

Choice (1)

Difficulty level wise summary - Section III	
Level of Difficulty	Questions
Very Easy	-
Easy	49, 50
Medium	41, 43, 44, 45, 48, 51, 52, 53, 55, 56, 59, 60
Difficult	42, 46, 47, 54, 57, 58
Very Difficult	-