

**INSTRUCTIONS****Before the test:**

1. DO NOT REMOVE THE SEALS OF THE PLASTIC ENVELOPE OF THIS BOOKLET UNTIL THE SIGNAL TO START IS GIVEN.
2. Keep only t Admit Card, pencil, eraser and sharpener with you. DO NOT KEEP with you books, rulers, slide rulers, drawing instruments, calculators (including watch calculators), pagers, cellular phones, stop watches or any other device or loose paper. These should be left at a place indicated by the invigilator.
3. Use only HB pencil to fill in the Answer sheet.
4. Enter in your Answer Sheet: (a) in Box 3, t Test Form Number that appears at the bottom of this page, (b) in Box 4, the Test Booklet Serial Number that appears at the top of this page.
5. Ensure that your personal data have been entered correctly on Side – II of the Answer sheet.
6. Ensure that you have entered your 7-digit Test Registration Number in Box 2 of the Answer sheet correctly.

**At the start of the Test:**

1. As soon as the signal to start is given, open the Test Booklet.
2. This Test Booklet contains 36 pages, including the blank ones. Immediately after opening the Test Booklet, verify that all the pages are printed properly and are in order. If there is a problem with your Test Booklet, immediately inform the invigilator. You will be provided with a replacement.

**How to answer:**

1. This test contains **150** questions in three sections. **There are 50 questions in Section I, 50 questions in Section II and 50 questions in Section III.** You have two hours to complete the test. In distributing the time over the three sections, please bear in mind that you need to demonstrate your competence in al l three sections.
2. Directions for answering the questions are given before each group of questions. Read these directions carefully and answer the questions by darkening the appropriate circles on the Answer Sheet. Each question has only one correct answer.
3. **Each question carries 1 mark. Each wrong answer will attract a penalty of one-third of the marks allotted to that question.**
4. Do your rough work only on the Test Booklet and Not on the Answer Sheet.
5. Follow the instructions of the invigilator. Candidates found violating the instructions will be disqualified.

**After the Test:**

1. At the end of the test, remain seated. The invigilator will collect the Answer Sheet from your seat. Do not leave the hall until the invigilator announces “You may leave now”. The invigilator will make the announcement only after collecting the Answer Sheets from all the candidates in the room.
2. You may retain this Test Booklet with you.

## SECTION I

Number of Questions: 50

**DIRECTIONS:** There are two gaps in each of the following sentences. From the pairs of words given, choose the one that fills the gaps most appropriately. The first word in the pair should fill the first gap.

1. Their achievement in the field of literature is described as \_\_\_\_\_; sometimes it is even called \_\_\_\_\_.  
(1) magnificent, irresponsible (2) insignificant, influential  
(3) significant, paltry (4) unimportant, trivial
2. From the time she had put her hair up, every man she had met had grovelled before her and she had acquired a mental attitude toward the other sex which was a blend of \_\_\_\_\_ and \_\_\_\_\_.  
(1) admiration, tolerance (2) indifference, contempt  
(3) impertinence, temperance (4) arrogance, fidelity
3. This simplified \_\_\_\_\_ to the decision-making process is a must read for anyone \_\_\_\_\_ important real estate, personal, or professional decisions.  
(1) primer, maximizing (2) tract, enacting (3) introduction, under (4) guide, facing
4. Physicians may soon have \_\_\_\_\_ to help paralyzed people move their limbs by bypassing the \_\_\_\_\_ nerves that once controlled their muscles.  
(1) instruments, detrimental (2) ways, damaged  
(3) reason, involuntary (4) impediments, complex
5. The Internet is a medium where users have nearly \_\_\_\_\_ choices and \_\_\_\_\_ constraints about where to go and what to do.  
(1) unbalanced, nonexistent (2) embarrassing, no  
(3) unlimited, minimal (4) choking, shocking
6. The best punctuation is that of which the reader is least conscious, for when punctuation, or lack of it, \_\_\_\_\_ itself, it is usually because it \_\_\_\_\_.  
(1) obtrudes, offends (2) enjoins, fails  
(3) conceals, recedes (4) effaces, counts
7. The argument that the need for a looser fiscal policy to \_\_\_\_\_ demand outweighs the need to \_\_\_\_\_ budget deficits is persuasive.  
(1) assess, minimize (2) outstrip, eliminate (3) stimulate, control (4) restrain, conceal
8. The Athenians on the whole were peaceful and prosperous, they had \_\_\_\_\_ to sit at home and think about the universe and dispute with Socrates, or to travel abroad and \_\_\_\_\_ the world.  
(1) leisure, explore (2) time, ignore (3) ability, suffer (4) temerity, understand

**DIRECTIONS:** The sentences given in each question, when properly sequenced, form coherent paragraph. Each sentence is labelled with a letter. Choose the most logical order of sentences from among the given choices to construct a coherent paragraph.

9.

- A. To, much of the Labour movement, it symbolises the brutality of the upper classes.
- B. And to everybody watching, the current mess over foxhunting symbolises the government's weakness.
- C. To foxhunting's supporters, Labour's 1991 manifesto commitment to ban it symbolises the party's metropolitan roots and hostility to the countryside.
- D. Small issues sometimes have large symbolic power.
- E. To those who enjoy thundering across the countryside in red coats after foxes, foxhunting symbolises the ancient roots of rural lives.

(1) DEACB                      (2) ECDBA                      (3) CEADB                      (4) DBAEC

10.

- A. In the case of King Merolchazzar's courtship of the Princess of the Outer Isles, there occurs a regrettable hitch.
- B. She acknowledges the gifts, but no word of a meeting date follows.
- C. The monarch, hearing good reports of a neighbouring princess, dispatches messengers with gifts to her court, beseeching an interview.
- D. The princess names a date, and a formal meeting takes place; after that everything buzzes along pretty smoothly.
- E. Royal love affairs in olden days were conducted on the correspondence method.

(1) ACBDE                      (2) ABCDE                      (3) ECDAB                      (4) ECBAD

11.

- A. Who can trace to its first beginnings the love of Damon for Pythias, of David for Jonathan, of Swan for Edgar?
- B. Similarly with men.
- C. There is about great friendships between man and man a certain inevitability that can only be compared with the age old association of ham and eggs.
- D. One simply feels that it is one of the things that must be so.
- E. No one can say what was the mutual magnetism that brought the deathless partnership of these wholesome and palatable foodstuffs about.

(1) ACBED                      (2) CEDBA                      (3) ACEBD                      (4) CEABD

12.

- A. Events intervened, and in the late 1930s and 1940s, Germany suffered from "over-branding".
- B. The British used to be fascinated by the home of Romanticism.
- C. But reunification and the federal government's move to Berlin have prompted Germany to think again about its image.
- D. The first foreign package holiday was a tour of Germany organized by Thomas Cook in 1855.
- E. Since then, Germany has been understandably nervous about promoting itself abroad.

(1) ACEBD                      (2) DECAB                      (3) BDAEC                      (4) DBAEC

13.

- A. The wall does not simply divide Israel from a putative Palestinian state on the basis of the 1967 borders.
- B. A chilling omission from the road map is the gigantic 'separation wall' now being built in the West Bank by Israel.
- C. It is surrounded by trenches, electric wire and moats; there are watchtowers at regular intervals.
- D. It actually takes in new tracts of Palestinian land, sometimes five or six kilometres at a stretch.
- E. Almost a decade after the end of South African apartheid, this ghastly racist wall is going up with scarcely a peep from Israel's American allies who are going to pay for most of it.

(1) BCADE                      (2) BADCE                      (3) AEDCB                      (4) ECADB

14.

- A. Luckily the tide of battle moved elsewhere after the American victory at Midway and an Australian victory over Japan at Milne Bay.
- B. It could have been no more than a delaying tactic.
- C. The Australian military, knowing the position was hopeless, planned to fall back to the south-east in the hope of defending the main cities.
- D. They had captured most of the Solomon Islands and much of New Guinea, and seemed poised for an invasion.
- E. Not many people outside Australia realize how close the Japanese got.

(1) EDCBA                      (2) ECDAB                      (3) ADCBE                      (4) CDBAE

15.

- A. Call it the third wave sweeping the Indian media.
- B. Now, they are starring in a new role, as suave dealmakers who are in a hurry to strike alliances and agreements.
- C. Look around and you will find a host of deals that have been inked or are ready to be finalized.
- D. Then the media barons wrested back control from their editors, and turned marketing warriors with the brand as their missile.
- E. The first came with those magnificent men in their mahogany chambers who took on the world with their mighty fountain pens.

(1) ACBED                      (2) CEBDA                      (3) CAEBD                      (4) AEDBC

16.

- A. The celebrations of economic recovery in Washington may be as premature as that "Mission Accomplished" banner hung on the USS Abraham Lincoln to hail the end of the Iraq war.
- B. Meanwhile, in the real world, the struggles of families and communities continue unabated.
- C. Washington responded to the favourable turn in economic news with enthusiasm.
- D. The celebrations and high-fives up and down Pennsylvania Avenue are not to be found beyond the Beltway.
- E. When the third quarter GDP showed growth of 7.2% and the monthly unemployment rate dipped to 6%, euphoria gripped the US capital.

(1) ACEDB                      (2) CEDAB                      (3) ECABD                      (4) ECBDA

**DIRECTIONS:** In each question, the word at the top of the table is used in four different ways, numbered 1 to 4. Choose the option in which the usage of the word is **INCORRECT** or **INAPPROPRIATE**.

**17. Help**

1	This syrup will help your cold.
2	I can't help the colour of my skin.
3	Ranjit may help himself with the beer in the fridge.
4	Do you really expect me to help you out with cash?

**18. Reason**

1	Your stand is beyond all reason.
2	Has she given you any reason for her resignation?
3	There is little reason in your pompous advice.
4	How do you deal with a friend who doesn't listen to a reason?

**19. Paper**

1	Your suggestions look great on the paper, but are absolutely impractical.
2	Do you know how many trees are killed to make a truckload of paper?
3	So far I have been able to paper over the disagreements among my brothers.
4	Dr. Malek will read a paper on criminalization of politic.

**20. Business**

1	I want to do an MBA before going into business.
2	My wife runs profitable business in this suburb.
3	If we advertise we will get twice as much business as we have now.
4	How you spend your money is as much my business as yours.

**21. Service**

1	Customers have to service themselves at this canteen.
2	It's a service lift; don't get into it.
3	I'm not making enough even to service the loan.
4	Jyoti's husband has been on active service for three months.

**DIRECTIONS:** Four alternative summaries are given below each text. Choose the option that best captures the essence of the text.

22. Some decisions will be fairly obvious - “no-brainers.” Your bank account is low, but you have a two-week vacation coming up and you want to get away to some place warm to relax with your family. Will you accept your in-laws’ offer of free use of their Florida beachfront condo? Sure. You like your employer and feel ready to move forward in your career. Will you step in for your boss for three weeks while she attends a professional development course? Of course.
- A. Some decisions are obvious under certain circumstances. You may, for example, readily accept a relative’s offer of free holiday accommodation. Or step in for your boss when she is away.
  - B. Some decisions are no-brainers. You need not think when making them. Examples are condo offers from in-laws and job offers from bosses when your bank account is low or boss is away.
  - C. Easy decisions are called “no-brainers” because they do not require any cerebral activity. Examples such as accepting free holiday accommodation abound in our lives.
  - D. Accepting an offer from in-laws when you are short on funds and want a holiday is a no-brainer. Another no-brainer is taking the boss’s job when she is away.

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

23. Physically, inertia is a feeling that you just can’t move; mentally, it is a sluggish mind. Even if you try to be sensitive, if your mind is sluggish, you just don’t feel anything intensely. You may even see a tragedy enacted in front of your eyes and not be able to respond meaningfully. You may see one person exploiting another, one group persecuting another, and not be able to get angry. Your energy is frozen. You are not deliberately refusing to act; you just don’t have the capacity.
- A. Inertia makes your body and mind sluggish. They become insensitive to tragedies, exploitation, and persecution because it freezes your energy and de-capacitates it.
  - B. When you have inertia you don’t act although you see one person exploiting another or one group persecuting another. You don’t get angry because you are incapable.
  - C. Inertia is of two types– physical and mental. Physical inertia restricts bodily movements. Mental inertia prevents mental response to events enacted in front of your eyes.
  - D. Physical inertia stops your body from moving; mental inertia freezes your energy, and stops your mind from responding meaningfully to events, even tragedies, in front of you.

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

24. Try before you buy. We use this memorable saying to urge you to experience the consequences of an alternative before you choose it, whenever this is feasible. If you are considering buying a van after having always owned sedans, rent one for a week or borrow a friend’s. By experiencing the consequences first hand, they become more meaningful. In addition, you are likely to identify consequences you had not even thought of before. May be you will discover that it is difficult to park the van in your small parking space at work, but that, on the other hand, your elderly father has a much easier time getting in and out of it.
- A. If you are planning to buy a van after being used to sedans, borrow a van or rent it and try it before deciding to buy it. Then you may realize that parking a van is difficult while it is easier for your elderly father to get in and out of it.
  - B. Before choosing an alternative, experience its consequences if feasible. If, for example, you want to change from sedans to a van, try one before buying it. You will discover aspects you may never have thought of.

- C. Always try before you buy anything. You are bound to discover many consequences. One of the consequences of going in for a van is that it is more difficult to park than sedans at the office car park.
- D. We urge you to try products such as vans before buying them. Then you can experience consequences you have not thought of such as parking problems. But your father may find vans more comfortable than cars.

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

25. It is important for shipping companies to be clear about the objectives for maintenance and materials management– as to whether the primary focus is on service level improvement or cost minimization. Often when certain systems are set in place, the cost minimization objective and associated procedure become more important than the flexibility required for service level improvement. The problem really arises since cost minimization tends to focus on out of pocket costs which are visible, while the opportunity costs, often greater in value, are lost sight of.

- A. Shipping companies have to either minimize costs or maximize service quality. If they focus on cost minimization, they will reduce quality. They should focus on service level improvement, or else opportunity costs will be lost sight of.
- B. Shipping companies should determine the primary focus of their maintenance and materials management. Focus on cost minimization may reduce visible costs, but ignore greater invisible costs and impair service quality.
- C. Any cost minimization program in shipping is bound to lower the quality of service. Therefore, shipping companies must be clear about the primary focus of their maintenance and materials management before embarking on cost minimization.
- D. Shipping companies should focus on quality level improvement rather than cost cutting. Cost cutting will lead to untold opportunity costs. Companies should have systems in place to make the service level flexible.

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

**DIRECTIONS:** Each of the five passages given below is followed by five questions. Choose the best answer to each question.

### PASSAGE I

The endless struggle between the flesh and the spirit found an end in Greek art. The Greek artists were unaware of it. They were spiritual materialists, never denying the importance of the body and ever seeing in the body a spiritual significance. Mysticism on the whole was alien to the Greeks, thinkers as they were. Thought and mysticism never go well together and there is little symbolism in Greek art. Athena was not a symbol of wisdom but an embodiment of it and her statues were beautiful grave women, whose seriousness might mark them as wise, but who were marked in no other way. The Apollo Belvedere is not a symbol of the sun, nor the Versailles Artemis of the moon. There could be nothing less akin to the ways of symbolism than their beautiful, normal humanity. Nor did decoration really interest the Greeks. In all their art they were preoccupied with what they wanted to express, not with ways of expressing it, and lovely expression, merely as lovely expression, did not appeal to them at all.

Greek art is intellectual art, the art of men who were clear and lucid thinkers, and it is therefore plain art. Artists than whom the world has never seen greater, men endowed with the spirit's best gift, found their natural method of expression in the simplicity and clarity which are the endowment of the unclouded reason. "Nothing in excess," the Greek axiom of art, is the dictum of men who would brush aside all obscuring, entangling superfluity, and see clearly: plainly, unadorned, what they wished to express. Structure belongs in an especial degree to the province of the mind in art, and architectonics were pre-eminently a mark of the Greek. The power that made a unified whole of the trilogy of a Greek tragedy, that envisioned the sure, precise, decisive scheme of the Greek statue, found its most conspicuous expression in Greek architecture. The Greek temple is the creation, par excellence, of mind and spirit in equilibrium.

A Hindoo temple is a conglomeration of adornment. The lines of the building are completely hidden by the decorations. Sculptured figures and ornaments crowd its surface, stand out from it in thick masses, break it up into a bewildering series of irregular tiers. It is not a unity but a collection, rich, confused. It looks like something not planned but built this way and that as the ornament required. The conviction underlying it can be perceived: each bit of the exquisitely wrought detail had a mystical meaning and the temple's exterior was important only as a means for the artist to inscribe thereon the symbols of the truth. It is decoration, not architecture.

Again, the gigantic temples of Egypt, those massive immensities of granite which look as if only the power that moves in the earthquake were mighty enough to bring them into existence, are something other than the creation of geometry balanced by beauty. The science and the spirit are there, but what is there most of all is force, inhuman force, calm but tremendous, overwhelming. It reduces to nothingness all that belongs to man. He is annihilated. The Egyptian architects were possessed by the consciousness of the awful, irresistible domination of the ways of nature; they had no thought to give to the insignificant atom that was man.

Greek architecture of the great age is the expression of men who were, first of all, intellectual artists, kept firmly within the visible world by their mind, but, only second to that, lovers of the human world. The Greek temple is the perfect expression of the pure intellect illumined by the spirit. No other great buildings anywhere approach its simplicity. In the Parthenon straight columns rise to plain capitals; a pediment is sculptured in bold, relief; there is nothing more. And yet here is the Greek miracle—this absolute simplicity of structure is alone in majesty of beauty among all the temples and cathedrals and palaces of the world. Majestic but human, truly Greek. No superhuman force as in Egypt; no strange supernatural shapes as in India; the Parthenon is the home of humanity! At ease, calm, ordered, sure of itself and the world. The Greeks flung a challenge to nature in the fullness of their joyous strength. They set their temples on the summit of a hill overlooking the wide sea, outlined against the circle of the sky. They would build what was more beautiful than hill and sea and sky and greater than all these. It matters not at all if the temple is large or small; one never thinks of the size. It matters not how much it is in ruins. A few white columns dominate the lofty height at Sunion as securely as the great



mass of the Parthenon dominates all the sweep of sea and land around Athens. To the Greek architect man was the master of the world. His mind could understand its laws; his spirit could discover its beauty.

**26.** *From the passage, which of the following combinations can be inferred to be correct?*

- |                                     |                              |
|-------------------------------------|------------------------------|
| (1) Hindoo temple – power of nature | (2) Parthenon – simplicity   |
| (3) Egyptian temple – mysticism     | (4) Greek temple – symbolism |

**27.** *Which of the following is NOT a characteristic of Greek architecture, according to the passage?*

- |                              |                          |
|------------------------------|--------------------------|
| (1) A lack of excess.        | (2) Simplicity of form.  |
| (3) Expression of intellect. | (4) Mystic spirituality. |

**28.** *According to the passage, what conception of man can be inferred from Egyptian architecture?*

- (1) Man is the centre of creation.
- (2) Egyptian temples save man from inhuman forces.
- (3) Temples celebrate man's victory over nature.
- (4) Man is inconsequential before the tremendous force of nature.

**29.** *According to the passage, which of the following best explains why there is little symbolism in Greek art?*

- (1) The Greeks focused on thought rather than mysticism.
- (2) The struggle between the flesh and the spirit found an end in Greek art.
- (3) Greek artists were spiritual materialists.
- (4) Greek statues were embodiments rather than symbols of qualities.

**30.** *“The Greeks flung a challenge to nature in the fullness of their joyous strength.” Which of the following best captures the ‘challenge’ that is being referred to?*

- (1) To build a monument matching the background colours of the sky and the sea.
- (2) To build a monument bigger than nature's creations.
- (3) To build monuments that were more appealing to the mind and spirit than nature's creations.
- (4) To build a small but architecturally perfect monument.

## PASSAGE II

At first sight, it looks as though panchayati raj, the lower layer of federalism in our polity, is as firmly entrenched in our system as is the older and higher layer comprising the Union Government and the States. Like the democratic institutions at the higher level, those at the panchayat level, the panchayati raj institutions (PRIs), are written into and protected by the Constitution. All the essential features, which distinguish a unitary system from a federal one, are as much enshrined at the lower as at the upper level of our federal system. But look closely and you will discover a fatal flaw. The letter of the Constitution as well as the spirit of the present polity have exposed the intra-State level of our federal system to a dilemma of which the inter-State and Union-State layers are free. The flaw has many causes. But all of them are rooted in an historical anomaly, that while the dynamics of federalism and democracy have given added strength to the rights given to the States in the Constitution, they have worked against the rights of panchayats.

At both levels of our federal system there is the same tussle between those who have certain rights and those who try to encroach upon them if they believe they can. Thus the Union Government was able to encroach upon certain rights given to the States by the Constitution. It got away with that because the single dominant party system, which characterised Centre-State relations for close upon two decades, gave the party in power at the Union level many extra-constitutional political levers. Second, the Supreme Court had not yet begun to extend the limits of its power. But all that has changed in recent times. The spurt given to a multi-party democracy by the overthrow of the Emergency in 1977 became a long-term trend later on because of the ways in which a vigorously democratic multi-party system works in a political society which is as assertively pluralistic as Indian society is. It gives political clout to all the various segments which constitute that society. Secondly, because of the linguistic reorganisation of States in the 1950s, many of the most assertive segments have found their most assertive expression as States. Thirdly, with single-party dominance becoming a thing of the past at the Union level, governments can be formed at that level only by multi-party coalitions in which State-level parties are major players. This has made it impossible for the Union Government to do much about anything unless it also carries a sufficient number of State-level parties with it. Indian federalism is now more real than it used to be, but an unfortunate side-effect is that India's panchayati raj system, inaugurated with such fanfare in the early 1980s, has become less real.

By the time the PRIs came on the scene, most of the political space in our federal system had been occupied by the Centre in the first 30 years of Independence, and most of what was still left after that was occupied by the States in the next 20. PRIs might have hoped to wrest some space from their immediate neighbour, the States, just as the States had wrested some from the Centre. But having at last managed to checkmate the Centre's encroachments on their rights, the States were not about to allow the PRIs to do some encroaching of their own.

By the 1980s and early 1990s, the only national party left, the Congress, had gone deeper into a siege mentality. Finding itself surrounded by State-level parties, it had built walls against them instead of winning them over. Next, the States retaliated by blocking Congress proposals for panchayati raj in Parliament, suspecting that the Centre would try to use panchayats to bypass State Governments. The suspicion fed on the fact that the powers proposed by the Congress for panchayats were very similar to many of the more lucrative powers of State Governments. State-level leaders also feared, perhaps, that if panchayat-level leaders captured some of the larger PRIs, such as district-level panchayats, they would exert pressure on State-level leaders through intra-State multi-party federalism.

It soon became obvious to Congress leaders that there was no way the panchayati raj amendments they wanted to write into the Constitution would pass muster unless State-level parties were given their pound of flesh. The amendments were allowed only after it was agreed that the powers of panchayats could be listed in the Constitution. Illustratively, they would be defined and endowed on PRIs by the State Legislature acting at its discretion.

This left the door wide open for the States to exert the power of the new political fact that while the Union and State Governments could afford to ignore panchayats as long as the MLAs were happy, the Union Government had to be sensitive to the demands of State-level parties. This has given State-level actors strong beachheads on the shores of both inter-State and intra-State federalism. By using various administrative devices and non-elected parallel structures, State Governments have subordinated their PRIs to the State administration and given the upper hand to State Government officials against the elected heads of PRIs. Panchayats have become local agencies for implementing schemes drawn up in distant State capitals. And their own volition has been further circumscribed by a plethora of "Centrally-sponsored schemes". These are drawn up by even more distant Central authorities but at the same time tie up local staff and resources on pain of the schemes being switched off in the absence of matching local contribution. The "foreign aid" syndrome can be clearly seen at work behind this kind of "grass roots development".

**31.** *The central theme of the passage can be best summarized as*

- (1) Our grassroots development at the panchayat level is now driven by the "foreign aid" syndrome.
- (2) Panchayati raj is firmly entrenched at the lower level of our federal system of governance.
- (3) A truly federal polity has not developed since PRIs have not been allowed the necessary political space.
- (4) The Union government and State-level parties are engaged in a struggle for the protection of their respective rights.

**32.** *The sentence in the last paragraph, "And their own volition has been further circumscribed...", refers to:*

- (1) The weakening of the local institutions' ability to plan according to their needs.
- (2) The increasing demands made on elected local leaders to match central grants with local contributions.
- (3) The empowering of the panchayat system as implementers of schemes from State capitals.
- (4) The process by which the prescribed Central schemes are reformulated by local elected leaders.

**33.** *What is the "dilemma" at the intra-State level mentioned in the first paragraph of the passage?*

- (1) Should the state governments wrest more space from the Union, before considering the panchayati system?
- (2) Should rights similar to those that the States managed to get be extended to panchayats as well?
- (3) Should the single party system which has withered away be brought back at the level of the States?
- (4) Should the States get "their pound of flesh" before allowing the Union government to pass any more laws?

**34.** *Which of the following most closely describes the 'fatal flaw' that the passage refers to?*

- (1) The ways in which the democratic multi-party system works in an assertively pluralistic society like India's are flawed.
- (2) The mechanisms that our federal system uses at the Union government level to deal with States are imperfect.
- (3) The instruments that have ensured federalism at one level, have been used to achieve the opposite at another.
- (4) The Indian Constitution and the spirit of the Indian polity are fatally flawed.

**35.** *Which of the following best captures the current state of Indian federalism as described in the passage?*

- (1) The Supreme Court has not begun to extend the limits of its power.
- (2) The multi-party system has replaced the single party system.
- (3) The Union, state and panchayati raj levels have become real.
- (4) There is real distribution of power between the Union and State level parties.

### PASSAGE III

While I was in class at Columbia, struggling with the esoterica du jour, my father was on a bricklayer's scaffold not far up the street, working on a campus building. Once we met up on the subway going home— he was with his tools, I with my books. My father wasn't interested in Thucydides, and I wasn't up on arches. My dad has built lots of places in New York City he can't get into: colleges, condos, office towers. He made his living on the outside. Once the walls were up, a place took on a different feel for him, as though he wasn't welcome anymore. Related by blood, we're separated by class, my father and I. Being the white-collar child of a blue-collar parent means being the hinge on the door between two ways of life. With one foot in the working-class, the other in the middle class, people like me are Straddlers, at home in neither world, living a limbo life.

What drove me to leave what I knew? Born blue-collar, I still never felt completely at home among the tough guys and anti-intellectual crowd of my neighbourhood in deepest Brooklyn. I never did completely fit in among the preppies and suburban royalty of Columbia, either. It's like that for Straddlers. It was not so smooth jumping from Italian old-world style to US professional in a single generation. Others who were the first in their families to go to college, will tell you the same thing: the academy can render you unrecognisable to the very people who launched you into the world. The ideas and values absorbed in college challenge the mom-and-pop orthodoxy that passed for truth for 18 years. Limbo folk may eschew polyester blends for sea-isle cotton, prefer Brie to Kraft slices. They marry outside the neighbourhood and raise their kids differently. They might not be in church on Sunday.

When they pick careers (not jobs), it's often a kind of work their parents never heard of or can't understand. But for the white-collar kids of blue-collar parents, the office is not necessarily a sanctuary. In Corporate America, where the rules are based on notions foreign to working-class people, a Straddler can get lost. Social class counts at the office, even though nobody likes to admit it. Ultimately, corporate norms are based on middle-class values, business types say. From an early age, middle-class people learn how to get along, using diplomacy, nuance, and politics to grab what they need. It is as though they are following a set of rules laid out in a manual that blue-collar families never have the chance to read.

People born into the middle class to parents with college degrees have lived lives filled with what French sociologist Pierre Bourdieu calls 'cultural capital'. Growing up in an educated environment, they learn about Picasso and Mozart, stock portfolios and crème brulee. In a home with cultural capital, there are networks: someone always has an aunt or golfing buddy with the inside track for an internship or some entry-level job. Dinner-table talk could involve what happened that day to mom and dad at the law firm, the doctor's office, or the executive suite. Middle-class kids can grow up with a sense of entitlement that will carry them through their lives. This 'belongingness' is not just related to having material means; it also has to do with learning and possessing confidence in your place in the world. Such early access and direct exposure to culture in the home is the more, organic, 'legitimate' means of appropriating cultural capital, Bourdieu tells us. Those of us possessing 'ill-gotten Culture' can learn it, but never as well. Something is always a little off about us, like an engine with imprecise timing. There's a greater match between middle-class lives and the institutions in which the middle class works and operates— universities or corporations. Children of the middle and upper classes have been speaking the language of the bosses and supervisors forever.

Blue-collar kids are taught by their parents and communities to work hard to achieve, and that merit is rewarded. But no blue-collar parent knows whether such things are true in the middle-class world. Many professionals born to the working-class report feeling out of place and outmanoeuvred in the office. Soon enough, Straddlers learn that straight talk won't always cut. Resolving conflicts head-on and speaking your mind doesn't always work, no matter how educated the Straddler is.

In the working-class, people perform jobs in which they are closely supervised and are required to follow orders and instructions. That, in turn, affects how they socialise their children. Children of the working-class are brought up in a home in which conformity; obedience and intolerance for back talk are the norm— the same characteristics that make a good factory worker.

36. When Straddlers enter white collar jobs, they get lost because
- (1) they are thrown into an alien value system.
  - (2) their families have not read the rules in corporate manuals.
  - (3) they have no one to guide them through the corporate maze.
  - (4) they miss the 'mom and pop orthodoxy'.
37. What does the author's statement, "*My father wasn't interested in Thucydides, and I wasn't up on arches,*" illustrate?
- (1) Organic cultural capital.
  - (2) Professional arrogance and social distance.
  - (3) Evolving social transformation.
  - (4) Breakdown of family relationships.
38. Which of the following statements about Straddlers does the passage NOT support explicitly?
- (1) Their food preferences may not match those of their parents.
  - (2) They may not keep up some central religious practices of their parents.
  - (3) They are at home neither in the middle class nor in the working-class.
  - (4) Their political ideologies may differ from those of their parents.
39. According to the passage, which of the following statements about 'cultural capital' is NOT true?
- (1) It socializes children early into the norms of middle class institutions.
  - (2) It helps them learn the language of universities and corporations.
  - (3) It creates a sense of enlightenment in middle-class children
  - (4) It develops bright kids into Straddlers.
40. According to the passage, the patterns of socialization of working-class children make them most suited for jobs that require
- |                                |                             |
|--------------------------------|-----------------------------|
| (1) diplomacy.                 | (2) compliance with orders. |
| (3) enterprise and initiative. | (4) high risk taking.       |

## PASSAGE IV

The invention of the gas turbine by Frank Whittle in England and Hans von Ohain in Germany in 1939 signalled the beginning of jet transport. Although the French engineer Lorin had visualized the concept of jet propulsion more than 25 years earlier, it took improved materials and the genius of Whittle and von Ohain to recognize the advantages that a gas turbine offered over a piston engine, including speeds in excess of 350 miles per hour. The progress from the first flights of liquid propellant rocket and jet-propelled aircraft in 1939 to the first faster-than-sound (supersonic) manned airplane (the Bell X-1) in 1947 happened in less than a decade. This then led very rapidly to a series of supersonic fighters and bombers, the first of which became operational in the 1950s. World War II technology foundations and emerging Cold War imperatives then led us into space with the launch of Sputnik in 1957 and the placing of the first man on the moon only 12 years later—a mere 24 years after the end of World War II.

Now, a hypersonic flight can take you anywhere in the planet in less than four hours. British Royal Air Force and Royal Navy, and the air forces of several other countries are going to use a single-engine cousin to the F/A-22 called the F-35 Joint Strike Fighter. These planes exhibit stealthy angles and coatings that make it difficult for radar to detect them, among aviation's most cutting-edge advances in design. The V-22, known as tilt-rotor, part helicopter, part airplane, takes off vertically, then tilts its engine forward for winged flight. It provides speed, three times the payload, five times the range of the helicopters it's meant to replace. The new fighter, F/A-22 Raptor, with more than a million parts, shows a perfect amalgamation of stealth, speed, avionics and agility.

It seems conventional forms, like the Predator and Global Hawk are passé, the stealthier unmanned aerial vehicles (VA Vs) are in. They are shaped like kites, bats and boomerang, all but invisible to the enemy radar and able to remain over hostile territory without any fear of getting grilled if shot down. Will the UAVs take away pilots' jobs permanently? Can a computer-operated machine take a smarter and faster decision in a warlike situation? The new free-flight concept will probably supplement the existing air traffic control system by computers on each plane to map the altitude, route, weather and other planes; and a decade from now, there will be no use of radar any more.

How much bigger can the airplanes get? In the '50s they got speed, in the '80s they became stealthy. Now, they are getting smarter thanks to computer automation. The change is quite huge: from the four-seater to the A380 airplane. It seems we are now trading speed for size as we build a new Super-jumbo jet, the 555 seater A380, which will fly at almost the same speed of the Boeing 707, introduced half a century ago, but with an improved capacity, range, greater fuel economy. A few years down the line will come the truly larger model, to be known as 747X. In the beginning of 2005, the A380, the world's first fully double-decked superjumbo passenger jet, weighing 1.2 million pounds, may carry a load of about 840 passengers.

Barring the early phase, civil aviation has always lagged behind the military technologies (of jet engines, lightweight composite materials etc.). There are two fundamental factors behind the decline in commercial aeronautics in comparison to military aeronautics. There is no collective vision of our future such as the one that drove us in the past. There is also a need for a more aggressive pool of airplane design talents to maintain an industry that continues to find a multibillion dollar-a-year market for its product.

Can the history of aviation technology tell us something about the future of aeronautics? Have we reached a final state in our evolution to a mature technology in aeronautics? Are the challenges of coming out with the 'better, cheaper, faster' designs somehow inferior to those that are suited for 'faster, higher, further'? Safety should improve greatly as a result of the forthcoming improvements in airframes, engines, and avionics. Sixty years from now, aircraft will recover on their own if the pilot loses control. Satellites are the key not only to GPS (global positioning system) navigation but also to in-flight communications, uplinked weather, and even in-flight e-mail. Although there is some debate about what type of engines will power future airplanes—lightweight turbines, turbocharged diesels, or both—there is little debate about how these power plants will be controlled. Pilots of the future can look forward to more and better on-board safety equipment.

41. According to the first paragraph of the passage, which of the following statements is NOT false?
- (1) Frank Whittle and Hans von Ohain were the first to conceive of jet propulsion.
  - (2) Supersonic fighter planes were first used in the Second World War.
  - (3) No man had travelled faster than sound until the 1950s.
  - (4) The exploitation of jet propulsion for supersonic aviation has been remarkably fast.
42. What is the fourth paragraph of the passage, starting, "How much bigger... .", about?
- (1) Stealth, speed, avionics, and agility of new aircraft.
  - (2) The way aircraft size has been growing.
  - (3) Use of computer automation in aircraft.
  - (4) Super-jumbo jets that can take more than 500 passengers.
43. What is the most noteworthy difference between V-22 and a standard airplane?
- (1) It can take off vertically.
  - (2) It has winged flight.
  - (3) It has excellent payload.
  - (4) Its range is very high.
44. Why might radars not be used a decade from now?
- (1) Stealth technology will advance so much that it is pointless to use radar to detect aircraft.
  - (2) UAVs can remain over hostile territory without any danger of being detected.
  - (3) Computers on board may enable aircraft to manage safe navigation on their own.
  - (4) It is not feasible to increase the range of radars.
45. According to the author, commercial aeronautics, in contrast to military aeronautics, has declined because, among other things,
- (1) speed and technology barriers are more easily overcome in military aeronautics.
  - (2) the collective vision of the past continues to drive civil and commercial aeronautics.
  - (3) though the industry has a huge market, it has not attracted the right kind of aircraft designers.
  - (4) there is a shortage of materials, like light weight composites, used in commercial aeronautics.

## PASSAGE V

Pure love of learning, of course, was a less compelling motive for those who became educated for careers other than teaching. Students of law in particular had a reputation for being materialistic careerists in an age when law was becoming known as “the lucrative science” and its successful practice the best means for rapid advancement in the government of both church and state. Medicine too had its profit-making attractions. Those who did not go on to law or medicine could, if they had been well trained in the arts, gain positions at royal courts or rise in the clergy. Eloquent testimony to the profit motive behind much of twelfth-century education was the lament of a student of Abelard around 1150 that “Christians educate their sons. . .for gain, in order that the one brother, if he be a clerk, may help his father and mother and his other brothers, saying that a clerk will have no heir and whatever he has will be ours and the other brothers.” With the opening of positions in law, government, and the church, education became a means for advancement not only in income but also in status. Most who were educated were wealthy, but in the twelfth century, more often than before, many were not and were able to rise through the ranks by means of their education. The most familiar examples are Thomas Becket, who rose from a humble background to become chancellor of England and then archbishop of Canterbury, and John of Salisbury, who was born a “plebeian” but because of his reputation for learning died as bishop of Chartres.

The instances of Becket and John of Salisbury bring us to the most difficult question concerning twelfth-century education: To what degree was it still a clerical preserve? Despite the fact that throughout the twelfth century the clergy had a monopoly of instruction, one of the outstanding medievalists of our day, R. W. Southern, refers with good reason to the institutions staffed by the clergy as “secular schools.” How can we make sense out of the paradox that twelfth-century schools were clerical and yet “secular”?

Let us look at the clerical side first. Not only were all twelfth-century teachers except professionals and craftsmen in church orders, but in northern Europe students in schools had clerical status and looked like priests. Not that all really were priests, but by virtue of being students all were awarded the legal privileges accorded to the clergy. Furthermore, the large majority of twelfth-century students, outside of the possible exception of Italy, if not already priests became so after their studies were finished. For these reasons, the term “cleric” was often used to denote a man who was literate and the term “layman” one who was illiterate. The English word for cleric, clerk, continued for a long time to be a synonym for student or for a man who could write, while the French word ‘clerc’ even today has the connotation of intellectual.

Despite all this, twelfth-century education was taking on many secular qualities in its environment, goals, and curriculum. Student life obviously became more secular when it moved out from the monasteries into the bustling towns. Most students wandered from town to town in search not only of good masters but also of worldly excitement, and as the twelfth century progressed they found the best of each in Paris. More important than environment was the fact that most students, even though they entered the clergy, had secular goals. Theology was recognized as the “queen of the sciences,” but very few went on to it. Instead they used their study of the liberal arts as a preparation for law, medicine, government service, or advancement in the ecclesiastical hierarchy.

This being so, the curriculum of the liberal arts became more sophisticated and more divorced from religion. Teaching was still almost exclusively in Latin, and the first book most often read was the Psalter, but further education was no longer similar to that of a choir school. In particular, the discipline of rhetoric was transformed from a linguistic study into instruction in how to compose letters and documents; there was a new stress on logic; and in all the liberal arts and philosophy texts more advanced than those known in the early Middle Ages were introduced.

Along with the rise of logic came the translation of Greek and Arabic philosophical and scientific works. Most important was the translation of almost all the writings of Aristotle, as well as his sophisticated Arabic commentators, which helped to bring about an intellectual revolution based on Greek rationalism. On a more prosaic level, contact with Arabs resulted in the introduction in the twelfth century of the Arabic numeral



system and the concept of zero. Though most westerners first resisted this and made crude jokes about the zero as an ambitious number “that counts for nothing and yet wants to be counted,” the system steadily made its inroads first in Italy and then throughout Europe, thereby vastly simplifying the arts of computation and record keeping.

**46.** *According to the passage, what led to the secularization of the curriculum of the liberal arts in the twelfth century?*

- (1) It was divorced from religion and its influences.
- (2) Students used it mainly as a base for studying law and medicine.
- (3) Teaching could no longer be conducted exclusively in Latin.
- (4) Arabic was introduced into the curriculum.

**47.** *According to the author, in the twelfth century, individuals were motivated to get higher education because it*

- (1) was a means for material advancement and higher status.
- (2) gave people with wealth an opportunity to learn.
- (3) offered a coveted place for those with a love of learning.
- (4) directly added to the income levels of people.

**48.** *According to the passage, twelfth century schools were clerical and yet secular because*

- (1) many teachers were craftsmen and professionals who did not form part of the church.
- (2) while the students had the legal privileges accorded to the clergy and looked like priests, not all were really priests.
- (3) the term ‘cleric’ denoted a literate individual rather than a strict association with the church.
- (4) though the clergy had a monopoly in education, the environment, objectives and curriculum in the schools were becoming secular.

**49.** *What does the sentence “Christians educate their sons. ..will be ours and the other brothers” imply?*

- (1) The Christian family was a close-knit unit in the twelfth century.
- (2) Christians educated their sons not so much for the love of learning as for material gain.
- (3) Christians believed very strongly in educating their sons in the Church.
- (4) The relationship between Christian parents and their sons was exploitative in the twelfth century.

**50.** *According to the passage, which of the following is the most noteworthy trend in education in twelfth-century Europe?*

- (1) Secularization of education.
- (2) Flowering of theology as the queen of the sciences.
- (3) Wealthy people increasingly turning to education.
- (4) Rise of the clergy’s influence on the curriculum.



57. Let  $x$  and  $y$  be positive integers such that  $x$  is prime and  $y$  is composite. Then,

- (1)  $y - x$  cannot be an even integer. (2)  $xy$  cannot be an even integer.  
(3)  $\frac{(x+y)}{x}$  cannot be an even integer (4) None of these.

58. A survey on a sample of 25 new cars being sold at a local auto dealer was conducted to see which of the three popular options- air conditioning, radio and power windows- were already installed. The survey found

- 15 had air conditioning
- 2 had air conditioning and power windows but no radios
- 12 had radio
- 6 had air conditioning and radio but no power windows
- 11 had power windows
- 4 had radio and power windows
- 3 had all three options.

What is the number of cars that had none of the options?

- (1) 4 (2) 3 (3) 1 (4) 2

59. If  $n$  is such that  $36 \leq n \leq 72$ , then  $x = \frac{n^2 + 2\sqrt{n}(n+4) + 16}{n + 4\sqrt{n} + 4}$  satisfies

- (1)  $20 < x < 54$  (2)  $23 < x < 58$  (3)  $25 < x < 64$  (4)  $28 < x < 60$

60. If  $13x + 1 < 2z$ , and  $z + 3 = 5y^2$ , then

- (1)  $x$  is necessarily less than  $y$ . (2)  $x$  is necessarily greater than  $y$ .  
(3)  $x$  is necessarily equal to  $y$ . (4) None of the above is necessarily true.

61. Let  $n (>1)$  be a composite integer such that  $\sqrt{n}$  is not an integer. Consider the following statements

A:  $n$  has a perfect integer – valued divisor which is greater than 1 and less than  $\sqrt{n}$ .

B:  $n$  has a perfect integer – valued divisor which is greater than  $\sqrt{n}$  but less than  $n$ .

Then,

- (1) Both A and B are false (2) A is true but B is false  
(3) A is false but B is true (4) Both A and B are true

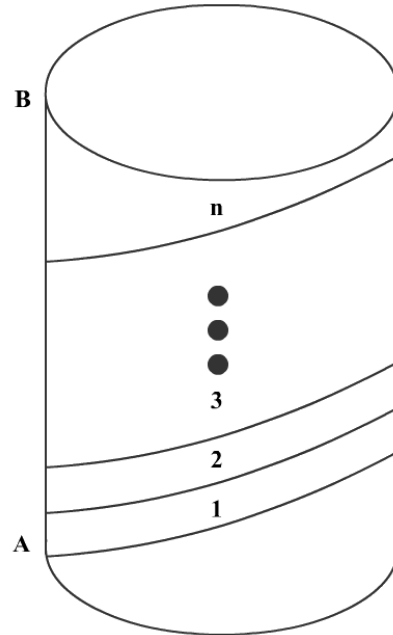
62. If  $|b| \geq 1$  and  $x = -|a|b$ , then which one of the following is necessarily true?

- (1)  $a - xb < 0$  (2)  $a - xb \geq 0$  (3)  $a - xb > 0$  (4)  $a - xb \leq 0$

**DIRECTIONS:** Answer the questions on the basis of the information given below.

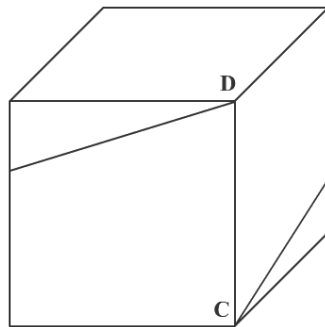
Consider a cylinder of height  $h$  cms and radius  $r = \frac{2}{\pi}$  cms as shown in the figure (not drawn to scale). A string of a certain length, when wound on its cylindrical surface, starting at point A and ending at point B, gives a maximum of  $n$  turns (in other words, the string's length is the minimum length required to wind  $n$  turns.)

63. What is the vertical spacing in cms between two consecutive turns?



- (1)  $\frac{h}{n}$                       (2)  $\frac{h}{\sqrt{n}}$                       (3)  $\frac{h}{n^2}$                       (4) Cannot be determined with given information

64. The same string, when wound on the exterior four walls of a cube of side  $n$  cms, starting at point C and ending at point D, can give exactly one turn (see figure, not drawn to scale). The length of the string, in cms, is



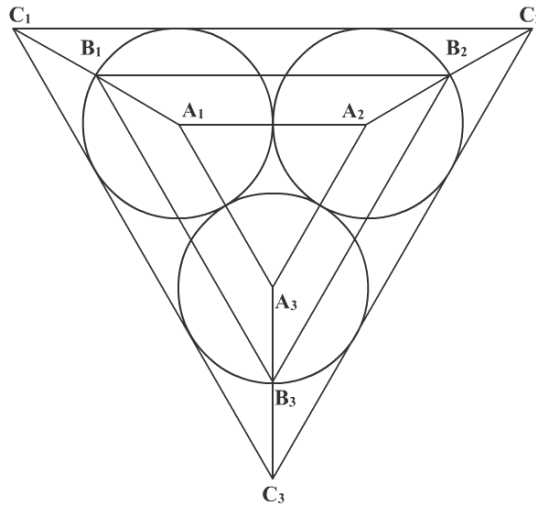
- (1)  $\sqrt{2}n$                       (2)  $\sqrt{17}n$                       (3)  $n$                       (4)  $\sqrt{13}n$

65. In the setup of the previous two questions, how is  $h$  related to  $n$ ?

- (1)  $h = \sqrt{2}n$                       (2)  $h = \sqrt{17}n$                       (3)  $h = n$                       (4)  $h = \sqrt{13}n$

**DIRECTIONS:** Answer the questions on the basis on the basis of the information given below.

Consider three circular parks of equal size with centres at  $A_1$ ,  $A_2$ , and  $A_3$  respectively. The parks touch each other at the edge as shown in the figure (not drawn to scale). There are three paths formed by the triangles  $A_1 A_2 A_3$ ,  $B_1 B_2 B_3$ , and  $C_1 C_2 C_3$ , as shown. Three sprinters A, B, and C begin running from points  $A_1$ ,  $B_1$  and  $C_1$  respectively. Each sprinter traverses her respective triangular path clockwise and returns to her starting point.



66. Let the radius of each circular park be  $r$ , and the distances to be traversed by the sprinters A, B and C be  $a$ ,  $b$  and  $c$ , respectively. Which of the following is true?
- |  |                                    |
|--|------------------------------------|
| (1) $b - a = c - b = 3\sqrt{3}r$           | (2) $b - a = c - b = \sqrt{3}r$    |
| (3) $b = \frac{a+c}{2} = 2(1 + \sqrt{3})r$ | (4) $c = 2b - a = (2 + \sqrt{3})r$ |
67. Sprinter A traverses distances  $A_1 A_2$ ,  $A_2 A_3$ , and  $A_3 A_1$  at average speeds of 20, 30 and 15, respectively. B traverses her entire path at a uniform speed of  $(10\sqrt{3} + 20)$ . C traverses distances  $C_1 C_2$ ,  $C_2 C_3$ , and  $C_3 C_1$  at average speeds of  $\frac{40}{3}(\sqrt{3} + 1)$ ,  $\frac{40}{3}(\sqrt{3} + 1)$ , and 120 respectively. All speeds are in the same unit. Where would B and C be respectively when A finishes her sprint?
- |                |   |
|----------------|---|
| (1) $B_1, C_1$ | (2) $B_3, C_3$                                |
| (3) $B_1, C_3$ | (4) $B_1$ , Somewhere between $C_3$ and $C_1$ |
68. Sprinters A, B and C traverse their respective paths at uniform speeds  $u$ ,  $v$  and  $w$  respectively. It is known that  $u^2 \cdot v^2 \cdot w^2$  is equal to Area A : Area B : Area C, where Area A, Area B and Area C are the areas of triangles  $A_1 A_2 A_3$ ,  $B_1 B_2 B_3$ , and  $C_1 C_2 C_3$ , respectively. Where would A and C be when B reaches point  $B_3$ ?
- |                |   |
|----------------|---|
| (1) $A_2, C_3$ | (2) $A_3, C_3$  |
| (3) $A_3, C_2$ | (4) Somewhere between $A_2$ and $A_3$ , Somewhere between $C_3$ and $C_1$ |

**DIRECTIONS:** Answer the questions independently of each other.

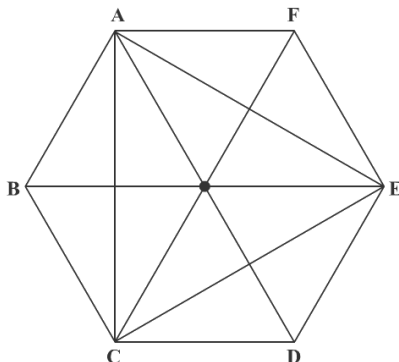
69. The infinite sum  $1 + \frac{4}{7} + \frac{9}{7^2} + \frac{16}{7^3} + \frac{25}{7^4} + \dots$  equals

- (1)  $\frac{27}{14}$                       (2)  $\frac{21}{13}$                       (3)  $\frac{49}{27}$                       (4)  $\frac{256}{147}$

70. Consider the sets  $T_n = \{n, n + 1, n + 2, n + 3, n + 4\}$ , where  $n = 1, 2, 3, \dots, 96$ . How many of these sets contain 6 or any integral multiple thereof (i.e., any one of the numbers 6, 12, 18, ...)?

- (1) 80                              (2) 81                              (3) 82                              (4) 83

71. Let ABCDEF be a regular hexagon. What is the ratio of the area of the triangle ACE to that of the hexagon ABCDEF?



- (1)  $\frac{1}{3}$                               (2)  $\frac{1}{2}$   
 (3)  $\frac{2}{3}$                               (4)  $\frac{5}{6}$

72. The number of roots common between the two equations  $x^3 + 3x^2 + 4x + 5 = 0$  and  $x^3 + 2x^2 + 7x + 3 = 0$  is

- (1) 0                              (2) 1                              (3) 2                              (4) 3

73. A real number  $x$  satisfying  $1 - \frac{1}{n} < x \leq 3 + \frac{1}{n}$  for every positive integer, is best described by

- (1)  $1 < x < 4$                       (2)  $0 < x \leq 4$                       (3)  $0 < x \leq 4$                       (4)  $1 \leq x \leq 3$

74. If  $\frac{1}{3} \log_3 M + 3 \log_3 N = 1 + \log_{0.008} 5$ , then

- (1)  $M^9 = \frac{9}{N}$                       (2)  $N^9 = \frac{9}{M}$                       (3)  $M^3 = \frac{3}{N}$                       (4)  $N^9 = \frac{3}{M}$

75. Using only 2, 5, 10, 25 and 50 paise coins, what will be the minimum number of coins required to pay exactly 78 paise, 69 paise and Rs 1.01 to three different persons?

- (1) 19                                      (2) 20                                      (3) 17                                      (4) 18

76. The length of the circumference of a circle equals the perimeter of a triangle of equal sides, and also the perimeter of a square. The areas covered by the circle, triangle, and square are  $c$ ,  $t$ , and  $s$ , respectively. Then,

- (1)  $s > t > c$                                       (2)  $c > t > s$                                       (3)  $c > s > t$                                       (4)  $s > c > t$

77. What is the remainder when  $4^{96}$  is divided by 6?

- (1) 0                                      (2) 2                                      (3) 3                                      (4) 4

78. If  $x$  and  $y$  are integers then the equation  $5x + 19y = 64$  has

- (1) no solution for  $x < 300$  and  $y < 0$                                       (2) no solution for  $x > 250$  and  $y > -100$   
(3) a solution for  $250 < x < 300$                                       (4) a solution for  $-59 < y < -56$













































