

AIMCAT 1701

VARC

DIRECTIONS for questions 1 to 6: Read the following passage and answer the questions that follow it.

Picture yourself as a big shot from an unpopular country – leader of an oil-rich bit of the Middle East, say, or a tycoon from a grungy bit of the former Communist world. You wish your family could shop, invest, socialise and study in the richest and nicest parts of the world (and flee there if needs be). But you don't deserve it and won't earn it: you will not stop torture, allow criticism, obey the law, or keep your fingers out of the public purse.

Luckily, respectability is on sale. You just have to know how to buy it. The place to start is London. Among its advantages are strict libel laws, which mean nosy journalists risk long, costly legal battles. And helpful banks, law firms, accountants and public relations people abound.

Laws on money-laundering have irritating requirements about scrutiny of new customers. This used to be merely an exercise in ticking boxes, but has got a bit tougher. Still, a well-connected and unscrupulous bankers will be your best friend, for a fee. You cut him in on some lucrative transactions with your country or company. In return he will pilot you through the first stages, arming you with a lawyer (to scare rivals and critics) and an accountant (to keep your books opaque but legal).

Next comes a virtuous circle of socialising and do-gooding. Start with the cash-strapped upper reaches of the cultural world; a big art gallery, an opera house, or something to do with young musicians. Donations there will get you known and liked. Or try funding a prize at UNESCO or some other international do-gooding outfit. Support causes involving war veterans or sick children. Sponsorship of sport works too.

Send your children to posh English schools. Shower hospitality on their friends; they will be important one day. But invite the parents too; they are influential now. A discreet payment will tempt hard up celebrities to come to your parties. Minor royals are an even bigger draw. British for choice, but continental will do. Even sensible people go weak at the knees at the thought of meeting a princeling, however charmless or dim-witted.

Armed with social and cultural clout, you can approach money-hungry academia and think-tanks. A good combination is a Washington D.C. think-tank and a London-based university (Oxford and Cambridge, being richer, are also choosier about whom they take money from). The package deal should involve a centre (perhaps with a professional chair) and a suitable title; it should include words like global, sustainable, strategic and ethical.

You are now in a position to approach politics. Most rich countries make it hard (or illegal) for foreigners to give money to politicians or parties. But you can oil the wheels. A non-executive directorship can be a mind-changing experience. Invite retired politicians and officials for lucrative speaking engagements and consultancy work; word will soon get around and the soon-to-retire will bear your interests in mind. Even better, set up an advisory council stuffed with influential foreigners. You need tell them nothing about what you do. Nor do you have to heed their advice.

Your progress from villain to hero will not always go smoothly, especially if you have to start killing your opponents. But when the alarm is raised, your allies will rally to your defence. A tame academic can write an opinion piece; a newspaper grateful for your advertising will publish it. Your fans can always say that someone else is much worse and that you are at least a reforming, if not fully reformed, character.

Q1. Which of the following statements about the credentials of the person being addressed CANNOT be inferred from the passage?

- ☐ a) The person being addressed is unscrupulous and opportunistic.
- ☐ b) The person being addressed leads an opulent lifestyle.
- ☐ c) The person being addressed is welcome in elite social circles.
- ☐ d) The person being addressed does not have altruism as an agenda.

Q2. In the passage, the phrase "respectability is on sale" refers to

- ☐ a) Integrity being irrelevant to one's acceptability in high society.
- ☐ b) Respectability being available to tyrants at the right price.
- ☐ c) London being a convenient choice to launch oneself into genteel society.
- ☐ d) Media publicity being available to the highest bidder.

Q3. What does the author mean by "include words like global, sustainable, strategic and ethical"?

- ☐ a) The person being addressed must ensure that the catchphrases of the times are used to best effect.
- ☐ b) The person being addressed must show genuine interest in contemporary issues.
- ☐ c) The person being addressed must fund scholarships that promote world peace and prosperity.
- ☐ d) The person being addressed must ensure that the scholars wooed do play to the gallery.

Q4. Which of the following is a reason for the author to suggest London as the "place to start"?

- ☐ a) The money hungry academia in London-based universities can help in projecting a philanthropic image.

- ☐ b) The minor British Royals are more likely to attend parties in London than in other cities.
- ☐ c) One's dubious dealings in London will probably not come to light because of the strict libel laws there.
- ☐ d) All of the above.

Q5. In this passage, the author has focussed on how a big shot from an unpopular country.....

- ☐ a) can become a political leader in a rich country.
- ☐ b) can gain acceptance, for his family and himself, in the better parts of the developed world.
- ☐ c) can keep earning money through unethical means without tarnishing his reputation.
- ☐ d) can get rid of all his opponents without losing his social, political and cultural clout.

Q6. The idiom "oil the wheels" in the penultimate paragraph can be best replaced by which of the following phrases/idioms?

Identify all that apply and enter the corresponding number(s) in the input box given below. You must enter your answer in increasing order only. For example, if you think (1) and (2) apply, then enter 12 (but not 21) in the input box.

(1) pour oil on troubled waters

(2) oil someone's palm

(3) keep your fingers out of the public purse

(4) grease the wheel that squeaks

(5) bet that the wheel of fortune comes a full circle

(6) hope to put your shoulder to the wheel

DIRECTIONS for questions 7 to 9: The passage given below is followed by a set of three questions. Choose the best answer to each question.

Alvin Toffler's 1970 best seller Future Shock argued that almost all the social problems of the sixties could be traced back to the increasing pace of technological change. The endless outpouring of scientific breakthroughs transformed the grounds of daily existence.

Humans were not psychologically prepared for the pace of change, Toffler wrote. He coined a term for the phenomenon: "accelerative thrust." It had begun with the Industrial Revolution, but by roughly 1850, the effect

had become unmistakable, not only was everything around us changing, but most of it – human knowledge, the size of the population, industrial growth, energy use – was changing exponentially. The only solution, Toffler argued, was to begin some kind of control over the process, to create institutions that would assess emerging technologies and their likely effects, to ban technologies likely to be too socially disruptive, and to guide development in the direction of social harmony.

Toffler's use of 'acceleration' was particularly unfortunate. By the time Toffler was writing, in 1970, the record for the fastest speed at which any human had traveled stood at roughly 25,000 mph, achieved by the crew of Apollo 10 in 1969. This speed was quite an increase from the 100 mph speed recorded in 1900. At such an exponential rate, it must have seemed reasonable to assume that within a matter of decades, humanity would be exploring other solar systems.

But, since 1970, no further increase has occurred. The record for the fastest a human has ever travelled remains with the crew of Apollo 10.

None of this stopped Toffler's own career. He kept retooling his analysis to come up with new spectacular pronouncements. In 1980, he produced *The Third Wave*, its argument lifted from Ernest Mandel's "third technological revolution" – except that while Mandel thought these changes would spell the end of capitalism, Toffler assumed capitalism was eternal. By 1990, Toffler was the personal intellectual guru to Republican congressman Newt Gingrich, who claimed that his own 1994 "Contract With America" was inspired, in part, by the understanding that the United States needed to move from an antiquated, materialist, industrial mind-set to a new, free-market, information age, Third Wave civilization.

There are all sorts of ironies in this connection. One of Toffler's greatest achievements was inspiring the government to create an Office of Technology Assessment (OTA). One of Gingrich's first acts on winning control of the House of Representatives in 1995 was de-funding of OTA as an example of useless government extravagance. Still, there's no contradiction here. By this time, Toffler had long since given up on influencing policy by appealing to the general public; he was making a living largely by addressing seminars to CEOs and corporate think tanks. His insights had been privatized.

Q7. The author says "Still there's no contradiction here" to imply that

- ☐ a) Gingrich, like Toffler, was no longer obsessed with technology and social change.
- ☐ b) Toffler himself no longer believed in influencing public policymaking
- ☐ c) Gingrich called Toffler's bluff.
- ☐ d) Toffler himself became a corporate consultant.

Q8. Which of the following can be inferred to be the underlying assumption of 'Future Shock'?

- ☐ a) The old materialist industrial society was giving way to an information age.
- ☐ b) Social systems are not adjusting to the inexorable progress of technology.

- ☐ c) Emerging technologies proved most conducive to social control.
- ☐ d) Research is driven by bureaucracy.

Q9. Which of the following can be understood from the passage to be a true statement about The Third Wave?

- ☐ a) The new age would spell the end of capitalism.
- ☐ b) Technological development would be guided in directions that did not challenge the corridors of power.
- ☐ c) Our imaginations would once again become a material force in human history.
- ☐ d) It heralds an age where industrial growth would lose primacy as a driver of social change.

DIRECTIONS for questions 10 to 12: The passage given below is followed by a set of three questions. Choose the best answer to each question.

Violence is escalating once more in Central America for a new reason. Two decades ago, the United States Coast Guard shut down the Caribbean cocaine route, so the trade shifted to Mexico. Mexico has started to fight back; and its continuing offensive against the drugs mafias has pushed them down into Central America.

A collapse in social order, however bloody, is normally an internal matter. Yet it would be wrong to leave Central America to its own unhappy devices. Although the new violence thrives on the weakness of the state in those countries, its origins lie elsewhere. Demand for cocaine in the United States (which, unlike that in Europe, is fed through Central America), combined with the ultimately futile war on drugs, has led to the upsurge in violence. It is American consumers who are financing the drug gangs and, to a large extent, American gun merchants who are arming them. So failing American policies help beget failed states in the neighbourhood.

A generation ago, the United States rightly concluded that it had much to gain if the Americas became a community of prospering democracies. Yet it is in Central America, that democracy is under greatest threat. The isthmus seethes with ideological polarization and political mistrust. Central American governments have begun to recognize the scale of the battle they face. But stopping their slide into violent chaos requires many things; reform of the police, prisons and courts; better intelligence and information sharing, a huge effort to provide more legal opportunities for young men, not least by educating them properly; and more hardware, such as helicopters and patrol boats.

When the guerilla wars of the 1970s and 1980s ended, Americans forgot about Central America. It is time they remembered it again, and offered some help. They could, for example, lead an aid programme that would tie money for roads, ports and security hardware to increases in the tax take to pay for better security and social conditions.

Such schemes will not, however, solve the fundamental problem; that as long as drugs that people want to consume are prohibited, and therefore provided by criminals, driving the trade out of one bloodstained area

will only push it into some other godforsaken place. But unless and until drugs are legalized, that is the best Central America can hope to do.

Q10. The author's suggestion as to the most appropriate step to tackle the illicit drugs trade is that

- ☐ a) America must intervene to restore law and order in Central America.
- ☐ b) the trade in drugs must be decriminalised.
- ☐ c) the drug menace can be tackled only if consumers are penalized as a prohibitory measure.
- ☐ d) the scourge of fear defeats all measures to exterminate trade in drugs at the source itself.

Q11. Which of the following are recommended by the author for Central America to progress?

Identify all that apply and enter the corresponding numbers in the input box given below. You must enter your answer in increasing order only. For example, if you think (1) and (2) apply, then enter 12 (but not 21) in the input box.

- (1) Both natural and drug-related disasters should be addressed on a war footing.
- (2) America should contribute generously to establishing physical and human infrastructure in the isthmus.
- (3) The drug trade should be pushed out of Central America.
- (4) The threat to peace should be thwarted by establishing credible institutions to safeguard democracy.

Q12. According to the passage, it would be unwise to leave Central America "to its own devices" because

- ☐ a) the situation in the U.S. is, at least partly, responsible for the troubles in Central America.
- ☐ b) the drug mafias have infiltrated the isthmus governance.
- ☐ c) the bane of drug violence would simply be shifted to some other vulnerable zone in the vicinity.
- ☐ d) the isthmus is loath to give up the drug trade since the income from drugs is its only means of sustenance.

DIRECTIONS for questions 13 to 15: The passage given below is followed by a set of three questions. Choose the best answer to each question.

"The trouble with you," Anna said, in a voice in which compassion, disgust, and reproach fought for equal time, "is that you can't remember what it was like to be young. And even if you could remember – well, when you were my age, you were in that crazy Jehovah's Witness religion, and you probably didn't even play spin the bottle."

Anna, my prepubescent eleven-year-old, feels sorry for me because I did not have "a normal childhood." It has never occurred to her to question whether her childhood is "normal"..... which is to say, she is happy. She cannot conceive a life in which one is not free to move around, explore, argue, flirt with ideas and dismiss them, form passionate alliances and friendships according to no imperative but one's own nature and volition; she regards love as unconditional, she expects nurturance as her birthright. It fills her with terror and pity that anyone – especially her mother – could have grown up any differently – could have grown up in a religion where love was conditional upon rigid adherence to dogma and established practice.....where approval had to be bought from authoritarian sources.....where people did not fight openly and love fiercely and forgive generously and make decisions of their own and mistakes of their own and have adventures of their own.

"Poor Mommy," she says. To have spent one's childhood in love with/tyrannized by a vengeful Jehovah is not Anna's idea of a good time – nor is it her idea of goodness. As, in her considered opinion, my having been a proselytizing Jehovah's Witness for thirteen years was about as good a preparation for real life as spending a commensurate amount of time in a Skinner box on the North Pole, she makes allowances for me.

I do worry about Anna. She is, as I once explained to someone who thought that she might be the better for a little vigorous repression, a teleological child. She is concerned with final causes, with ends and purposes and means, she would like to see evidence of design and order in the world; and all her adventures are means to that end. That, combined with her love for the music, color, poetry, ritual, and drama of religion, might, I think, if she were at all inclined to bow her back to authority – and if she didn't have my childhood as an example of the perils thereof – have made her ripe for conversion to an apocalyptic, messianic sect.

That fear may be evidence of my special paranoia, but it is not an entirely frivolous conjecture. Ardent preadolescent girls whose temperament tends toward the ecstatic are peculiarly prone to conversion to fancy religions.

Q13. The author says that 'her fear' was not "an entirely frivolous conjecture". She feared that

- ☐ a) in puberty the younger generation are inclined to revolt.
- ☐ b) innocent youngsters are vulnerable to conversions.
- ☐ c) her daughter, being easily captivated, would be predisposed to religious experimentation
- ☐ d) non-chalant behaviour attracts dogmatic controls.

Q14. Anna's notion of 'normal childhood' includes which one of the following?

- ☐ a) Emotional associations with lack of trust
- ☐ b) Ardent affinity with imperious control
- ☐ c) Unruffled behavior in spite of adherence to authority

- ☐ d) Fervent affiliations coupled with assertive behaviour

Q15. According to the author, Anna is not an ideal candidate for conversion because

- I. she is concerned more about the end rather than the means to the end.
- II. she knows the dangers involved in converting to fancy religions from her mother's childhood.
- III. she does not easily submit to authority.
- IV. she does not care about the approval of other people for her actions.

- ☐ a) III only.
- ☐ b) I and IV only.
- ☐ c) II, III and IV only.
- ☐ d) II and III only.

DIRECTIONS for questions 16 to 21: The passage given below is followed by a set of six questions. Choose the best answer to each question.

'One coward may lose a battle, one battle may lose a war, and one war may lose a country.' This was Rear-Admiral and Conservative MP Tufton Beamish speaking to the House of Commons in 1930, giving voice to an idea that must be as old as war itself. Caring only for his own safety, blowing cover, attracting fire, the coward can be more dangerous to his own side than a brave enemy. Even when he doesn't run, the coward can sow panic simply by the way he looks – changing colour, as Homer observed in the Iliad, unable to sit still, his teeth chattering.

No wonder soldiers in the field worry about being cowardly far more than they dream of being heroic; or why cowardice is often counted the most contemptible of vices (not just by soldiers): while heroes achieve fame, cowards are often condemned to something worse than infamy – oblivion.

'Fear,' Beamish went on to say, 'is perfectly natural. It comes to all people. The man who conquers fear is a hero, but the man who is conquered by fear is a coward, and he deserves all he gets.' But things are not quite so simple as that: some fears are unconquerable. Aristotle said that only the Celts do not fear an earthquake or flood, and we are right to think them crazy. The coward, he said, is 'a man who exceeds in fear: he fears the wrong things, in the wrong manner, and so forth, all the way down the list'.

If, as Beamish tells us, a coward deserves all he gets, what exactly does he get? Beamish was speaking against a proposal to end the death penalty for cowardice and desertion. His logic was clear. If a coward can cost a country its existence, the country needs to be willing to deprive the coward of his.

Humiliation is a much more usual punishment for cowardice, as Montaigne noted in 'Of the Punishment of Cowardice' (1580). Quoting Tertullian's observation that it is better to make the blood rush to a man's face than flow from his body, Montaigne explained the thinking: a coward who is allowed to live might be shamed into fighting courageously. The ways of humiliation are even more various than those of killing – from dressing up the coward as a woman, to branding or tattooing him, to shaving his head and making him wear a placard that says 'coward', to naming him and recounting his ignominious deeds in his hometown newspaper.

Curiously, though, we have become less willing to condemn or punish cowardice with the passing years. Beamish lost the debate. Parliament abolished the death penalty for cowardice and desertion in April, 1930. Other countries have acted similarly, some in the letter of the law and many more in practice. Under US military code, desertion remains punishable by death during wartime, but since 1865 only one soldier, Private Eddie Slovik, has been executed for it, and that was in 1945.

There are many reasons for this shift. Foremost is what Ernest Thurtle, the Labour MP who had long campaigned to abolish the death penalty for military crimes, called in the debate with Beamish 'the almost indescribable strain of modern warfare'. It's not unreasonable to think that the scale of modern warfare – its ability to inflict greater damage over greater distance for prolonged periods of time – has produced a greater strain than before.

When it comes to cowardice, whether the strain of modern war is unprecedented is less important than the perception that it is. Shell shock, when that diagnosis was first made in 1915, was thought to be caused by explosives more powerful than the world had ever seen. New weapons must cause new diseases. New terms were needed to explain strange symptoms – tremors, dizziness, disorientation, paralysis – that in women would have been attributed to hysteria. Even when doctors concluded that shell shock was a purely psychological disorder, the term stuck and became the first of a series of terms ('war neurosis', 'battle fatigue', 'post-traumatic stress disorder') that gave official, alternative ways to, as Thurtle put it, 'judge the men who had failed with a much deeper sympathy and understanding'. The point is not that soldiers thus diagnosed were actually cowards, but that misconduct that previously would have been considered to reflect a defect in character or a corruption of gender identity was now more likely to be seen as a sign of illness. Monolithic ideas of masculinity were thus complicated and challenged. Moral judgment gave way to medical treatment.

Q16. Which of the following is true regarding the definition of a coward as defined by Aristotle and as defined by Beamish?

- ☐ a) Beamish considers anyone who is afraid to be a coward but Aristotle considers a coward as one who has irrational fears.
- ☐ b) Beamish does not differentiate between conquerable and unconquerable fears unlike Aristotle
- ☐ c) Beamish considers anyone who is conquered by fear to be a coward while Aristotle considers anyone who is crazy to be a coward.
- ☐ d) There is no difference in the way Beamish and Aristotle define cowardice.

Q17. Which of the following statements will Beamish most probably agree with?

- ☐ a) A coward spreads fear in a group and one coward makes ten.
- ☐ b) Cowardice is more of an illness than a defect in character.
- ☐ c) A soldier can be identified as a coward just by the way he looks.
- ☐ d) The strains of modern warfare should be taken into consideration when judging soldiers who desert.

Q18. Which of the following can be understood from the statement “it is better to make the blood rush to a man’s face than flow from his body”?

- ☐ a) Being a coward is shameful in itself.
- ☐ b) Humiliation is a more commonplace punishment than death.
- ☐ c) Shaming a coward is a punishment worse than death as the coward has to live his entire life burdened with the shame.
- ☐ d) Humiliation is a better punishment for cowardice than death.

Q19. Which of the following can be inferred to be true according to the last paragraph of the passage?

- ☐ a) In modern warfare, cowardice is being referred to using various new terms.
- ☐ b) In modern warfare, cowardice is seen more as an illness rather than a defect.
- ☐ c) Psychological disorders associated with modern warfare would most likely have been considered cowardice in older times.
- ☐ d) Powerful explosives have resulted in more and more people being called cowards.

Q20. What does the “shift” refer to in the seventh paragraph of the passage?

- ☐ a) Abolition of death penalty for cowardice or desertion.
- ☐ b) The lack of willingness to punish cowardice.
- ☐ c) Substituting death penalty with humiliation for punishing cowardice.
- ☐ d) Change in how cowardice is defined.

Q21. How many of the following will definitely not support death penalty for cowardice?

I. Aristotle

II. Ernest Thurtle

III. Tufton Beamish

IV. Montaigne

V. Homer

- ☐ a) 1
- ☐ b) 2
- ☐ c) 3
- ☐ d) 4

DIRECTIONS for questions 1 to 4: The following question has a paragraph or two from which a sentence has been deleted. From the given options, choose the sentence that completes the paragraph in the most appropriate way.

Q22. The writing of a novel is a form of the loss of creative liberty. In turn, the reviewing of books is a servitude still less noble. Of the writer one can at least say that he has enslaved himself – by the theme selected. The critic is in a worse position: as the convict is chained to his wheelbarrow, so the reviewer is chained to the work reviewed. _____

- ☐ a) Pedantry or a joke, this methodicalness?
- ☐ b) The overstatement of these simplifications is too patent to be taken seriously.
- ☐ c) The writer loses his freedom in his own book, the critic in another's.
- ☐ d) Here is a chance to regain creative liberty, and at the same time to wed two opposing spirits – that of the belleterist and that of the critic.

Q23. What exactly is a thought? It doesn't seem to weigh anything. It feels ephemeral and ineffable. You wouldn't think that a thought has a shape or smell or any sort of physical instantiation. Thoughts seem to be a kind of tremendous magic. But just like voices, thoughts are underpinned by physical stuff. We know this because alterations to the brain change the kinds of thoughts we can think. In a state of deep sleep, there are no thoughts. When the brain transitions into dream sleep, there are unbidden, bizarre thoughts. During the day we enjoy our normal, well-accepted thoughts, which people enthusiastically modulate by spiking the chemical cocktails of the brain with alcohol, narcotics, cigarettes, coffee, or physical exercise _____

- ☐ a) Your consciousness is like a tiny stowaway on a transatlantic steamship, taking credit for the journey without acknowledging the massive engineering underfoot.
- ☐ b) The vast jungles of neurons operate their own programs.
- ☐ c) The state of the physical material determines the state of the thoughts.

- ☐ d) Brains are in the business of gathering information, modulating thoughts and steering behaviour appropriately.

Q24. Typically in the electronics industry, chips are fabricated in batches on silicon wafers. The wafers are then cut up and the individual chips packaged as components which are mounted, often by robots, onto circuit boards. The circuit boards are then installed in devices. Instead of doing things that way, a team at the Palo Alto Research Center (PARC) in California wondered about taking the individual chips as cut from the wafers and mixing them with a liquid to produce an electronic ink. _____

Printing with “chips as ink” would provide two big benefits. The first is that the latest components from state-of-the-art fabrication plants could be used in the ink, which means high-performance devices could be printed. The second is that being a digital process driven by software, like 3D printing, an electronics printer would not rely on the economies of scale that rule most industrial processes. Just as each page of a document sent to a laser printer can be different at little or no additional cost, so too could the designs sent to an electronics printer. This is because software is easier to change than tools or production lines in a factory.

- ☐ a) Printing has come a long way since Johannes Gutenberg perfected the commercial use of the printing press around 1439.
- ☐ b) The ink could then be used to print electronic devices directly
- ☐ c) Making things this small allows hundreds of thousands of components to be squeezed onto a single chip.
- ☐ d) All this means a single electronics printer could make lots of different things, cope with short production runs or knock out one-off prototypes without incurring a cost penalty.

Q25. The main species of online writing might all be said to belong to the family of “commentary” rather than what is still sometimes called (though not usually without embarrassment) “literature”. They have, that is, a sort of secondary status to whatever primary object they comment on; they are prompted by and dependent on some other object or event, whether a commercial product, a recent private experience, a news story, someone else's political opinion, a song or book, or whatever. This is not to disdain commentary for its failure to be primary rather than secondary, only to attempt to suggest its difference from literature. _____

- ☐ a) The difference between literature and commentary is a matter of perception – the interaction between them is akin to the effect of a chisel on a marble stone while making a sculpture.
- ☐ b) Literature, you might say, describes a chess player's predicament over adopting a defensive strategy against an aggressive opponent, while commentary describes a mountaineer's choice of the best path to Mt. Everest from the base camp.
- ☐ c) Literature, you might say, transforms the world into an illustration of the text, while commentary's relationship to the world is more like that of a caption to a photograph or a wall-paragraph to a painting.

- ☐ d) Literature, absorbs psychologically interesting phenomena, while commentary deals with “adult” analogues of juvenile adventure tales.

Q26. We have always known that students often indulge in _____ – everything from homework assignments and studying for exams to filling out college applications are put off for the future – research now shows that students are biologically _____ to it.

- ☐ a) postponement . . . inured
☐ b) temporizing . . . predisposed
☐ c) prevarication . . . prone
☐ d) procrastination . . . drawn

DIRECTIONS for questions 5 to 7: There are two blanks in each of the following sentences. From the pairs of words given below them, choose the pair that fills the blanks most appropriately.

Q27. The sceptic in religion is not _____, nor does he or she reject religious claims _____; he or she is simply unable to accept the case for God unless it is supported by adequate evidence.

- ☐ a) evidential . . . ad finem
☐ b) iconoclastic . . . ad hominem
☐ c) dogmatic . . . a priori
☐ d) plangent . . . a fortiori

Q28. Over the years many misguided pronouncements have _____ the improved economic prospects of the country and the 1990s even saw a slight economic _____, dubbed as a ‘renaissance’, but it fizzled out and a gloomy view of the country seemed to settle over corporate boardrooms.

- ☐ a) highlighted . . . interference
☐ b) illustrated . . . heave
☐ c) touted . . . resurgence
☐ d) underplayed . . . plunge

Q29. (i) It was difficult for the team to reorganize (1)/ regroup (2) and resume their campaign, after having lost the opening round.

(ii) He did not want to judge the case, as he was totally disinterested (1) / uninterested (2) in the issues involved.

(iii) He had an unexceptional (1)/ unexceptionable (2) track record making him the ideal candidate.

(iv) The leader was pilloried (1)/ pillaged (2) by the press for his unwitting remarks against a section of the people.

(v) The birthday bash of the leader was an ostentatious (1)/ ostensible (2) show of pomp and wealth.

DIRECTIONS for questions 8 to 10: In each question, there are five sentences, with each sentence having a pair of words, numbered 1 and 2, that are italicized and highlighted. In each sentence, from the pairs of italicized and highlighted words, select the appropriate word to form the correct sentence. Then enter (in the input box provided below the question) the correct sequence of numbers corresponding to the appropriate words in each of the sentences, in the same order that the sentences appear in the question. For example, if you think that the appropriate words for the sentences are 1, 2, 1, 2 and 2 respectively, then enter your answer as 12122.

Q30. (i) The people of this fragile nation have been witness to so many catachrestic (1) / cataclysmic (2) events that they seem to have gone numb with pain.

(ii) We have to wait and see whether the suggestions given by different parties would accentuate (1) / eventuate (2) in amending the law.

(iii) They tried their best to diffuse (1) / defuse (2) the tension but it was too late.

(iv) The police knew that his claims were factitious (1) / facetious (2) but could not get the evidence to call his bluff.

(v) Sheela made a lot of enemies because of her presumptive (1) / preposterous (2) behaviour.

Q31. (i) In the summer camp this year, children learnt even origami (1) / orifice (2).

(ii) Since the parliament is not in session, the President has passed an ordinance (1) / ordnance (2) on this urgent matter.

(iii) Japanese cars are so reliable (1) / reliant (2) that you can be sure that they will work efficiently for years.

(iv) If you go to the exhibition on the last day when it is about to wind up, you can buy remnants (1) / remains (2) cheaply.

(v) If the committee does not arrive at a final decision today, the spectre (1) / sceptre (2) of a legal action looms large.

- Q32. (1) On another occasion, an incendiary bomb, a thermite bomb, fell behind our house
- (2) and burned with a terrible, white-hot heat. My father had a stirrup pump, and my brothers carried
- (3) pails of water to him, but water seemed useless against this infernal fire – indeed, it made it burn even more furiously.
- (4) There was a vicious hissing and sputtering when the water hit the white-hot metal;
- (5) meanwhile, the bomb was melting its own casing and throwing blobs and jets of molten metal in all directions.

DIRECTIONS for questions 11 to 13: In each of the following questions, there are sentences or fragments of sentences that form a paragraph. Identify the sentence(s) or fragments of sentence(s) that is/are correct in terms of grammar and usage, including spelling, punctuation and logical consistency. Enter the number(s) corresponding to the sentence(s) or fragments of sentence(s) in the input box provided below the question. [Note: Enter your answer in increasing order only. For example, if you think that the fragments (2) and (4) are correct, then enter 24 (but not 42) in the input box.]

- Q33. (1) Leonardo da Vinci was a self-taught man and began teaching himself Latin at the early age.
- (2) He became a great engineer and was the first to discover that blood circulated through the body.
- (3) He believed that coarse people of bad habits and shallow judgments did not deserve so beautiful an instrument and such a complex anatomical equipment than the human body.
- (4) They should merely have a sack for taking in food and letting it out again, for they are nothing but the alimentary canal.
- (5) Very fond of animals, he was himself a vegetarian and had the habit of buying caged birds from the market and setting them free immediately.

- Q34. (1) A Dickensian mood pervades in Kabul's legal world.
- (2) Labyrinthine corridors give into rooms stacked to bursting
- (3) with dusty ledgers and hand-scrawled documents.
- (4) With the business of the judiciary spread on about 31 departments,
- (5) casefiles have a habit of being rarely, or never, sighted again once they enter through the system.

DIRECTIONS for questions 14 to 16: The sentences given below, when properly sequenced, form a coherent paragraph. Each sentence is labeled with a number (1, 2, 3, 4 or 5). Decide on the proper order for the sentences and key in the correct sequence of five numbers as your answer.

Q35. (1) Far from fastening the grip of bureaucracy on civilization more tightly than before, automation leads to its overthrow.

(2) For bureaucracies are well suited to tasks that require masses of moderately educated men to perform routine operations and, no doubt, some such operations will continue to be performed by men in the future.

(3) It will be a long time before the last bureaucratic hierarchy is obliterated.

(4) Yet it is precisely such tasks that the computer and automated equipment do far better than men.

(5) It is clear that in super-industrial society many such tasks will be performed by great self-regulating systems of machines, doing away with the need for bureaucratic organizations.

Q36. (1) To the degree to which we align ourselves with correct principles, divine endowments will be released

within our nature, enabling us to fulfil the measure of our creation.

(2) I believe that to the degree people live by this inspired conscience, they will grow to fulfill their natures; to the degree that they do not, they will not rise above the animal plane.

(3) As Teilhard de Chardin once said, "We are not human beings having a spiritual experience. We are spiritual beings having a human experience."

(4) I believe that correct principles are natural laws, and that God, the Creator and Father of us all, is the source of them and also the source of our conscience.

(5) I believe that there are parts to human nature that cannot be reached by either legislation or education, but require the power of God to deal with; as human beings, we cannot perfect ourselves.

Q37. (1) Dr Claus thinks she has identified, in those who have had dental X-rays often, a significant rise in the admittedly small risk of developing a brain tumour.

(2) A study by Elizabeth Claus, of Yale University, just published in Cancer, suggests your suspicions might be justified.

(3) If you are a suspicious type you may be disturbed by the fact that, despite reassurances of the safety of the procedure, dentists and their technicians, when administering X-rays, usually step out of the room while the deed is done.

(4) Well, all but one: your brain.

(5) Not only that, they often drape a lead-lined apron over your body to protect your vital organs.

DIRECTIONS for questions 17 to 19: Each question has a pair of capitalized words followed by four pairs of words. Choose the pair of words that expresses a relationship similar to that expressed by the capitalized pair.

Q38. ENCRYPT : DECODE

- ☐ a) Obfuscate : Confound
- ☐ b) Enunciate : Explicate
- ☐ c) Confound : Elucidate
- ☐ d) Conform : Affirm

Q39. DISSEMINATION : INFORMATION ::

- ☐ a) Dissipation : Wealth
- ☐ b) Promulgation : Ordinance
- ☐ c) Inculcation : Confidence
- ☐ d) Obsession : Fixation

Q40. DRIZZLE : DELUGE

- ☐ a) Squall : Tornado
- ☐ b) Avalanche : Blizzard
- ☐ c) Zephyr : Cyclone
- ☐ d) Gale : Hurricane

DILR

DIRECTIONS for questions 1 to 4: Answer these questions on the basis of the information given below.

The table below gives details about the performances of the tennis player Roger Federer in all the Grand Slam tournaments from 2000 to 2012. Each entry in the table indicates the round in which he was eliminated, except when he won the tournament, where it is denoted as W.

Year	Tournament			
	Australian Open	French Open	Wimbledon Open	US Open
2000	3R	4R	1R	3R
2001	3R	QF	QF	4R
2002	4R	1R	1R	4R
2003	4R	1R	W	4R
2004	W	3R	W	W
2005	SF	SF	W	W
2006	W	F	W	W
2007	W	F	W	W
2008	SF	F	F	W
2009	F	W	W	F
2010	W	QF	QF	SF
2011	SF	F	QF	SF
2012	SF	SF	W	F

Each of the four tournaments begins with 128 players in the fray and is played in a Knock-Out format, where the loser in any match is eliminated from the tournament. Hence, each tournament had a total of seven rounds, namely 1R, 2R, 3R, 4R, QF, SF and F, played in that order.

Note: SF = Semi Finals; QF = Quarter Finals; F = Finals; 'nR' = nth Round.

Q1. DIRECTIONS for question 1: Type in your answer in the input box provided below the question.

During the given period, what is the maximum possible number of players that Federer would have knocked out in any of the four tournaments?

Q2. DIRECTIONS for questions 2 and 3: Select the correct alternative from the given choices.

If for any period, the win % of a player in a tournament is defined as the number of matches won as a percentage of the number of matches played by the player during the period in that tournament, then the highest win % of Roger Federer in any single tournament for the period 2000-2012 is

- ☐ a) 87.67%.
- ☐ b) 92.63%.
- ☐ c) 91.78%.
- ☐ d) 89.47%.

Q3. DIRECTIONS for questions 2 and 3: Select the correct alternative from the given choices.

If for any year, the win % of a player in the year is defined as the percentage of the number of grand slam matches won out of the number of grand slam matches played by that player in that year, then what is the approximate difference between Roger Federer's win % in 2011 and his win % in 2005?

- ☐ a) 8.98 percentage points
- ☐ b) 24.14 percentage points
- ☐ c) 12.67 percentage points
- ☐ d) 31.16 percentage points

Q4. DIRECTIONS for question 4: Type in your answer in the input box provided below the question.

If in any calendar year, the grand slam tournaments are held in the order Australian Open, French Open, Wimbledon and US Open, then what is the highest number of consecutive grand slam matches won by Federer in the period 2000-12

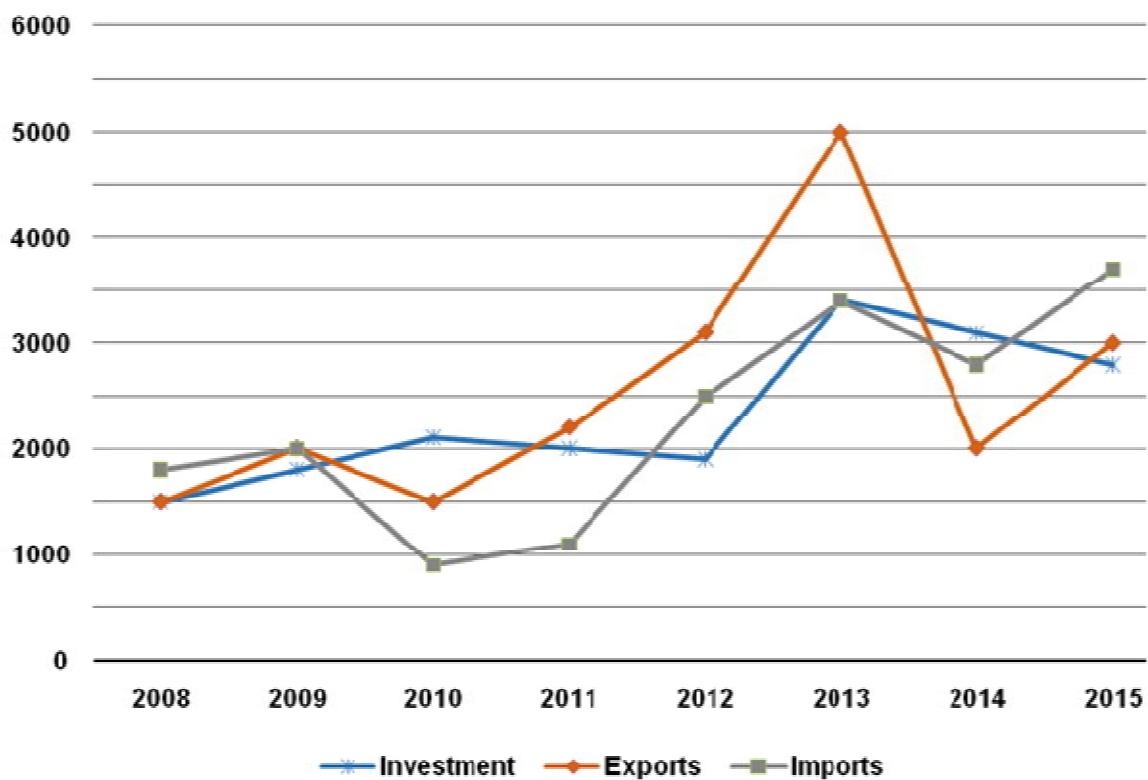
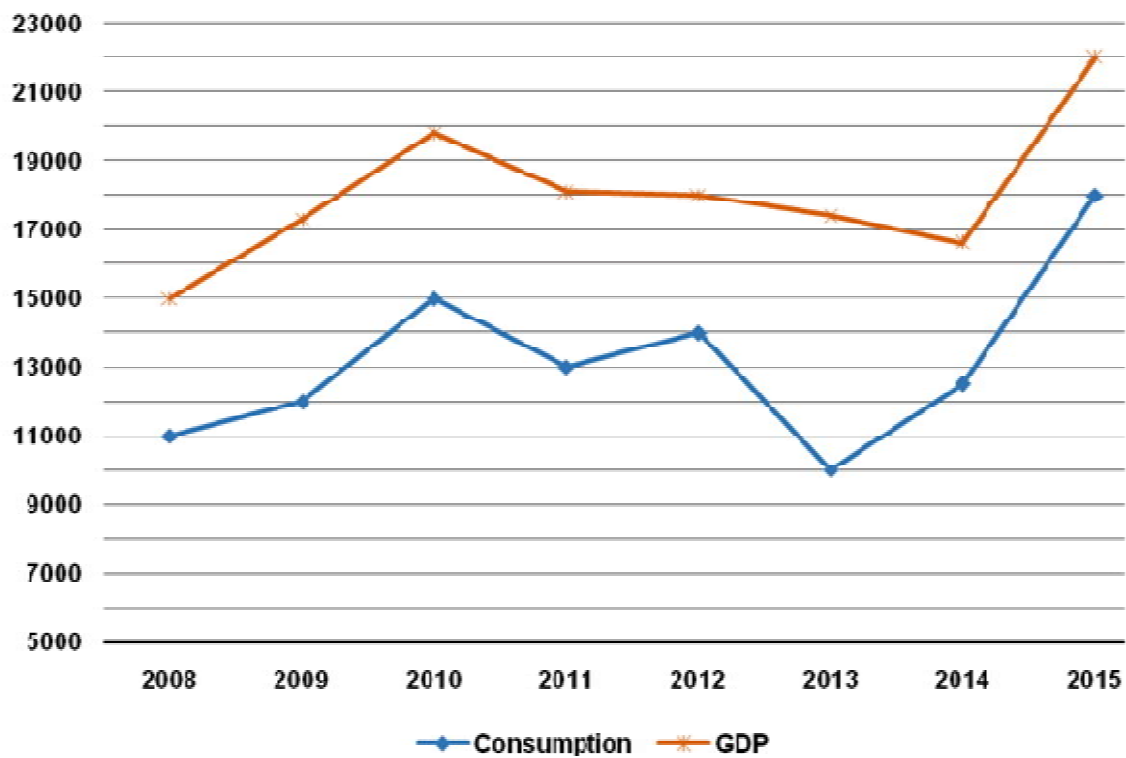
DIRECTIONS for questions 5 to 8: Answer these questions on the basis of the information given below.

The GDP of a country is calculated using the following formula:

$$\text{GDP} = C + I + G + X - M$$

where C represents the Consumption, I represents the Investments, G represents the Government Spending, X represents Exports and M represents Imports.

The following line charts present the values (in \$ bn) of C, I, X, M and the GDP of a country for each year from 2008 to 2015:



Q5. DIRECTIONS for questions 5 to 8: Select the correct alternative from the given choices.

In which year was the Government Spending as a percentage of GDP the lowest?

- ☐ a) 2015
- ☐ b) 2014
- ☐ c) 2012
- ☐ d) 2010

Q6. DIRECTIONS for questions 5 to 8: Select the correct alternative from the given choices.

In how many of the given years were the Exports less than Government Spending?

- ☐ a) 2
- ☐ b) 3
- ☐ c) 4
- ☐ d) 5

Q7. DIRECTIONS for questions 5 to 8: Select the correct alternative from the given choices.

The Government Spending in any year as a percentage of the Consumption in that year was at most (approximately)

- ☐ a) 29%.
- ☐ b) 25%.
- ☐ c) 21%.
- ☐ d) 20%.

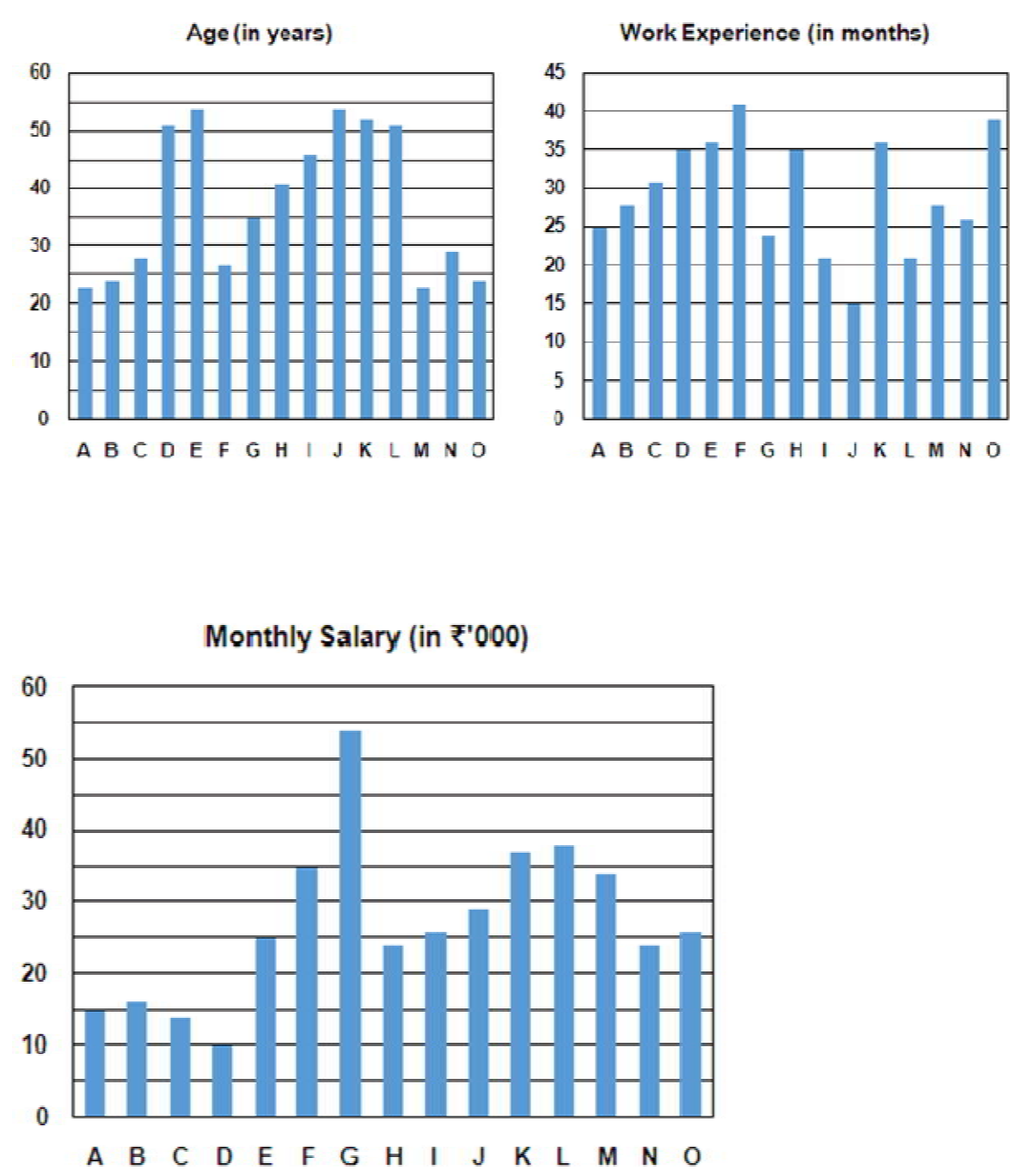
Q8. DIRECTIONS for questions 5 to 8: Select the correct alternative from the given choices.

The highest Government Spending in any year was approximately

- ☐ a) \$4500 bn.
- ☐ b) \$4000 bn.
- ☐ c) \$3500 bn.
- ☐ d) \$3000 bn.

DIRECTIONS for questions 9 to 12: Answer these questions on the basis of the information given below.

The following bar charts present for fifteen employees, A through O, in a company, the age (in years), the work experience (in months) in the company and the monthly salary (in Rs.'000) of each employee:



Q9. DIRECTIONS for questions 9 and 10: Type in your answer in the input box provided below the question.

How many employees are at least 30 years old, have at least 20 months of work experience and have a monthly salary of at most Rs.30,000?

Q10. DIRECTIONS for questions 9 and 10: Type in your answer in the input box provided below the question.

For how many employees is the ratio of their work experience (in months) to their monthly salary (in Rs.'000) greater than 1.25?

Q11. DIRECTIONS for question 11: Select the correct alternative from the given choices.

For which of the following employees is the ratio of their age (in years) to their work experience (in months) the highest?

- ☐ a) D
- ☐ b) E
- ☐ c) G
- ☐ d) K

Q12. DIRECTIONS for question 12: Type in your answer in the input box provided below the question.

For how many employees is the value $\frac{\text{Monthly Salary (in `000)} \times \text{Work Experience (in months)}}{\text{Age (in years)}}$ greater than 20?

DIRECTIONS for questions 13 to 15: Answer the questions on the basis of the information given below.

Ten friends – A through J – have some amount of money with each of them. The amount of money with each person is a natural number. The following table gives the total amount of money with some of the pairs of persons:

	A	B	C	D	E
F	14	18	28	12	13
G	18	22	32	16	17
H	7	11	21	5	6
I	22	26	36	20	21
J	24	28	38	22	23

In the above table, the amount of money with F and A put together is Rs.14, F and B put together is Rs.18 and so on.

Any pair, among the given ten persons, in which each of the two persons has the same amount of money is called a twin pair.

Q13. DIRECTIONS for question 13: Select the correct alternative from the given choices.

If H has Rs.2 with him, find the number of twin pairs.

- ☐ a) 1
- ☐ b) 2
- ☐ c) 3
- ☐ d) Cannot be determined

Q14. DIRECTIONS for questions 14 and 15: Type in your answer in the input box provided below the question.

The maximum possible amount of money (in Rs.) with B and C put together is

Q15. DIRECTIONS for questions 14 and 15: Type in your answer in the input box provided below the question.

What is the total amount of money (in Rs.) with all the ten persons put together?

Type '0' if you think that the answer cannot be determined with the given information.

DIRECTIONS for questions 1 to 4: Answer these questions on the basis of the information given below.

Each of eight students – Akash, Balu, Chakri, Diren, Ehsaan, Fatima, Giri and Hari – is of a different height. All of them are standing in a row, facing in the same direction, from left to right, in the increasing order of their heights, such that the shortest person is at the extreme left. Three of them are from 1st standard, three from 2nd standard and two from 3rd standard.

- (i) Akash, the second tallest, is not from 1st standard and Balu, who is the fourth tallest, is from 2nd standard.
- (ii) Ehsaan is from 2nd standard but Chakri is not from 3rd standard.
- (iii) Hari is taller than Giri but shorter than Balu, while Diren is shorter than Akash.

(iv) Chakri is shorter than Giri but taller than Fatima.

(v) Neither the shortest nor the second shortest student is from 1st standard.

Q16. DIRECTIONS for questions 1 to 4: Select the correct alternative from the given choices.

Which two students from the same standard are adjacent to each other?

- ☐ a) Hari and Balu
- ☐ b) Balu and Giri
- ☐ c) Giri and Hari
- ☐ d) None of the above

Q17. DIRECTIONS for questions 1 to 4: Select the correct alternative from the given choices.

Which of the following statements is definitely true?

- ☐ a) Each 2nd standard student is next to at least one 3rd standard student.
- ☒ b) Each 3rd standard student is next to at least one 2nd standard student. ✓ Your answer is correct
- ☐ c) No two students of the same standard are adjacent to each other.
- ☐ d) All of the above

Q18. DIRECTIONS for questions 1 to 4: Select the correct alternative from the given choices.

How many students belonging to either 1st standard or 2nd standard have an odd number of students standing on their left?

- ☐ a) 0
- ☐ b) 2
- ☐ c) 4
- ☐ d) None of the above

Q19. DIRECTIONS for questions 1 to 4: Select the correct alternative from the given choices.

How many students are taller than Hari but are not from the same standard as him?

- ☐ a) 4

- ☐ b) 3
- ☐ c) 2
- ☐ d) 1

DIRECTIONS for questions 5 to 8: Answer the questions on the basis of the information given below.

Mittal Iron & Steel Co. sources raw iron ore from five different mines located in five different areas – Durg, Mayurbhanj, Jaintia Hills, Kudremukh and Singhbhum. The mines are ranked from 1 to 5 based on the cost of iron ore (1 for the cheapest to 5 for the costliest), distance from the factory (1 for the nearest to 5 for the farthest) and the speed of carriage (1 for the fastest to 5 for the slowest).

Assume that all the carriage vehicles from a location travel at the same speed. No two mines got the same rank in any of the three parameters and no mine got the same rank in any two parameters.

Further, it is known that

(i) Jaintia Hills mine is the farthest, whereas Durg mine is not the nearest.

(ii) iron ore sourced from Durg mine is the second costliest, whereas iron ore sourced from Singhbhum mine is the cheapest.

(iii) Mayurbhanj mine is the third farthest mine and the carriage vehicles from it travel the slowest.

(iv) the carriage vehicles from Durg mine do not travel the fastest.

Q20. DIRECTIONS for questions 5 to 7: Select the correct alternative from the given choices.

Which mine is the nearest to the factory?

- ☐ a) Mayurbhanj mine
- ☐ b) Jaintia Hills mine
- ☐ c) Kudremukh mine
- ☐ d) Cannot be determined

Q21. DIRECTIONS for questions 5 to 7: Select the correct alternative from the given choices.

The carriage vehicles from which mine travel the second fastest?

- ☐ a) Kudremukh mine
- ☐ b) Singhbhum mine
- ☐ c) Jaintia Hills mine
- ☐ d) Cannot be determined

Q22. DIRECTIONS for questions 5 to 7: Select the correct alternative from the given choices.

If the company sources iron ore from only those mines for which the sum of the ranks, in all the parameters put together, is less than eight, then how many of the five mines can the company source iron ore from?

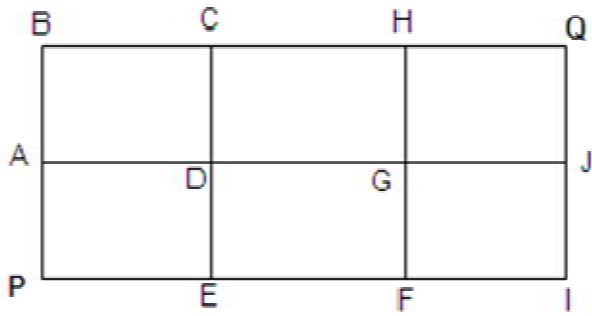
- ☐ a) 0
- ☐ b) 1
- ☐ c) 2
- ☐ d) 3

Q23. DIRECTIONS for question 8: Type in your answer in the input box provided below the question.

How many pairs of mines are such that one of the mines is ranked numerically lower than the other in each of the three parameters?

DIRECTIONS for questions 9 to 11: Answer the questions on the basis of the information given below.

The diagram below gives a network of roads connecting two cities P and Q. There are ten junctions – A to J – enroute and any person can take a turn only at these junctions.



Further, any person can travel only eastwards or northwards along any road.

Q24. DIRECTIONS for question 9: Type in your answer in the input box provided below the question.

What is the maximum number of turns that a person can take to reach Q from P?

Q25. DIRECTIONS for questions 10 and 11: Select the correct alternative from the given choices.

If a person takes exactly one right turn and one left turn, in any order, when travelling from P to Q, then at which of the following junctions will he never take a turn?

- ☐ a) A
- ☐ b) D
- ☐ c) E
- ☐ d) F

Q26. DIRECTIONS for questions 10 and 11: Select the correct alternative from the given choices. Which of the following is a junction where a person cannot take a right turn?

- ☐ a) C
- ☐ b) D
- ☐ c) G
- ☐ d) F

DIRECTIONS for questions 12 to 15: Answer the questions on the basis of the information given

Eight persons, A through H, were sitting around a circular table with eight equally spaced chairs. There are exactly four married couples among the eight. Among the eight persons, A, D, E and F are males, while the rest are females. Each person wore a dress of a colour among Red, Blue and Green. It is known that any two persons

wearing a dress of the same colour neither sit adjacent to each other nor sit opposite each other. Further, any two persons married to each other do not wear a dress of the same colour, do not sit adjacent to each other and do not sit opposite each other.

Further, it is also known that

(i) A, who was wearing a Green dress, was sitting opposite C, while E, who was wearing a Blue dress, was sitting opposite G.

(ii) H is the spouse of F, while D, who was not wearing a Red dress, is not the spouse of G.

(iii) B, who was wearing a Green dress, was sitting to the left of C and to the right of the spouse of C.

Q27. DIRECTIONS for questions 12 to 15: Select the correct alternative from the given choices.

Who among the following is definitely sitting adjacent to F?

- ☐ a) A
- ☐ b) G
- ☐ c) B
- ☐ d) None of the above

Q28. DIRECTIONS for questions 12 to 15: Select the correct alternative from the given choices.

What is the colour of the dress of the spouse of D?

- ☐ a) Red
- ☐ b) Blue
- ☐ c) Green
- ☐ d) Cannot be determined

Q29. DIRECTIONS for questions 12 to 15: Select the correct alternative from the given choices.

Both the persons sitting adjacent to which of the following persons are wearing a dress of the same colour?

- ☐ a) A
- ☐ b) B
- ☐ c) F
- ☐ d) G

Q30. DIRECTIONS for questions 12 to 15: Select the correct alternative from the given choices.

The spouse of which of the following persons is wearing a Red dress?

- ☐ a) C
- ☐ b) D
- ☐ c) E

QA

DIRECTIONS for question 1: Select the correct alternative from the given choices.

Q1. Three persons, A, B and C, have a certain number of chocolates with each of them. The number of chocolates with B is 20% more than that with A, which, in turn, is two-thirds of that with C. If the number of chocolates with B is less than the total number of chocolates with A and C together by x percent, what is the value of x?

- ☐ a) 30
- ☐ b) 40
- ☐ c) 48
- ☐ d) 52

DIRECTIONS for question 2: Type in your answer in the input box provided below the question.

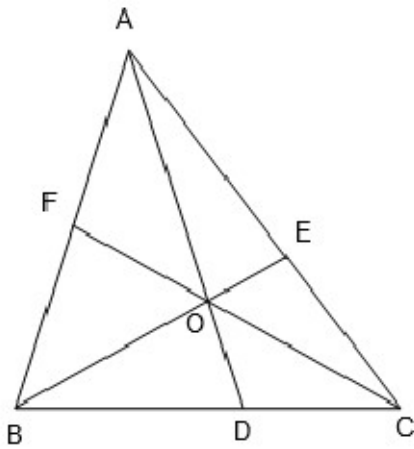
Q2. If $x^2 - ax + b = 0$ and $x^2 - bx + a = 0$ have exactly one common root and $a \neq b$, find the value of $(a + b)$.

DIRECTIONS for questions 3 to 5: Select the correct alternative from the given choices.

Q3. If the average weight of a group of 15 items is 30 kg and none of the items weighs more than 32 kg, find the least possible weight (in kg) of any item in the group.

- ☐ a) 2
- ☐ b) 4
- ☐ c) 3
- ☐ d) 0

Q4. In the figure below, sides AB, BC and AC measure 9 cm, 12 cm and 13 cm respectively, and O is the point of concurrence of lines AD, BE and CF, where D, E and F are points on BC, AC and AB respectively.



If $\frac{AF}{FB} = \frac{4}{5}$ and $\frac{AE}{EC} = \frac{8}{5}$, find the ratio of the area of triangle BOF and that of triangle COE.

- ☐ a) 26 : 9
- ☐ b) 5 : 3
- ☐ c) 13 : 9
- ☐ d) 1 : 1

Q5. Find the value of t , if $t\%$ of t is 25 and t is a positive real number.

- ☐ a) 50
- ☐ b) 25
- ☐ c) 75
- ☐ d) 100

DIRECTIONS for questions 6 to 8: Type in your answer in the input box provided below the question.

Q6. If $f(x) = x^4 - 3x^3 - 7x^2 - 10x - 25$ and $g(x) = x^4 - 4x^3 + x^2 - 27x - 15$, find the number of values of x for which $f(x) = g(x) = 0$.

Q7. Rita is seven years older than Geetha. After five years, the age of Sita will be twice that of Rita and four times that of Geetha. Find the present age of Sita (in years).

Q8. If $k \neq 0$, find the value of k for which the area enclosed between the lines $2x + 3y = 2k$, $2x - 3y = 2k$, $y = k$ and $y = 2k$ will be equal to $18k$ (in magnitude).

DIRECTIONS for questions 9 and 10: Select the correct alternative from the given choices.

Q9. A king wants to give some gold coins to a group of people such that the first person gets 1 coin, the second gets 3 coins, the third gets 6 coins, the fourth gets 10 coins and so on. If the king gave out a total of 3276 gold coins in this manner, find the number of people that he gave the gold coins to.

- ☐ a) 24
- ☐ b) 26
- ☐ c) 25
- ☐ d) 27

Q10. Find the maximum value of x such that $\sqrt{x} \geq 3x$.

- ☐ a) $\frac{1}{\sqrt{3}}$
- ☐ b) $\frac{1}{3}$
- ☐ c) $\frac{1}{9}$
- ☐ d) $\frac{1}{6}$

DIRECTIONS for questions 11 and 12: Type in your answer in the input box provided below the question.

Q11. There are eight boxes of chocolates, each box containing a distinct number of chocolates from 1 to 8. In how many ways can four of these boxes be given to four persons (one box to each person) such that the first person gets more chocolates than each of other three, the second person gets more chocolates than the third as well as the fourth persons and the third person gets more chocolates than the fourth person?

Q12. In a college of 525 students, each student takes at least two items from among idly, dosa, puri and chapathi for his breakfast. If 375 students take idly, 375 students take dosa, 375 students take puri and 375 students take chapathi for their breakfast, the number of students who take all the four items is at most

DIRECTIONS for question 13: Select the correct alternative from the given choices.

Q13. If n is a natural number and the integers $x_1, x_2, x_3, \dots, x_n$ are such that

$(x_1 \cdot x_2) + (x_2 \cdot x_3) + \dots + (x_{n-1} \cdot x_n) + (x_n \cdot x_1) - (x_1 \cdot x_2 \cdot x_3 \dots x_{n-1} \cdot x_n)$ is even, which of the following statements are

true?

I. For all even values of n , all the x 's have to be even.

II. For all even values of n , all the x 's can be even.

III. For all odd values of $n > 1$, all the x 's can be odd.

IV For all odd values of $n > 1$, all the x 's have to be odd.

- ☐ a) Only I and III
- ☐ b) Only II and III
- ☐ c) Only II and IV
- ☐ d) Only I and IV

DIRECTIONS for questions 14 to 16: Type in your answer in the input box provided below the question.

Q14. Find the minimum value of $8 \tan^2 \theta + 18 \cot^2 \theta$.

Q15. If $f(x) = \text{minimum of } (3x + 5, 10 - 2x)$, what is the maximum possible value of $f(x)$?

Q16. If $X = \{0, 1, 2, 5, 6, 8, 9\}$, how many six-digit numbers divisible by 3 can be formed using the elements of X , without repetition?

DIRECTIONS for questions 17 to 19: Select the correct alternative from the given choices.

Q17. Shankerlal's daughter, Lajwanti, has twice as many sisters as brothers, whereas her brother, Bhola, has thrice as many sisters as brothers. How many children does Shankerlal have?

- ☐ a) 8
- ☐ b) 9
- ☐ c) 11
- ☐ d) 13

Q18. Let ab be a two-digit number, with $a > b$. The following algorithm is now performed using ab :

START

$Y = 10a + b;$

$a = a + b;$

$b = a - b;$

$a = a - b;$

$Y = Y - (10a + b);$

Print Y

END

Which of the following statements is/are true?

- ☐ a) Y is always divisible by 9.
- ☐ b) Y is always divisible by 11.
- ☐ c) Y is always even.
- ☐ d) More than one of the above.

Q19. A rectangle ABCD, of length ℓ and breadth b , is partitioned as shown in the figure below. E and F are points on AB and DC respectively, such that $AE : EB = DF : FC$. Further, G, H, I are points on AD; J, K, L, M, N, O are points on EF; P, Q, R are points on BC. If $\ell = 15$ and $b = 10$, $|IK| \parallel DF$ and HQ meets EF at L, find the area (in sq.cm) of the shaded region.

DIRECTIONS for questions 20 to 22: Type in your answer in the input box provided below the question.

Q20. There is a drop of honey touching the inside wall and at the bottom of a cylindrical glass on a table. There is an ant located on the table just outside the glass but diametrically opposite the drop of honey. If the diameter and the height of the glass are both 10 cm, then find the shortest distance, in mm (rounded off to the nearest mm) that the ant has to crawl to reach the drop of honey. (Take $p = \frac{22}{7}$)

Q21. The number of ways of arranging x students in a row such that no two boys sit together and no two girls sit together is y ($y > 100$). If one more student is added, then the number of ways of arranging as above increases by 200%. Find the value of x .

Q22. Joshua took a loan of `67100 from a moneylender at 20% per annum under compound interest, compounded annually, and agreed to repay it in four equal annual installments, installment being paid at the end of each year. Find the value of each installment.

DIRECTIONS for questions 23 to 25: Select the correct alternative from the given choices.

Q23. P started running around a circular track of length 800 m, from the starting point A. When P reached the 600 m mark, Q started running around the track from A, in the same direction as P. When Q reached the 400 m mark, R started from A, in the same direction as Q. When R reached the 200 m mark, S started from A, in the same direction as R. If, when P reached A for the first time, Q, R and S also reached A for the first time, what is the ratio of the speeds of P, Q, R and S?

- ☐ a) 3 : 12 : 24 : 32
- ☐ b) 1 : 4 : 8 : 16
- ☐ c) 1 : 2 : 3 : 4
- ☐ d) 1 : 4 : 16 : 64

Q24. If the ratio of the length and the breadth of a rectangle is 37 : 29, what is the percentage reduction in the area of the rectangle when its length and breadth are decreased by 30% and 20% respectively?

- ☐ a) 56%
- ☐ b) 50%
- ☐ c) 44%
- ☐ d) 25%

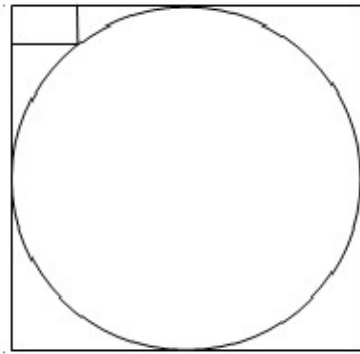
Q25. If $\frac{p - q - r}{p} = \frac{q - r - p}{q} = \frac{r - p - q}{r} = k$, the number of distinct values that k can assume is

- ☐ a) 0.
- ☐ b) 1.
- ☐ c) 2
- ☐ d) more than 2.

DIRECTIONS for questions 26 and 27: Type in your answer in the input box provided below the question.

Q26. Find the total number of ways in which one can wear three distinct rings on the five fingers of one's right hand, given that one is allowed to wear more than one ring on a finger.

Q27. In the figure below, a circle is inscribed in a square and the rectangle at the corner measures $16\text{ cm} \times 8\text{ cm}$. Find the radius (in cm) of the circle.



DIRECTIONS for questions 28 to 30: Select the correct alternative from the given choices.

Q28. In the country ABC, in the year 2015, the price of petrol increased by $33\frac{1}{3}\%$ in the first quarter, increased by 25% in the second quarter, fell by $16\frac{2}{3}\%$ in the third quarter and then again fell by $x\%$ in the fourth quarter. If the price of petrol at the end of the fourth quarter was the same as it was at the beginning of the first quarter, find the value of x ?

- ☐ a) 35
- ☐ b) 28
- ☐ c) 21
- ☐ d) 22

DIRECTIONS for questions 28 to 30: Select the correct alternative from the given choices.

Q29. Pinky started from her house to her office at 8:00 a.m. and covered a certain distance by 9:00 a.m. After travelling a further 75% of that distance, she found that she had covered 75% of the total distance. What part of the total distance did she cover by 10:00 a.m.?

- ☐ a) $\frac{3}{4}$ th
- ☐ b) $\frac{4}{7}$ th

- ☐ c) $\frac{3}{7}$ th
- ☐ d) $\frac{6}{7}$ th

DIRECTIONS for questions 28 to 30: Select the correct alternative from the given choices.

Q30. If the lengths of the sides of a right-angled triangle are in geometric progression, the length of the hypotenuse is how many times the length of the shortest side?

- ☐ a) $\frac{3+\sqrt{5}}{2}$
- ☐ b) $\sqrt{\frac{1+\sqrt{5}}{2}}$
- ☐ c) $\frac{1+\sqrt{5}}{2}$
- ☐ d) $\frac{\sqrt{5}}{2}$