

CAT Mock Paper 5

By www.collegedunia.com

Verbal Ability

DIRECTIONS for questions 67 to 69: Read the following passage and answer the questions that follow it.

Physicists have become increasingly argumentative about what exactly time is. Because this is now being recognized as perhaps the most fundamental question of all. For decades they have been attempting to wed quantum mechanics, our theory of how very small things behave, to relativity, our theory of how space, time and matter interact. This would give us the long-sought-after theory of quantum gravity that describes the entire universe.

Constructing this theory has been an uphill struggle, though, because it is unclear how time fits within it. "There are very different notions of time in general relativity and quantum theory," Smolin says. "It's pretty clear that the nature of time is the key issue".

Last month, Smolin and other theorists, along with mathematicians and philosophers, got together at the Perimeter Institute to thrash out time's problems. So complex is the issue that everyone involved seems to have a different idea. It turns out that if you want to understand time, you might need to grab some measurements from the future, watch a big bang explode at the edge of the universe, or delve into the anomalies presented by the most unruly of the subatomic particles. For some, the only is to scrap the notion of time altogether.

Scientists have long worried about the nature of time. At the beginning of the 18th century, Isaac Newton and Gottfried Leibniz argued over whether time was truly fundamental to the universe. Then Einstein came along and created more problems: his general theory of relativity is responsible for our most counter-intuitive notions of time.

General relativity knits together space, time and gravity. Confounding all common sense, how time passes in Einstein's universe depends on what you are doing and where you are. Clocks run faster when the pull of gravity is weaker, so if you live up a skyscraper you age ever so slightly faster than you would if you lived on the ground floor where Earth's gravitational tug is stronger.

"General relativity completely changed our understanding of time," says Carlo Rovelli, a theoretical physicist at the University of the Mediterranean in Marseille, France.

At the other extreme there is the quantum world, where time seems to be almost irrelevant. "Quantum theory doesn't really allow for measurements of time, "Says Aephrim Steinberg of the University of Toronto in Canada. "Asking how long a particle stays in a certain region of space turns out to be something that, in quantum theory, may have hundreds - or an infinite number of different answers."

This contradiction in general relativity's and quantum theory's description of time is the fundamental sticking point for a single theory that describes the entire universe. How to reconcile the two descriptions of time continues to stump the world's best minds. There is no shortage of ideas, though, with some believing we could make better progress towards a quantum theory of gravity if we think the unthinkable and abolish time altogether. "The of the present difficulties about time is just to forget about it," says Rovelli.

Q 67. Why does science not have a single theory to explain the universe?

- (1) Scientists are unable to arrive at a consensus on the notion of quantum gravity.
- (2) Einstein came up with the most baffling theory to confuse matters.
- (3) Time is inconsequential when we talk about quantum mechanics.
- (4) Time remains an inexplicable concept in the domain of science.
- (5) Quantum mechanics challenges the concept of time.

Q 68. Which of the following statements is not supported by the passage?

- (1) Quantum theory of gravity abolishes time
- (2) Einstein propounded the general theory of relativity
- (3) Quantum theory of gravity would link general theory of gravity with quantum mechanics
- (4) General theory of relativity combines time, space and gravity
- (5) Quantum mechanics deals with subatomic particles

Q 69. What can be an appropriate title for, the passage?

- (1) Time to understand the universe
- (2) Grappling with time
- (3) Time and a universal theory of universe
- (4) Discounting time
- (5) Understanding the universe

DIRECTIONS for questions 70 to 73: Read the following passage and answer the questions that follow it.

Last evening, on the longest day of the year, I took a walk in a meadow near my home. At the edge of the meadow a path opened in to the woods, and I followed it perhaps a hundred yards to the bank of a small stream where I rested on a rock and watched the brook flow. Then I walked back.

Nothing spectacular happened. No large animal jumped out to demonstrate its majesty. The flora was beautiful but unremarkable: buttercups, Queen Anne's lace, daisies, lupins. The sky didn't crackle with summer lightning; the sunset was only streaks of purples, some rosy glow on the underbellies of the clouds. A few mosquitoes made their presence known. It was simply a lovely night.

And simply the sort of scene that we have evolved with for hundreds of thousands of years, that has made us who we are, that we can't be fully human, or at least fully sane, without. The sort of scene whose absence in our lives is now making us slowly crazy. If there is a pertinent modern question, it is "How much is enough?" The consumer societies we have created posit that the only possible answer is "More". And so in pursuit of more we have turned ourselves into tubby folk, raised the temperature of the planet one degree with a further five degrees in prospect, countenanced the ever deeper gulfs between rich and poor, and so on. And in the process made ourselves == happy?

But say you're in a meadow, surrounded by wild flowers. Do you find yourself thinking, "They could do with some more wild flowers over there"? Do you glance up at the mountains on the horizon and think, "Some more mountains would be nice"? Do you lie on the rock by the brook thinking, "This brook needs more rocks"? Does the robin in that tree chide herself for not tripling the size of her nest? I think not. Nature schools us in sufficiency - its aesthetics and its economy demonstrate 'enoughness' at every turn. Time moves circularly through the natural world - next spring there will be wild flowers again. Not more wild flowers: second quarter output for 2010 will show no year-on-year gain. Growth only replaces, since the planet is already accomplishing all the

photosynthesis that's possible. It offers the great lesson of being simultaneously abundant and finite.

Interdependent, too. The emergent science of ecology is easily summed up: everything's connected. Field biologists using sensitive detectors have discovered that the needles of trees near Alaskan rivers owe their nitrogen to the carcasses of salmon that die along the banks, the same salmon that feed the bears whose pawing aerates the soil that ==

We know now that this is true, but interconnection is anathema to a consumer notion of the world, where each of us is useful precisely to the degree that we consider ourselves the centre of everything.

We believe that pleasure comes from being big, outsized, immortal; now our zealots imagine genetically engineering us for greater greatness. But the testimony of the rest of creation is that there's something to be said for fitting in.

And because of that, the natural world offers us a way to think about dying, the chief craziness for the only species that can anticipate its own demise. If one is a small part of something large, if that something goes on forever, and if it is full of beauty and meaning, then dying seems less shocking. Which undermines about half the reason for being a dutiful consumer, for holding ageing forever at bay. Six months from now, on the shortest night of the year, this field will be under two feet of snow. Most of what I can see will be dead or dormant. And six months after that it will be here again as it is tonight.

Advertising, hyper consumerism, ultra-individualism - these are designed to make you crazy. Nature, like close-knit human community, is designed to help you stay sane. You needn't be in the wilderness to feel in balm: a park, a container garden on the patio, a pet dog, a night sky, a rainstorm will do. For free.

Q 70. In this passage, the author primarily

- (1) reminisces of the times when Nature guided our way of life.
- (2) criticises man for exploiting Nature and ruining the environment.
- (3) underlines the need for man to adopt Nature's way of life.
- (4) warns mankind that hyper consumerism and ultra-individualism will wreck peace on earth.
- (5) advises man to slow down his pace of activity and follow Nature's path.

Q 71. What does the author want to convey when he says "second quarter output for 2010 will show no year-on-year gain"?

- (1) There is a limit to what Nature can do.
- (2) Man can't match Nature in any activity.
- (3) Comparisons have no place in the world of Nature.
- (4) Growth in Nature is relative and not a certainty.
- (5) Nature's bounty is immeasurable.

Q 72. According to the passage, nature teaches us to be

- (1) self-sufficient.
- (2) contented.
- (3) empathetic.
- (4) generous.
- (5) useful.

Q 73. Which of the following options is a possible conclusion to the unfinished sentence in the fifth para?

- (1) /. fixes the nitrogen content.
- (2) /. supplies the required nitrogen to the vegetation in the Alaskan region.
- (3) /. nurtures the needles of trees.
- (4) /. enriches the flora and fauna in the Alaskan plains.
- (5) /. controls the levels of nitrogen used by trees in the Alaskan region.

DIRECTIONS for questions 74 to 77: Read the following passage and answer the questions that follow it.

You're not likely to hear about this from your doctor, but fake medical treatment can work amazingly well. For a range of ailments, from pain and nausea to depression and Parkinson's disease, placebos - whether sugar pills, saline injections, or sham surgery-- have often produced results that rival those of standard therapies.

In a health care industry fuelled by ever newer and more dazzling cures, this phenomenon is usually seen as background noise, or even as something of an annoyance. For drug companies, the placebo effect can

pose an obstacle to profits -- if their medications fail to outperform placebos in clinical trials, they won't get approved by the FDA. Patients who benefit from placebos might understandably wonder if the healing isn't somehow false, too.

But as evidence of the effect's power mounts, members of the medical community are increasingly asking an intriguing question: if the placebo effect can help patients, shouldn't we start putting it to work? In certain ways, placebos are ideal drugs: they typically have no side effects and are essentially free. And in recent years, research has confirmed that they can bring about genuine improvements in a number of conditions. An active conversation is now under way in leading medical journals, as bioethicists and researchers explore how to give people the real benefits of pretend treatment.

In February, an important paper was published in the British medical journal the Lancet, reviewing the discoveries about the placebo effect and cautiously probing its potential for use by doctors. In December, the Michael J. Fox Foundation announced plans for two projects to study the promise of placebo in treating Parkinson's. Even the federal government has taken an interest, funding relevant research in recent years.

But any attempt to harness the placebo effect immediately runs into thorny ethical and practical dilemmas. To present a dummy pill as real medicine would be, by most standards, to lie. To prescribe one openly, however, would risk undermining the effect. And even if these issues were resolved, the whole idea still might sound a little shady--offering bogus pills or procedures could seem, from the patient's perspective, hard to distinguish from skimping on care.

"In the last 10 years we've made tremendous strides in demonstrating the biological veracity of the placebo effect," says Ted Kaptchuk, an associate professor at Harvard Medical School and one of the coauthors of the Lancet article. "The frontier is, how do we utilize what is clearly an important phenomenon in a way that's consistent with patient-practitioner trust, and informed consent?"

There are limits to even the strongest placebo effect. No simulation could set a broken arm, of course, or clear a blocked artery. As a rule, placebos appear to affect symptoms rather than underlying diseases--although sometimes, as in the case of depression or irritable bowel syndrome, there's no meaningful distinction between the two. Moreover, placebos have often received undue credit for recovery that might have occurred anyway. Indeed, the effect is famously difficult to identify, measure, and even coherently define. There is debate about the magnitude of the response, with some calling it modest at best, and opposing the idea of using placebos clinically.

But according to advocates, there's enough data for doctors to start thinking of the placebo effect not as the opposite of medicine, but as a tool they can use in an evidence-based, conscientious manner. Broadly speaking, it seems sensible to make every effort to enlist the body's own ability to heal itself--which is what, at bottom, placebos seem to do. And as researchers examine it more closely, the placebo is having another effect as well: it is revealing a great deal about the subtle and unexpected influences that medical care, as opposed to the medicine itself, has on patients.

Phony treatment is hardly a novel concept in medicine. The word "placebo"--Latin for "I shall please"--has been used in a medical context since at least the late 1700s, referring to inert treatments given to placate patients. Arguably, until the scientific breakthroughs of the 20th century, medical history was little more than one long series of placebos.

But in the postwar era, the profession changed in a way that relegated placebos to the shadows. New medicines began to emerge that actually cured diseases. At the same time, the longstanding paternalism of doctors was yielding to a new ethos that respected the patient's right to understand and consent to treatment. Gradually, fake pills began to seem less like a benign last resort, and more like a breach of trust. To be sure, some doctors continued to use placebos--typically, "impure" placebos such as vitamins that had no specific effect on the malady in question. But they did so quietly, knowing the practice was frowned upon.

As sugar pills were losing their place in the physician's arsenal, they assumed a different role: as a neutral placeholder in drug testing. This development is usually traced back to a 1955 paper by Henry Beecher, a Harvard anaesthesiologist who argued that the placebo effect was so potent that researchers needed to account for it when testing new drugs. Today, the "gold standard" of medical testing is the randomised clinical trial, in which the new drug must beat a placebo to prove its worth.

Some researchers argue that the real source of a placebo's effect is the medical care that goes along with it--that the practice of medicine exerts tangible healing influences. This notion has received support from experiments known as "open-hidden" studies in which patients receive painkiller either unknowingly (they are connected to a machine that delivers it covertly) or in an open fashion (the doctor is present, and announces that relief is imminent). Patients in the "open" group need significantly less of the drug to attain the same outcome. In other words,

a big part of the effect comes from the interactions and expectation surrounding the drug.

It may be, then, that the simplest and least ethically hazardous way to capitalize on the placebo effect is to acknowledge that medicine isn't just a set of approved treatments--it's also a ritual, with symbolism and meaning that are key to its efficacy. At its best, that ritual spurs positive expectations, sparks associations with past healing experiences, and eases distress in ways that can alleviate suffering. These meanings, researchers say, are what the placebo effect is really about.

If this is true, then the takeaway is not necessarily that we should be dispensing more fake pills--it's that we should think less about any pill and more about the context in which it's given. Whether we call it the placebo effect or use new terms, the research in this field could start to put a measurable healing value on doctors' time and even demeanour, rather than just on procedures and pills. And that could change medicine in a way that few blockbuster drugs ever could.

Q 74. When the author says '== until =.. the 20th century, medical history was little more than one long series of placebos' he means that

- (1) placebos have been used as part of the treatment for long.
- (2) placebos were used regularly until the 20th century.
- (3) placebos were the accepted form of treatment prior to the 20th century.
- (4) people did not expect dramatic improvement in their conditions until the 20th century.
- (5) medicines that actually cured diseases were discovered only after the 20th century.

Q 75. The health care industry sees the placebo as 'a background noise' because

- (1) the industry does not believe that placebos have any real healing power.
- (2) the placebo is not only a threat to its profit but also to its medicines as they have to out-perform the placebo.
- (3) the placebo is a mere irritant from time to time and not a real threat to it.
- (4) the placebo leads the patients to doubt the efficacy of the pills per se.
- (5) doctors are in favour of giving the placebo a chance before administering a real drug.

Q 76. The relationship of the first para to the last can best be described as:

- (1) The first para makes an observation and the last the best use to which it can be put.
- (2) The first para raises a question and the last para gives an answer to
- (3) that question.
- (4) The first para poses a dilemma and the last para on how it can be sorted out.
- (5) The first para recommends a procedure and the last justifies the need for it.
- (6) The first para introduces a revolutionary new concept and the last para the benefits to be derived from it.

Q 77. That the placebo has come into its own in recent times is borne out by

- (1) its lack of side effects.
- (2) its being essentially free.
- (3) federal funding being made available for research on placebo.
- (4) the real improvement that it produces.
- (5) the article in the medical journal Lancet.

DIRECTIONS for questions 78 to 80: Each statement has a part missing. Choose the best option, from those given below the statement, to make up the missing part.

Q 78. Our misapprehension _____ has been afflicted.

- (1) about the nature of language has occasioned a greater waste of time, effort and genius, than the other mistakes and delusions with which humanity
- (2) of the nature of language has occasioned a greater waste of time, effort, and genius than all the other mistakes and delusions with which humanity
- (3) with the nature of language occasioned a greater waste of time, effort and genius, than all the other mistakes and delusions with which humanity
- (4) of the nature of language had occasioned a greater waste of time and genius, than all the other mistakes and delusions through which humanity
- (5) with the nature of language has occasioned a greater waste of time, and effort, and genius, than the other mistakes and delusions with which humanity

Q 79. The sheer grandeur of the colosseum - the iconic face of Rome today - even in a ruined state _____, the favourite blood sport of the Roman nobility.

- (1) might have taken one's breath away would it not be for the knowledge that this was the venue to many a gruesome gladiatorial fights
- (2) might take one's breath away had it not been for the knowledge that this was the venue of many a gruesome gladiatorial fights
- (3) might have taken one's breath away had it not been for the knowledge that this was the venue of many a gruesome gladiatorial fight
- (4) might take one's breath away has it not been for the knowledge that this was the venue of many a gruesome gladiatorial fight
- (5) might have taken one's breath away would it not be for the knowledge that this was the venue to many a gruesome gladiatorial fight

Q 80. Evolutionary game theory is _____ about why human cognitive and emotional traits developed as they did.

- (1) is not just useful in providing an explanation for how social instincts may have developed in primates and man but also in telling something
- (2) is useful not just in providing an explanation of how social instincts may have developed in primates and man but also in telling something
- (3) is useful not in just providing an explanation for how social instincts may have developed in primates and man but also in telling us something
- (4) is useful not just in providing an explanation for how social instincts may have developed in primates and man but also in telling us something
- (5) is useful not just in providing an explanation on how social instincts may have developed in primates and man but also in telling something

DIRECTIONS for questions 81 to 83: Each question presents a paragraph followed by 5 statements marked A to E. Read all and identify the individual statements as:

L - if the statement can be logically concluded from the paragraph.

C - if the statement presents a thought or idea contrary to that presented in the paragraph.

F - if the statement is a far-fetched conclusion or inference from the paragraph.

I - if the statement is irrelevant to the context of the para or is not L, C or F.

Select the answer option that best describes the set of 5 statements.

Q 81. Decision makers tend to have distinctive styles. One such style is for the decision maker to seek the widest possible input from advisers and to explore alternatives while making up his or her mind. In fact, decision makers of this sort will often argue vigorously for a particular idea, emphasizing its strong points and downplaying its weaknesses, not because they actually believe in the idea but because they want to see if their real reservations about it are idiosyncratic or are held independently by their advisers.

(A) If certain decision makers' statements are quoted accurately and at length, the content of the quote could nonetheless be greatly at variance with the decision eventually made.

(B) Certain decision makers do not know which ideas they should believe in until after they have presented a variety of ideas to their advisers.

(C) If certain decision makers dismiss an idea out of hand, it must be because its weaknesses are more pronounced than any strong points it may have.

(D) Certain decision makers proceed in a way that makes it likely that they will frequently decide in favour of those ideas that they convince their advisors of.

(E) If certain decision makers' advisers know the actual beliefs of those they advise, those advisers will give better advice than they would if they did not know those beliefs.

- (1) FFICI
- (2) FIICI
- (3) LFCCI
- (4) LFICI
- (5) FFCCI

Q 82. Some flowering plant species, entirely dependent on bees for pollination, lure their pollinators with abundant nectar and pollen, which are the only source of food for bees. Often the pollinating species is so highly adapted that it can feed from-and thus pollinate-only a single species of plant. Similarly, some plant species have evolved flowers that only a single species of bee can pollinate-an arrangement that places the plant species at great risk of extinction. If careless applications of pesticides destroy the pollinating bee species, the plant species itself can no longer reproduce.

(A) The total extinction of some plants would force certain bees to mutate so as to adapt to plants that remain.

(B) If the sole pollinator of a certain plant species is in no danger of extinction, the plant species it pollinates is also unlikely to become extinct.

(C) Some bees are able to gather pollen and nectar from any species of plant.

(D) The blossoms of most species of flowering plants attract some species of bees and do not attract others.

(E) The total destruction of the habitat of some plant species could cause some bee species to become extinct.

(1) FLCFL

(2) CLIL

(3) FLCIL

(4) CLCFL

(5) ILCFL

Q 83. If the regulation of computer networks is to be modelled on past legislation, then its model must be either legislation regulating a telephone system or else legislation regulating a public broadcasting service. If the telephone model is used, computer networks will be held responsible only for ensuring that messages get transmitted. If the public broadcast model is used, computer networks will additionally be responsible for the content of those messages. Yet a computer network serves both these sorts of functions: it can serve as a private message service or as a publicly accessible information service. Thus neither of these models can, through replication, be appropriate for computer networks.

(A) Regulation of computer networks is required in order to ensure the privacy of the messages transmitted through such networks.

(B) The regulation of computer networks should not be modelled on any past legislation.

(C) Computer networks were developed by being modelled on both telephone systems and television networks.

(D) Legislators who do not have extensive experience with computers should not attempt to write legislation regulating computer networks.

(E) Legislation to regulate computer networks merely needs to duplicate those that regulate telephone systems and public broadcasting systems, read together.

(1) LFIFF

(2) LLIFF

(3) LFIFC

(4) FLCLF

(5) IFIFC

DIRECTIONS for questions 84 to 86: The sentences given in each of the following questions, when properly sequenced, form a coherent

paragraph. Each sentence is labelled with a letter. From among the five choices given below each question, choose the most logical order of sentences that constructs a coherent paragraph.

Q 84. (A) We think back with an element of nostalgia to that earlier dream of a world in which we were promised accurate prediction, control and endless progress.

(B) Add to this a host of other problems we encounter and things do seem to be in a mess.

(C) We feel today that we are living in a world that is constantly in crisis.

(D) In the face of all this we feel a burning need for corrective action, for major interventions, government legislation, aid programmes.

(E) All around us newspapers and television warn of global warming and environmental degradation, of terrorism and international conflicts, of Third World poverty and the implications of the recent economic slump.

- (1) CEDBA
- (2) CEBDA
- (3) CEDAD
- (4) CEBAD
- (5) CAEBD

Q 85. (A) In Canada, however, victims' rights groups and community campaigns mounted sustained pressure on the government.

(B) The report slammed Canada's security services for a series of staggering failures they committed in the months leading up to the bombing, and for the botched investigation that followed it.

(C) Twenty-five years ago, Air India flight 182 from Montreal to New Delhi exploded over the Irish sea, killing all 329 on board.

(D) Earlier this month, their relentless work fielded results when a commission of inquiry led by a retired Canadian Supreme Court Judge, John Major, published its findings.

(E) Even though most of the victims were Indian nationals or of Indian origin, the tragedy disappeared from the fore-ground of public consciousness with a strange speed-displaced perhaps by the succession of horrors that have scarred the country since then.

- (1) CEABD
- (2) CEBAD

- (3) CADBE
- (4) CEADB
- (5) CAEDB

Q 86. (A) Opinions differ but I am convinced this is a good thing.
(B) Your government may not prosecute you for the crimes you have committed but if your offences are serious enough, the chances are that some court in some other country might.
(C) Every country that values the rule of law must ensure that no individual, regardless of official affiliation, enjoys impunity.
(D) Even if legal concepts like universal jurisdiction remain controversial, the globalisation of economic and family life means individuals who violate human rights can no longer count on being shielded forever by the walls of national sovereignty.
(E) As Israeli officers and politicians are today discovering, and as the late Chilean dictator Augusto Pinochet realised in 2000, international journeys are an indulgence to be undertaken with extreme caution if your curriculum vitae includes the commission of war crimes, genocide or crimes against humanity.

- (1) DCBEA
- (2) CDAEB
- (3) CABED
- (4) DBEAC
- (5) BEDCA

Directions for questions 87 to 89: Read the following passage carefully and answer the questions that follow it.

Imagine trying to live in a world dominated by dehydrogen oxide, a compound that has no taste or smell and is so variable in its properties that it is generally benign but at other times swiftly lethal. Depending on its state, it can scald you or freeze you. In the presence of certain organic molecules it can form carbonic acids so nasty that they can strip the leaves from trees and eat the faces of statuary. In bulk, when agitated, it can strike with a fury that no human edifice could withstand. Even for those who have learned to live with it, it is an often murderous substance. We call it water.

Water is everywhere. A potato is 80 per cent water, a cow 74 per cent, a bacterium 75 per cent. A tomato, at 95 per cent, is little but water. Even humans are 65 per cent water, making us more liquid than solid by a margin of almost two to one. Water is a strange stuff. It is formless and transparent and yet we long to be beside it. It has no taste and yet we love

the taste of it. We will travel great distances and pay small fortunes to see it in sunshine. And even though we know it is dangerous and drowns tens of thousands of people every year, we can't wait to frolic in it.

Because water is so ubiquitous we tend to overlook what an extraordinary substance it is. Almost nothing about it can be used to make reliable predictions about the properties of other liquids, and vice versa. If you knew nothing of water and based your assumptions on the behaviour of compounds most chemically akin to it - hydrogen selenide or hydrogen sulphide, notably - you would expect it to boil at minus 93 degree Celsius and to be a gas at room temperature.

Most liquids when chilled contract by about 10 per cent. Water does too, but only down to a point. Once it is within whispering distance of freezing, it begins - perversely, beguilingly, extremely improbably - to expand. By the time it is solid, it is almost a tenth more voluminous than it was before. Because it expands, ice floats on water - 'an utterly bizarre property', according to John Gribbin. If it lacked this splendid waywardness, ice would sink, and lakes and oceans would freeze from the bottom up. Without surface ice to hold heat in, the water's warmth would radiate away, leaving it even chillier and creating yet more ice. Soon, even the oceans would freeze and almost certainly stay that way for a very long time, probably forever - hardly the conditions to nurture life. Thankfully for us, water seems unaware of the rules of chemistry or laws of physics.

Everyone know that water's chemical formula in H_2O , which means that it consists of one largish oxygen atom with two smaller hydrogen atoms attached to it. The hydrogen atoms cling fiercely to their oxygen host, but also make casual bonds with other water molecules. The nature of a water molecule means that it engages in a kind of dance with other water molecules, briefly pairing and then moving on, like the ever-changing partners in a quadrille, to use Robert Kunzing's nice phrase. A glass of water may not appear terribly lively, but every molecule in it is changing partners billions of times a second. That's why water molecules stick together to form bodies like puddles and lakes, but not so tightly that they can't be easily separated as when, for instance, you drive into a pool them. At any given moment only 15 per cent of them are actually touching.

In one sense the bond is very strong - it is why water molecules can flow uphill when siphoned and why water droplets on a car bonnet show such a singular determination to bead with their partners. It is also why water has surface tension. The molecules at the surface are attracted more powerfully to the like molecules beneath and beside them than to the air molecules above. This creates a sort of membrane strong enough to

support insects and skipping stones. It is what gives the sting to a belly-flop.

I hardly need point out that we would be lost without it. Deprived of water, the human body rapidly falls apart. Within days, the lips vanish 'as if amputated, the gums blacken, the nose withers to half its length, and the skin so contracts around the eyes as to prevent blinking', according to one account. Water is so vital to us that it is easy to overlook that all but the smallest fraction of the water on Earth is poisonous to us - deadly poisonous - because of the salts within it.

Q 87. The author is thankful that water is unaware of 'the rules of chemistry or the laws of physics' because

- (1) that is what makes it so interesting.
- (2) that helps in distinguishing it from the other chemicals akin to it.
- (3) had it been otherwise, all aquatic life would have been threatened.
- (4) it defies all the laws in blissful ignorance.

Q 88. How is water an extraordinary substance?

- (1) It is found nearly everywhere on planet earth.
- (2) It can be both life giving and life threatening.
- (3) It attracts people even though it is known to be dangerous, even fatal.
- (4) It has unique properties that benefit life on the planet.

Q 89. How does the author talk about water in the passage?

- (1) In a deeply involved and passionate manner
- (2) In an analytical and dispassionate manner
- (3) Through a series of mutually contradictory phrases and clauses
- (4) By building up to a climax and then crashing to an anti-climax

Directions for questions 90 to 92: Read the following passage carefully and answer the questions that follow it.

A person's religion need not be his or her all-encompassing and exclusive identity. In particular, Islam, as a religion, does not obliterate responsible choice for Muslims in many spheres of life. Indeed, it is possible for one Muslim to take a confrontational view and another to

be thoroughly tolerant of heterodoxy without either of them ceasing to be a Muslim for that reason alone.

The response to Islamic fundamentalism and to the terrorism linked with it also becomes particularly confused when there is a general failure to distinguish between Islamic history and the history of Muslim people. Muslims, like all other people in the world, have many different pursuits, and not all of their priorities and values need be placed within their singular identity of being Islamic. It is, of course, not surprising at all that the champions of Islamic fundamentalism would like to suppress all other identities of Muslims in favour of being only Islamic. But it is extremely odd that those who want to overcome the tensions and conflicts linked with Islamic fundamentalism also seem unable to see Muslim people in any form other than their being just Islamic, which is combined with attempts to redefine Islam, rather than seeing the many-dimensional nature of diverse human beings who happen to be Muslim.

People see themselves - and have reason to see themselves - in many different ways. For example, a Bangladeshi Muslim is not only a Muslim but also a Bengali and a Bangladeshi, typically quite proud of the Bengali language, literature, and music, not to mention the other identities he or she may have connected with class, gender, occupation, politics, aesthetic taste, and so on. Bangladesh's separation from Pakistan was not based on religion at all, since a Muslim identity was shared by the bulk of the population in the two wings of undivided Pakistan. The separatist issues related to language, literature, and politics.

Similarly, there is no empirical reason at all why champions of the Muslim past, or for that matter of the Arab heritage, have to concentrate specifically on religious beliefs only, and not also on science and mathematics, to which Arab and Muslim societies have contributed so much, and which can also be part of a Muslim or an Arab identity. Despite the importance of this heritage, crude classifications have tended to put science and mathematics in the basket of "Western science," leaving other people to mine their pride in religious depths. If the disaffected Arab activist today can take pride only in the purity of Islam, rather than in the many-sided richness of Arab history, the unique prioritization of religion, shared by warriors on both sides, plays a major part in incarcerating people within the enclosure of a singular identity.

Even the frantic Western search for "the moderate Muslim" confounds moderation in political beliefs with moderateness of religious faith. A person can have strong religious faith - Islamic or any other - along with tolerant politics. Emperor Saladin, who fought valiantly for Islam in the Crusades in the twelfth century, could offer, without any contradiction, an honoured place in his Egyptian royal court to Maimonides as that distinguished Jewish philosopher fled an intolerant Europe. When, at the

turn of the sixteenth century, the heretic Giordano Bruno was burned at the stake in Campo dei Fiori in Rome, the Great Mughal emperor Akbar (who was born a Muslim and died a Muslim) had just finished, in Agra, his large project of legally codifying minority rights, including religious freedom for all.

The insistence, if only implicitly, on a choiceless singularity of human identity not only diminishes us all, it also makes the world much more flammable. The alternative to the divisiveness of one pre-eminent categorization is not any unreal claim that we are all much the same. That we are not. Rather, the main hope of harmony in our troubled world lies in the plurality of our identities, which cut across each other and work against sharp divisions around one single hardened line of vehement division that allegedly cannot be resisted. Our shared humanity gets savagely challenged when our differences are narrowed into one devised system of uniquely powerful categorization.

Perhaps the worst impairment comes from the neglect - and denial - of the role of reasoning and choice, which follows from the recognition of our plural identities. The illusion of unique identity is much more divisive than the universe of plural and diverse classifications that characterize the world in which we actually live. The descriptive weakness of choiceless singularity has the effect of momentarily impoverishing the power and reach of our social and political reasoning. The illusion of destiny exacts a remarkably heavy price.

Q 90. A mistake made by the West in relation to the Muslim is

- (1) ignoring the fact that, historically, some Christians have been as fanatical as some Muslims.
- (2) the belief that no famous Muslim ruler has given due recognition to people of other faiths.
- (3) the assumption that the strength of political belief and religious faith go hand in hand.
- (4) the tendency to believe that Islam ordains its followers to persecute non-Muslims.

Q 91. Identify the statements that are true, according to the passage.

- a. If the Muslims were to focus on their other achievements, tensions and wars involving them would be greatly diminished.
- b. Religious conflicts tend to imprison people within the confines of religion.
- c. Education is the only way to overcome religious extremism.

- d. There are a lot of things, apart from religion, of which the Muslims can rightly be proud of.
- e. The West is guilty of appropriating to itself progress in science and mathematics in other part of the world.

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

Q 92. The author firmly believes that

- (1) our recognition of our multiple identities will help us to be more reasonable.
- (2) the West is at least partially responsible for the fanaticism of the Muslims.
- (3) prioritizing any of our other identities will solve the problem of religious terrorism.
- (4) a deeply religious person is incapable of moderation in political or social life

***Directions for questions 93 and 94:* The following question has a paragraph from which the last sentence has been deleted. From the given options, choose the one that completes the paragraph in the most appropriate way.**

Q 93. The problem of unwarranted increase in the healthcare costs has arisen because the state has completely abdicated its responsibilities. If the government could get a functioning state-owned healthcare system going, competition would force the private sector to put its house in order. And the strength of the government network could be leveraged to procure drugs at negotiated price, obviating the need for any price controls. As a second line of defence, the state must invest in capacity-building to empower the consumer, which should include a framework for making the entire health care industry, including doctors and drug companies, more accountable. It could also reduce the information asymmetry by providing a list of alternatives to various branded drugs. And lastly, it must strive to make health insurance more pervasive.

- (1) This would put an end to the unethical industry-doctor nexus which may further lower the cost.
- (2) This would make healthcare affordable and also bring upon healthcare providers pressure from insurance companies to lower costs.
- (3) This would lead the big pharmaceutical companies to respond to price control.
- (4) This would force the pharma companies to pressurize the insurance companies to reduce the premium on healthcare insurance.

Q 94. We are obsessed with prices. We are particularly paranoid about rising prices. A charming exception is the stock price. We wish the price to go up and up, perpetually. Governments may fall if this price plunges sharply. It is a barometer, of the whole economy, present and future, not just of the stock market. It eclipses other developments in the stock market. _____

- (1) No diagnostic study or analysis of the stock market is complete without the use of this barometer.
- (2) The stock index is a better barometer today in comparison to what it was a decade ago.
- (3) A stock price index reveals the health of companies and the economy.
- (4) A stock price index hides more than it reveals

Directions for questions 95 and 96: In each of the following questions, the word at the top is used in four different ways. Choose the option in which the usage of the word is INCORRECT or INAPPROPRIATE:

Q 95. REACH

- (1) Home loans have brought houses within the reach of the common man.

- (2) The boat reached the island under the cover of darkness.
- (3) The union and the management failed to reach an agreement.
- (4) Modern psychology seeks to explore the deep reach of the human mind.

Q 96. FILTER

- (1) Most of the vehicles filtered to the left.
- (2) The preliminary test filters out those students who are not good at mathematics.
- (3) The new policies adopted by the management have not yet filtered down to the staff.
- (4) As soon as the doors of the museum were opened the people started filtering through.

Directions for questions 97 and 98: Each question has a sentence with two blanks followed by four pairs of words as choices. From the choices, select the pair of words that can best complete the given sentence.

Q 97. Satire is a marvellous reflection of the spirit of an age; the subtle _____ of Swift's epistles mirrored the eighteenth century's delight in elegant _____.

- (1) profundity . . . ditties
- (2) vitriol . . . disparagement
- (3) contempt . . . anachronisms
- (4) provinciality . . . rusticity

Q 98. The fundamental _____ between dogs and cats is for the most part a myth; members of these species often coexist _____

- (1) antipathy . . . amicably
- (2) disharmony . . . easily
- (3) animosity . . . amiably
- (4) relationship . . . peacefully

Directions for questions 99 and 100: The sentences given in each of the following questions, when properly sequenced, form a coherent paragraph. Each sentence is labelled with a letter. From among the four

choices given below each question, choose the most logical order of sentences that constructs a coherent paragraph.

- Q 99. (a).** It is humanly impossible to read the hundreds of books which come out every month.
- (b)** By going through book covers, reviews and gossips about authors anyone can take part in any literary discussion.
- (c)** All of us like to be, or pretend to be well read, take part in literary proceedings and pepper our conversations with quotes.
- (d)** The trick is to understand that even a slight familiarity with books and authors is enough to put on a show of enlightenment.
- (e)** No one is obliged to read all the books, yet we can talk and argue about them.
- (f)** We can even have passionate literary exchanges on books we have not read at all.

- (1) cdefab
(2) cefdba
(3) efdcba
(4) caefbd

- Q 100. (a)** There are additional benefits in the form of reduced travel time, fuel use and pollution.
- (b)** This is not surprising given the unsustainable levels of peak hour vehicle use particularly in big cities, and the rise in the price of fuel.
- (c)** But with the support of the local government and the public sector it can become a part of public transport.
- (d)** Informal car-sharing has always been popular with the middle class but a more organized and a formal system of sharing vehicles is taking shape.
- (e)** What it can do is improve the efficiency of unavoidable car use by distributing the cost of travel and easing congestion.
- (f)** Yet, according to many, car-sharing cannot totally replace the reliable, comfortable, safe, and affordable public transport.

- (1) defbac
(2) dfcabe
(3) dbfeac
(4) adcbef