Directions of Test

Test Name	2016 Bull CAT 16	Total Questions	100	Total Time	180 Mins

Section Name	No. of Questions	Time limit	Marks per Question	Negative Marking
Verbal Ability	34	1:0(h:m)	3	1/3
DI & Reasoning	32	1:0(h:m)	3	1/3
Quantitative Ability	34	1:0(h:m)	3	1/3

Section : Verbal Ability

DIRECTIONS for the question: *Identify the most appropriate summary for the paragraph and write the key for most appropriate option.*

Question No. : 1

There is only one cure for the evils which newly acquired freedom produces; and that cure is freedom. When a prisoner first leaves his cell he cannot bear the light of day: he is unable to discriminate colors, or recognize faces. But the remedy is not to remand him into his dungeon, but to accustom him to the rays of the sun. The blaze of truth and liberty may at first dazzle and bewilder nations which have become half blind in the house of bondage. But let them gaze on, and they will soon be able to bear it. In a few years men learn to reason. The extreme violence of opinions subsides. Hostile theories correct each other. The scattered elements of truth cease to contend, and begin to coalesce. And at length a system of justice and order is educed out of the chaos.

Which of the following is the best summary for the paragraph given above?

1. Though liberty in its inception produces anarchy and befuddlement, the situation clears and soon things move to orderliness.
2. Liberty when given to those who cannot handle it leads to a complete disruption of life and society.
3. Neo-free people are unable to handle freedom and need to be taught how to handle such a situation.
4. Newly acquired freedom is like a pandora box, and if those who are free are unable to seize the situation, chaos and mayhem is guaranteed.

A) 1 B) C) D)

DIRECTION for the question: *Answer the question based on the information given in the passage and write the key for the most appropriate option.*

Question No. : 2

You can only sacrifice that which you would like to keep for yourself; in other words, that which gives you pleasure and joy. You cannot sacrifice something that you dislike or disown. Sacrifice is always related to a higher cause for a greater good. At the same time, when your love for the greater good is so strong, nothing else assumes any value. Sacrifice here becomes irrelevant, because love alone is your strongest driving force. So when there is so much love there cannot be sacrifice. At the same time when there is no love, there is no sacrifice.

You do not sacrifice something for someone you are in love with. Sacrifice indicates that your pleasure has more value than the cause for which you are sacrificing. When the love is lukewarm, then sacrifice assumes meaning. Yet sacrifice purifies the human mind and reins in selfish tendencies. It can also bring pride, arrogance, self-pity and sometimes even depression.

You can sacrifice only that which you value. For a wise man nothing is more valuable than truth, values and the Divine, and he will never sacrifice those. God is the greatest, and if he values the greatest then how can he sacrifice God?

What can you infer from the paragraph above?

1. An act can be called sacrifice only if the doer is giving what he or she truly loves.
2. One sacrifices only when one wants material gain as the outcome.
3. Sacrifice has meaning only if it is done in a situation where the pleasure may be vicarious.
4. There is something paradoxical about sacrifice – that which you love the most may not be possible to sacrifice.

A) 4 B) C) D)

DIRECTION for the question: *Answer the question based on the information given in the passage and write the key for the most appropriate option.*

Question No. : 3

New advances in science have uncovered a fascinating twist in the writing of the Declaration of Independence, one that's still of interest to the Kettering Foundation today. Spectral imaging technology shows that in writing the Declaration of Independence, Thomas Jefferson had first referred to the American colonists as "subjects." But, in the course of revising the document, he then carefully expunged the word, smearing the ink and overwriting it with the word "citizens," so as to completely obliterate the original word. The sentence in which Jefferson made the change didn't make it into the final document, but the word "citizens" is also used elsewhere in the final Declaration, while "subjects" is not.

What can we infer from the above paragraph?

1. There was a shift in the Founder's thinking – people's allegiance was to one another and not to a distant king.
2. The stress was more on rule by a sovereign than rule by government.
3. Democracy needed to be stressed and this was achieved by denigrating the Colonial rule – hence the word *subjects* was replaced by the word *citizens*.
4. Americans, though seeking independence, had yet to move out of the subservient ideology, so distinct of sovereign subjects.

A) 1 B) C) D)

DIRECTIONS for the question: *Read the passage and answer the question based on it.*

Question No. : 4

Dürr's great regret, and one of the main reasons why he travels around the world giving lectures, is the fact that despite the successful scientific history and profound technological impact of quantum physics, the ground-breaking view of the world that quantum physics entails has not been widely acknowledged. As Dürr constantly recalls, after over 80 years since quantum physics started, the majority of today's scientists still think in terms of 19th century knowledge. This has consequences even for the understanding of the layman, whose mentality and way of living in today's modern world is significantly influenced by the discoveries and the general attitude of science.

To explain the resistance of many of his colleagues - meaning not only physicists, but also scientists in general – Dürr quotes the example of the famous astrophysicist Sir Arthur Eddington in his The Philosophy of Physical Science.

Let us suppose that an ichthyologist is exploring the life of the ocean. He casts a net into the water and brings up a fishy assortment. Surveying his catch, he proceeds in the usual manner of a scientist to systematise what it reveals. He arrives at two generalisations:

(1) No sea-creature is less than two inches long.
(2) All sea-creatures have gills.

These are both true of his catch, and he assumes tentatively that they will remain true however often he repeats it. In applying this analogy, the catch stands for the body of knowledge, which constitutes physical science, and the net for the sensory and intellectual equipment, which we use in obtaining it. The casting of the net corresponds to observation; for knowledge, which has not been or could not be obtained by observation is not admitted into physical science. An onlooker may object that the first generalisation is wrong. "There are plenty of sea-creatures under two inches long, only your net is not adapted to catch them." The ichthyologist dismisses this objection contemptuously. "Anything uncatchable by my net is ipso facto outside the scope of ichthyological knowledge, and is not part of the kingdom of fishes which has been defined as the theme of ichthyological knowledge. In short, what my net can't catch isn't fish." Or—to translate the analogy—"If you are not simply guessing, you are claiming a knowledge of the physical universe discovered in some other way than by the methods of physical science, and admittedly unverifiable by such methods. You are a metaphysician. Bah!"

This habit of restricting science to what falls under our capability of interpreting, measuring and understanding, appears to be the product of a wrong way of thinking. According to Dürr, its mistake lies first of all in the assumption of the existence of an objective world, the world of matter, that quantum physics has demonstrated there is not as such.
Werner Heisenberg, Niels Bohr, Max Born and Wolfgang Pauli finally resolved the paradox of this "quantum physics" in 1925 with a radical re-interpretation of the dynamics. It demanded a revolution in what had been the classical view of the world, with the surprising recognition that matter is not really material at all, but a web of relationships, a kind of gestalt, or in a certain way "information" without any carrier. The assumed fundamental ontic structure of the world, based on a primally existing substance, was rendered invalid. It must be replaced by a "cosmos" where the first questions to ask are no longer "What is? and "What exists?", but "What happens?" and "What binds?" More precisely: Instead of the world assumed until then, a mechanistic, thing-filled, temporally determined "reality", the actual Wirklichkeit turned out to be "potentiality": an indivisible, immaterial, temporally essentially undetermined network of relationships that determines only probabilities, differentiated capacity for a material-energetic realization. The classical "reality" of material/object-like separated things emerges only through a coarsening averaging of the potential, thus turns into a holistic, temporally essentially open, immaterial, inseparable omni-connectedness.

Excerpted from 'Hans-Peter Dürr's thought as a source for peace work' by Francesco Pistolato

The latin phrase, ipso facto, as used in the phrase, "Anything uncatchable by my net is ipso facto outside the scope of ichthyological knowledge.." can best be replaced by –

A) by fact B) by theory C) by observation D) as an inevitable result

Question No. : 5

Which of the following words, used in the passage, is/are antonyms for metaphysical?

A. ontic
B. classical
C. Wirklichkeit
D. Gestalt

A) A & C B) B & C C) B & D D) C & D

Question No. : 6

Which of the following phrases, used in the passage, would fall exclusively under the ambit of 19th century science?

A) … emerges only through a coarsening averaging of the potential, thus turns into a holistic, temporally essentially open, immaterial, inseparable omni-connectedness.
B) . …. assumes tentatively that they will remain true however often he repeats it.
C) This habit of restricting science to what falls under our capability of interpreting, measuring and understanding..
D) …. with the surprising recognition that matter is not really material at all.

Question No. : 7

What is the primary message that the passage is conveying?

A) Knowledge, which has not been obtained by observation should not be admitted into physical science.
B) Newtonian knowledge is obsolete in an Einsteinian context.
C) Matter is not really material at all, but a web of relationships.
D) The ground-breaking view of the world that physics entails has not been widely acknowledged.

Question No. : 8

What would be a layman's interpretation of a coarsening averaging of the potential?

A) While we perceive electron as matter, it may actually be an approximation of energy.
B) Matter exists in two states – mass and energy.
C) The entire universe is a web – with everything connected to everything else. D) The act of measuring changes what is measured.

DIRECTIONS for the question: *Read the passage and answer the question based on it.*

Question No. : 9

Nobody really likes large-scale organisation: nobody likes to take orders from a superior who takes orders from a superior who takes orders.... Even if the rules devised by bureaucracy are outstandingly humane, nobody likes to be ruled by rules, that is to say, by people whose answer to every complaint is: 'I did not make the rules: I am merely applying them.' Yet, it seems, large-scale organisation is here to stay. Therefore it is all the more necessary to think about it and to theorise about it. The stronger the current, the greater the need for skilful navigation.

The fundamental task is to achieve smallness within large organisation. Once a large organisation has come into being, it normally goes through alternating phases of centralising and decentralising, like swings of a pendulum. Whenever one encounters such opposites, each of them with persuasive arguments in its favour, it is worth looking into the depth of the problem for something more than compromise, more than a half-and-half solution. Maybe what we really need is not either-or but the-one-and-the-other- at-the- same-time.

This very familiar problem pervades the whole of real life, although it is highly unpopular with people who spend most of their time on laboratory problems from which all extraneous factors have been carefully eliminated. For whatever we do in real life, we must try to do justice to a situation which includes all so-called extraneous factors. For we always have to face the simultaneous requirement for order and freedom.

In any organisation, large or small, there must be a certain clarity and orderliness; if things fall into disorder, nothing can be accomplished. Yet orderliness as such, is static and lifeless; so there must also be plenty of elbow-room and scope for breaking through the established order to do the thing never done before, never anticipated by the guardians of orderliness, the new, unpredicted and unpredictable outcome of a man's creative idea. Therefore any organisation has to strive continuously for the orderliness of order and the disorderliness of creative freedom. And the specific danger inherent in large scale organisation is that its natural bias and tendency favour order, at the expense of creative freedom.

We can associate many further pairs of opposites with this basic pair of order and freedom. Centralisation is mainly an idea of order; decentralisation, one of freedom. The man of order is typically the accountant and, generally, the administrator: while the man of creative freedom is the entrepreneur. Order requires intelligence and is conducive to efficiency; while freedom calls for. and opens the door to, intuition and leads to innovation.

Excerpted from pages 726-734 of 'Small is Beautiful' by EF Schumacher

Order has been associated with all of the following, except?

A) Centralisation B) Bean counters C) Entrepreneurs D) Efficiency

Question No. : 10

The central idea of the passage is expressed in which of the following sentences?

A) Nobody likes to be ruled by rules. B) Large scale organisation has its natural bias and tendency favour order.
C) For we always have to face the simultaneous requirement for order and freedom.
D) The stronger the current, the greater the need for skilful navigation.

Question No. : 11

The fundamental task is to achieve smallness within large organisation.
This sentence from the passage represents what figure of speech?

A) Paradox B) Hyperbole C) Irony D) Metaphor

DIRECTIONS for the question: *Read the passage and answer the question based on it.*

Question No. : 12

The central argument of Siddharth Kara's, *Sex Trafficking: Inside the Modern World of Sex Slavery* is that "the enormity and pervasiveness of sex trafficking is a direct result of the immense profits to be derived from selling inexpensive sex around the world. The structures of Western capitalism, as spread through the process of economic globalisation, contribute greatly to the destruction of lives this profitability entails. Sex trafficking is one of the ugliest contemporary actualisations of global capitalism

because it was directly produced by the harmful inequalities spread by the process of economic globalisation: deepening of rural poverty, increased economic disenfranchisement of the poor, the net extraction of wealth and resources from poor economies into richer ones, and the broad-based erosion of real human freedoms across the developing world. Ending sex trafficking requires an attack on the industry's immense profitability and a radical shift in the conduct of economic globalisation."
In other words, simply checking trafficking will not help as long as centres of exploitation exist. Acquisition of sex slaves primarily occurs in one of these five ways: deceit (false job promises), sale by family, abduction (least popular as it complicates trafficking), seduction or romance (marriage), or recruitment by former slaves (rarer), Kara says. In India, Dalits, tribal people and other marginalised communities are extremely vulnerable to trafficking and constitute a large proportion of the bonded labour force.
Meena Seshu, founder of an HIV/AIDS prevention, treatment and support organisation, insists that women who are living the life, facing the violence and struggling through it all have to be a part of whatever process the government initiates. "I've worked for 22 years with sex workers and I can't presume to write guidelines for them," she says. She cautions against an emotional reaction to the issue. She points out that of all the marginalised people, women in prostitution are treated as specimens and only seen as victims and trafficked sex slaves. By not treating them as sex workers, their agency is being denied to them and consequently their rights, she argues.
According to her, there is no agreement on the use of the term "exploitation" internationally, too, as often abolitionists who have moral problems with sex work use the term "sexual exploitation". Importantly, some of the anti-trafficking strategies affect the sex workers' rights movement. A better strategy, says Meena, is to demand compensation for these women to improve their lives.
"Some of the women actually ask: where were you when I was actually being trafficked? What we want is a safe mobility policy for women, those who want to move can move without the fear of being sucked back into the trade, which is often the case. Women have the ability to consent to their movement. If you want to help them, root out exploitation and violence. Ask them what solutions they want rather than have these drawing room discussions about them," she says.
Meena believes there is scope for decriminalisation and destigmatisation of the profession and says that safe working conditions should be created so that nobody can buy or sell them and nobody can do the things that happen to them. "Today the money they make is taken away from them by violent gangs. They can't even go to the police because the police tell them they can't be raped. They are absolutely outside the margins. Construction workers and ragpickers also perform highly risky and dehumanising labour. But no one has a moral issue with that. But with sex, you have a problem," she says.

Excerpted from an article in Frontline dated Nov 2015, 'National Legal Services Authority recommends various steps to curb human trafficking for sexual exploitation and to rehabilitate victims of the crime' by Divya Trivedi

The difference between Siddharth Kara and Meena Seshu's viewpoint on the sex trade is primarily, in that –

A) Siddharth focuses on voluntary sex workers and Meena on the involuntary ones.
B) Meena focuses on voluntary sex workers and Siddharth on the involuntary ones.
C) Siddharth believes that the police have an important role to play in rehabilitation of sex workers, Meena believes that it is NGOs who can do a better job in such cases.
D) Meena believes that the police have an important role to play in rehabilitation of sex workers, Siddharth believes that it is NGOs who can do a better job in such cases.

Question No. : 13

As used in the third paragraph last sentence, the word '*agency*' most closely stands for?

A) An organization providing a particular service on behalf of another person. B) Intervention producing a particular effect.
C) The ability of a person to act for herself. D) The state of exerting power.

Question No. : 14

Which of the following can be a practical solution to the problem of 'sex exploitation' in India?

A) Alleviation of rural poverty. B) Setting up of special police stations to work on cases related to deceit and seduction.
C) Reduce the sex industry's profitability by imposing high tax rates. D) A safe mobility policy

Question No. : 15

You would include all of the aspects below in a definition of sexual exploitation, except

A) Sexual abuse B) Personal Monetary gains C) Portrayal though media D) Coerced brokering relationships

Question No. : 16

According to the passage, for bettering the lives of sex workers, focus of the government efforts should be on –

A) Empowerment and reintegration B) Correction and detention C) Construction workers and rag pickers
D) Alternative sources of employment

DIRECTIONS for the question : *Read the passage and answer the question based on it.*

Question No. : 17

There are two ways of thinking about simplicity. One, we recognize what simplicity is when we see it. Or we can think about simplicity in terms of what is called the teapot problem. You see a teapot filled with hot water. And you ask: Why is the water hot? One answer would be: because the kinetic energy of the water molecules is high and they bounce against things rapidly -- that's a kind of physical science argument. A second argument would be: because it was sitting on a stove with the flame on -- that's an historical argument. A third is that I wanted hot water for tea -- that's an intentional argument. And, the fourth would be that it's part of God's plan for the universe. The point is that you get into trouble when you ask a single question with a single box for an answer, in which that single question actually is many questions with quite different meanings, but with the same words.

To understand simplicity, we can use an example - of the Internet, because it's a particularly good example of stacked simplicity. We call it a complex system, but it's also something else. The Internet starts with mathematics, it starts with binary. We are familiar with the Arabic numbers one to 10 and so on. In binary, one is 0001, seven is 0111. The virtue of binary is that it's the simplest possible way of representing numbers. Now, if you like to represent this zero and one of binary, you need a device. And think of things in your life that are binary, one of them is light switches. They can be on and off. That's binary. Now wall switches, we all know, fail. A transistor is nothing more than a wall switch. It turns things on and off, but it does so without moving parts and it doesn't fail, basically, for a very long period of time. So the second layer of simplicity was the transistor in the Internet. So, since the transistor is so simple, you can put lots of them together. And you put lots of them together and you come with something called integrated circuits – and stacking millions of those, you get the internet.

So what are the characteristics of simple things? First, they are predictable. Their behavior is predictable. The second is they're cheap. If you have things that are cheap enough, people will find uses for them, even if they seem very primitive. And they should serve as building blocks. That is, you can stack them. But if you have something that has a function, and it's really cheap, people will find new ways of putting it together to make new things. Cheap, functional, reliable things unleash the creativity of people who then build stuff that you could not imagine. Let me close with an aphorism by de Saint-Exupery. "You know you've achieved perfection in design, not when you have nothing more to add, but when you have nothing more to take away."

Excerpted from TED talk by George Whitesides

Which of the following quotes best define the concept of simplicity?

A) 'The most technologically efficient machine that man has ever invented is the book.' –Northrop Frye
B) 'Science without religion is lame, religion without science is blind.' – Albert Einstein
C) Potter Stewart on pornography: 'Perhaps I could never succeed in intelligibly defining it. But I know it when I see it.'
D) "It is not a lack of love, but a lack of friendship that makes unhappy marriages.' – Friedrich Nietzsche

Question No. : 18

On the basis of a reading of the passage, which of the following would serve as a suitable example for complexity?

A) Cellphones B) Search engines C) Traffic D) Cathedrals

Question No. : 19

A little paper chip has a few things printed on it. You put a drop of urine at the bottom. It wicks its way up. It turns colors. You're reading kidney function. The health care worker takes a picture of it with his cellphone and sends the picture back to where there is a doctor.

The above example meets all the criteria of simplicity, except

A) Predictable B) Cheap C) Stackable D) Reliable

Question No. : 20

We academics love complexity. You can write papers about complexity, and the nice thing about complexity is it's fundamentally _____ in many ways, so you're not responsible for outcomes. What you are interested in has a lot to do with the rewards of

the system. And there's a lot of rewards in thinking about complexity and emergence, not so much in thinking about simplicity.

A) unpredictable B) intractable C) convoluted D) radical

DIRECTIONS for the question: *The five sentences (labelled 1,2,3,4, and 5) given in this question, when properly sequenced, form a coherent paragraph. Decide on the proper order for the sentence and key in this sequence of five numbers as your answer.*

Question No. : 21

A. The rapid developments during the two world wars and the Cold War provided significant advances in the capabilities of acoustic detection devices.
B. Bioacoustics is no longer a secondary research field rather an area of research in which equipment designed specifically for acoustics research is being produced for the study of marine life.
C. Bioacoustics, by the end of the twentieth century, had become a mature independent discipline, thus setting the stage for significant new advances in this area of research in the twenty-first century.
D. The developments of the twentieth century laid the foundations for a growing and productive research field which, in the first decades of the twenty-first century, is truly coming into its own.
E. By the last quarter of the twentieth century, acoustic technology had become a significant tool in the study of marine life comparable in significance to molecular biology techniques and other leading-edge research technologies.

A) 15243 B) C) D)

DIRECTIONS for the question: *The five sentences (labelled 1,2,3,4, and 5) given in this question, when properly sequenced, form a coherent paragraph. Decide on the proper order for the sentence and key in this sequence of five numbers as your answer.*

Question No. : 22

A. It's silly to think that its students generally emerge with brand new character traits.
B. If personality determines handwriting, there is no way to account for the fact that a normal distribution of personalities in early 20th-century American children all ended up with relatively similar handwriting through the Palmer Method.
C. Conversely, more recently there have been courses offered in handwriting improvement.
D. Indeed, it all points towards graphology being a rather misguided-if earnest-attempt at nailing down the mystery of personality and the mind.
E. And, finally, what to say about calligraphers, or others who specialize in many forms of lettering?

A) 23154 B) C) D)

DIRECTIONS for the question: *The question consists of four statements labelled A, B, C and D which when logically ordered form a coherent passage. Choose the option that represents the most logical order.*

Question No. : 23

A. Numerous studies in recent decades have found the 19th century social world they portray so unremittingly sexist that some leading folklorists warn against reading them to children at all.
B. What modern mother hasn't cringed at the pink and passive fairy tale princesses served up to her impressionable girl?
C. The answer is that they are rooted in a tenacious and remarkably unaltered cultural tradition, the fairy tales first published two centuries ago by the Brothers Grimm.
D. The fifty iconic tales in their Kinder- und Hausmärchen collection feature a parade of weak, disobedient heroines whose errors draw down harsh punishment, and an equally note worthy succession of heroic boys
E. The Disney versions of Snow White and Cinderella, Belle and Rapunzel are heroines of such vapid foolishness one wonders how they survived into the 21st century.

A) 25341 B) C) D)

DIRECTIONS for the question: *The question consists of four/five sentences on a topic. Select the option that indicates grammatically* ***incorrect or inappropriate*** *sentence/s.*

Question No. : 24

A.When you submit your manuscript it will most likely join a heap waiting for someone to sort and sifting before it topples over – the so-called slush pile.
B. The someone is either the editorial department junior or an old hand who comes in a couple of mornings a week and is paid by the hour.
C. Neither of these have much influence, but they are basically on your side and out to discover something original –
D. the junior to make his or her name and acquire an author of his or her own if he or she is lucky, the old hand to justify continuing freelance employment.
E. If they think your novel is promising, they will pass it to a more senior editor and eventually it will surface at an acquisition meeting.

A) C and D B) A, B, and E C) B and D only D) A and B only

DIRECTIONS for the question: *The question consists of four/five sentences on a topic. Select the option that indicates grammatically* ***incorrect or inappropriate*** *sentence/s.*

Question No. : 25

A. A family emergency took us over the country for several weeks during the spring of that year.
B. We had left our first vegetable garden in the midst of early growing season, a time when carefully monitoring of emerging seeds is essential to ensure their vitality.
C. Only a serious family matter would have instigation for such a departure.
D. We arrived home three weeks later to witness an incredible transformation.
E. Not only had the broccoli stalks and scarlet radishes come to bear fruit, but also the local deer population had decided to make a meal of our freshly sprouted crop.

A) C, D and E only B) A and C only C) D and E only D) A and B only

DIRECTIONS for question: *Four sentences related to a topic are given below. Three of them can be put together to form a meaningful and coherent short paragraph. Identify the odd one out. Choose its number as your answer and key it in.*

Question No. : 26

1. If regulatory limits on building heights and density were relaxed, fewer plots of land would be needed to satisfy a given level of demand.
2. A lord sitting on highly productive agricultural land suddenly found his profits swelling: not as a result of innovation on his part but because humanity needed more of something he happened to own.
3. That would reduce the rents collected by landowners, since any uptick in demand could quickly be met by new development.
4. Just as soaring agricultural productivity led to a decline in the relative economic power of rural landowners in the 19th and 20th centuries, the relaxation of strict limits on development would lead to a decline in property wealth relative to the economy as a whole.

A) 2 B) C) D)

DIRECTIONS for question: *Four sentences related to a topic are given below. Three of them can be put together to form a meaningful and coherent short paragraph. Identify the odd one out. Choose its number as your answer and key it in.*

Question No. : 27

1. The look and feel of a book is as much a part of its appeal as its contents.
2. Books as cultural icons remind us of freedom of speech and enhanced opportunities, they remind us of the intellectual aspirations of the human race.
3. There is something immensely satisfying about opening a new book: the smell of the paper, the feel of the cover, the design on the dust jacket and the weight of the volume all contribute to the impression it makes.
4. In a sense, books have always been more than just repositories of information.

A) 2 B) C) D)

DIRECTIONS for the question: *Read the passage and answer the question based on it.*

DIRECTIONS for the question : *Read the passage and answer the question based on it.*

Question No. : 28

My dad never used the black belt. He whipped us only once. My brothers and I stole a candy bar from the grocery store. I was five, and John and Robert were three. We were in the back of the car when my parents asked us where we got the candy bar. We lied at first, and then admitted what we had done. Dad marched us back into the store and made us apologize to the manager. Then he took us home and spanked each of us by hand. It really did hurt him more than it hurt us, because I remember the look in his eyes of both shame and horror. He told us that he wasn't going to raise thieves and liars, and he seemed to think that he had somehow failed as a parent.

My father's willingness to leave the corporal punishment to the women was based, I believe, on his respecting his physical strength. An ex-Marine and engineer turned children's-book writer, my dad always fretted about being too harsh. He worried that he would get lost in the moment, lose control. (That's the difference between being an alpha male and being a good father: the ability to understand your limitations.) However, this doesn't mean that my father refrained from administering all forms of punishment. My brothers and I joke that Dad was the supreme master of looking disappointed and ashamed. Scenario: We'd screw up (by, let's say, participating in an attempted coup of the seventh grade). My mom would say, "Wait till your father gets home." Dad would arrive, already informed of the misdeed. He would take a deep breath. Then, in a tone that combined Darth Vader and Fred MacMurray, he would tell us that we'd disappointed him severely, that his trust was misplaced, and that it would be a long time before the bond between father and sons would be healed. Then he would look hurt. And, for some really bizarre reason, we'd wish that he'd get the black belt.

My parents understood the difference between a whipping and a beating – and the lasting psychological effects the latter could cause. A whipping from Mom was tough, but ultimately we realized it was fair. We had received – and understood – the message that we could not set the agenda and "run over" our parents, that they were the ones in charge. The animosity we felt before, during, and immediately after being punished would subside within an hour or two and we'd come to realize that they were right. A beating is different. We were never beaten. I knew kids who were brutally beaten, and even though we were just children, my brothers and I were able to realize the distinction. For those unlucky kids, the animosity never subsided. This is not to say that they all grew up to be hardened criminals . . . only a few of them. Some have gone on to be cold to their parents and cold to the world. A few appear to be fine. But appearances can be deceiving.

Excerpted from Page 73-74 of 'Not Guilty' by Jabari Asim

What was the attitude of the author's parents to corporal punishment?

A) Spare the rod and spoil the child. B) More carrot, less stick. C) All carrot, no stick. D) Mom's the carrot, Dad's the stick

Question No. : 29

What can be inferred about Fred MacMurray?

A) He was a character in Star Wars. B) He was an actor in Hollywood movies, known for his 'nice guy' roles.
C) He was a famous author of children's books. D) A voice artiste, popular on US radio stations.

Question No. : 30

What is the difference between a whipping and a beating?

A) It is just semantics – the context changes, the act remains the same.
B) When the father slaps, it is a beating. If the mother slaps, it is a whipping.
C) When the act justifies the punishment, it is whipping, otherwise it is beating.
D) Where the animosity continues, it is whipping. If it does not, it is beating.

Question No. : 31

What is the purpose of the last sentence of the passage?

A) To open up a possibility of contrariness. B) To reinforce a counter-point.
C) To imply that there are no exceptions to the point made. D) To invalidate the argument by using an example.

DIRECTIONS for the question : *Read the passage and answer the question based on it.*

Question No. : 32

There is a close relationship between size and life span. Though there are exceptions, larger species tend to live longer than smaller ones, and by some reckonings, the largest dinosaurs had very long life spans – so much time and space for mutations to collect. Wouldn't that have made them highly susceptible to neoplasms? At least in the mammalian world the issue is not clear-cut, an observation that goes by the name of Peto's paradox. It was named for Sir Richard Peto, an Oxford epidemiologist. He was puzzled that large long-lived creatures like elephants don't get more cancer than small short lived creatures like mice. The mystery was succinctly posed in the title of a paper by a group of biologists and mathematicians in Arizona: *Why Don't All Whales Have Cancer*? Except for belugas in the polluted St. Lawrence estuary, whale cancer appears to be uncommon.

For mice the cancer rate is high. At first that didn't seem so strange. There is an inverse correlation between life span and pulse rate. During a typical lifetime an elephant and a mouse will each use up roughly a billion heartbeats. The mouse will just do it much faster. With a metabolism on so high a burn, it seems sensible that mice might get more cancer. But what is true for the mouse is not true for other tiny mammals. Birds, despite their frenzied metabolic rate (a hummingbird's heart can beat more than a thousand times a minute) appear to get very little cancer. If you graph mammalian size against cancer rate there is no telltale sloping line, just a scattering of dots.

Scientists have proposed several reasons for why cancer doesn't correlate smoothly with size. While larger animals may indeed get more mutations, they might also have evolved more effective means for repairing DNA, or for warding off tumors in other ways. The authors of the Arizona paper suggested how that might occur: hyper tumors. Cancer is a phenomenon in which a cell begins dividing out of control and accumulating genetic damage. Its children, grandchildren, and great-grandchildren go on to spawn broods of their own – subpopulations of competing cells, each with a different combination of traits. The stronger contenders – those that have evolved an ability to grow faster than the others or to poison their neighbors or to use energy more efficiency – will gain an upper hand. But before they can dominate, the authors proposed, they might become susceptible to "hyper tumors ": clusters of weaker cancer' cells opportunistically trying to latch on for a free ride. These parasites would sap energy continuously, destroying the tumor or at least keeping it in check. In large, long lived animals cancer develops gradually enough for the leeches to form. They may indeed get more tumor, but they are much less likely to grow to a noticeable size. Cancer that can get cancer.

Excerpted from pages 18-19 of 'The Cancer Chronicles' by George Johnson

The author cites the example of the hummingbird in the second paragraph in order to –

A) to lay out a physical dimensions of a range of animals B) to rule out a hypothesis
C) to contrast variation of pulse rates with life span. D) to invalidate Peto's paradox

Question No. : 33

Which of the below could be the most valid objection to labelling a hyper tumour a parasite?

A) The evolution of a parasite rivals the evolution of a host.
B) Parasites are organisms that can have part of their reproductive cycle outside a host.
C) Uncontrolled tissue growth, even when caused by mutations, is still the host DNA.
D) Parasites generally cause more harm than good.

Question No. : 34

The last sentence of the second paragraph has been edited out of the passage. It is shown below for your reference.

In our _____, each species seems like an exception.

Which word will best fit the blank?

A) opinion B) ignorance C) understanding D) sample

Section : DI & Reasoning

DIRECTIONS for the question: *Read the information given below and answer the question that follows.*

Question No. : 35

Five students, Anish, Devashish, Kshitij, Riddhi and Sanika appeared for ten tests, T1 to T10. Each of these students was placed first to fifth in these tests, with no two students securing the same place in any particular test. The students were awarded 30 points for first place, 20 points for second place, 10 points for third place and 0 points for the fourth and the fifth place.

The table below shows the total points awarded to the five students in the first five tests, T1 to T5.

Tests T1 to T5					
Student	Anish	Devashish	Kshitij	Riddhi	Sanika
Points	70	150	50	10	20

In these five tests, one student secured first place in all five tests and one student secured the second place in exactly three tests.

The table below shows the total points awarded to the five students in the last five tests, T6 to T10.

Tests T6 to T10					
Student	Anish	Devashish	Kshitij	Riddhi	Sanika
Points	60	40	80	40	80

In these five tests, two students scored the first place in exactly two tests each and one student scored the third place in exactly three tests.

If Sanika has secured first place in exactly one test, which of the following is definitely true?

A) Anish has secured second place in exactly two tests B) Devashish has secured second place in exactly two tests
C) Kshitij has secured first place in exactly two tests D) Riddhi has secured second place in exactly two tests

Question No. : 36

If Anish secured first place in exactly one test, which of the following is definitely true?

A) Devashish has secured second place in at least one test B) Kshitij has secured second place in at least two tests
C) Riddhi has secured first place in at least one test D) Sanika has secured second place in at least two tests

Question No. : 37

If Anish secured first place in exactly two tests, which of the following is definitely false?

A) Devashish has secured third place in exactly one test B) Devashish has secured second place in exactly two tests
C) Riddhi has secured second place in exactly two tests D) Sanika has secured third place in exactly three tests

Question No. : 38

If Kshitij has secured first place in exactly one test, which o the following is definitely false?

A) Anish has secured second place in exactly three tests B) Devashish has secured second place in exactly three tests
C) Riddhi has secured second place in exactly two tests D) Saniks has secured second place in exactly two tests

DIRECTIONS for the question: *Go through the graph and the information given below and answer the question that follows.*

Question No. : 39

A cellular phone manufacturer has 10 plants, A to J across the country. The table below shows the production capacity (number of units that can be manufactured) and operating efficiency (number of units actually manufactured) as a percentage of production capacity for plants A to E.

	Production Capacity	**Operating Efficiency**

A	6250	60.00%
B	8500	75.00%
C	8000	63.50%
D	8750	74.00%
E	6000	72.00%

Plants F and G have the highest and the smallest production capacities respectively. Only plants I and J have the same production capacity. The production capacity of plant I is half as much as that of plant F. The production capacity of plant H is 85% that of plant J. The production capacity of plant G is 52% that of plant A. Plant G operates at the same efficiency as that of plant E, while plants H and I operate at 70% efficiency each. Plant F manufactures 3600 units more than plant J. 40% of the total production capacity of plants A to J is manufactured by plants A to E. The overall operating efficiency of the 10 plants is 70.33%.

What is the overall operating efficiency of plants A to E?

A) 69.33% B) 79.33% C) 59.33% D) 75%

Question No. : 40

What is the overall operating efficiency of plants F to J?

A) 71.69% B) 74.34% C) 83.33% D) 95%

Question No. : 41

If the ten plants are arranged in descending order of production capacity, what is the overall operating efficiency of the top five plants in this list?

A) 69.71% B) 74.75% C) 64.33% D) 51.25%

Question No. : 42

If the ten plants are arranged in descending order of number of units manufactured, what is the overall operating efficiency of the top five plants in this list?

A) 71.52% B) 79.75% C) 75% D) 59.65%

DIRECTIONS for the question: *Go through the graph and the information given below and answer the question that follows.*

Question No. : 43

Each of the 60 rooms in a hotel is occupied on Wednesday, Thursday, Friday and Saturday. One or more of three newspapers, the Daily Overview, the Daily News and the Daily Post, are delivered to each of the occupants of these rooms on each of these four days. The total number of newspapers delivered on Wednesday, Thursday, Friday and Saturday are 68, 76, 90 and 113 respectively. The number of copies of the Daily Overview delivered is the same on all four days. At least 20 copies of the Daily News were delivered on Wednesday. The same number of copies of the Daily News and the Daily Post were delivered on Wednesday. The number of copies of the Daily News delivered on Wednesday through Saturday form a reducing arithmetic progression. The number of copies of the Daily Post delivered on Wednesday through Saturday increases by 50% as compared to the number of copies of the Daily Post delivered the day before.

How many copies of the Daily Overview were delivered each day? (in numerical value)

A) 20 B) C) D)

Question No. : 44

How many copies of the Daily News were delivered on Saturday? (in numerical value)

A) 12 B) C) D)

Question No. : 45

How many copies of the Daily Post were delivered on Saturday (in numerical value)?

A) 81 B) C) D)

Question No. : 46

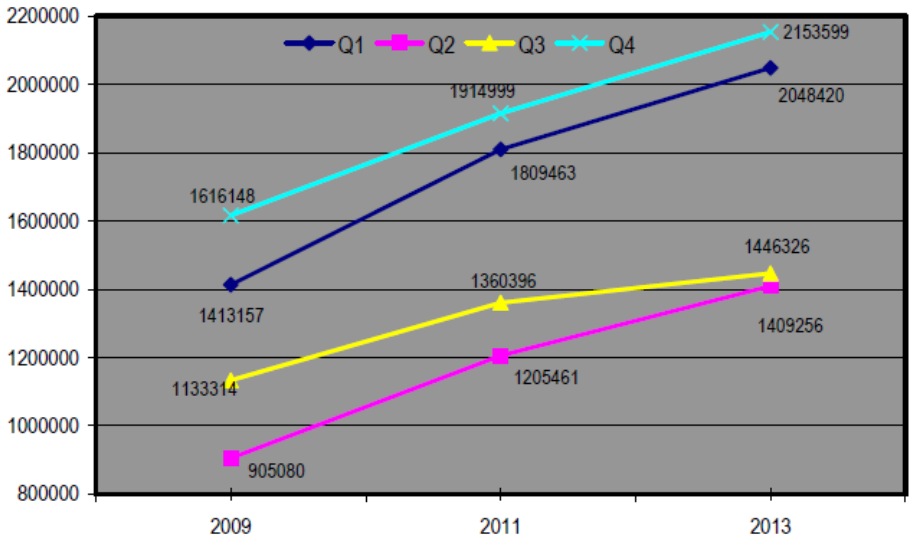
Over the four day period, how many more copies of the Daily Post were delivered than copies of the Daily News? (in numerical value)

A) 123 B) C) D)

DIRECTIONS for the question: *Analyse the graph/s given below and answer the question that follows.*

Question No. : 47

The line graph below shows the number of foreigners, in lakhs, visiting India in each quarter of 2009, 2011 and 2013.



The table below shows the percentage change in the number of foreigners visiting India in a particular quarter of a given year vis-a-vis the same quarter in the previous year.

Year	2009	2010	2011	2012	2013	2014
Quarter 1	–11.85	15.56	10.80	8.80	4.05	3.82
Quarter 2	–10.12	20.27	10.74	4.15	12.25	0.55
Quarter 3	–2.04	11.06	8.08	–1.28	7.69	10.00
Quarter 4	6.63	11.08	6.67	4.99	7.11	6.01

Approximately how many foreigners visited India in Quarter 1 of 2008?

A) 1246000 B) 1263500 C) 1603000 D) 5282500

Question No. : 48

What is the approximate difference between the number of foreigners visiting India in Quarter 4 of 2008 and Quarter 4 of 2014?

A) 170500 B) 515850 C) 767400 D) 2476100

Question No. : 49

In how many years from 2009 to 2013, both inclusive, has the total number of foreigners visiting India in the four quarters of the year exceeded 60 lakhs?

A) 0 B) 2 C) 3 D) 4

Question No. : 50

Approximately how many more foreigners visited India in the four quarters of 2014 than in the four quarters of 2008?

A) 17.8 lakhs B) 19.9 lakhs C) 21.4 lakhs D) 23.6 lakhs

DIRECTIONS for the question: *Read the information given below and answer the question that follows.*

Question No. : 51

The following figure shows the steps in the multiplication of a 3-digit integer, (AAC) by a 2-digit integer, (DD).Each of the letters A, B, C and D represents a distinct prime number.

```
    A A C
  × D D
  B D B C
B D B C 0
  B C C A C
```

Which of the following is the value of the product D × (BAC)?

A) (BC) × (A × C) + (BC) B) (AC) × (B × C) + (AC) C) (DC) × (B × C) + (DC) D) None of these

Question No. : 52

The following figure shows the steps in the multiplication of a 3-digit integer, (AAC) by a 2-digit integer, (DD).Each of the letters A, B, C and D represents a distinct prime number.

```
    A A C
  × D D
  B D B C
B D B C 0
  B C C A C
```

What is the value of $(BDD)^2 – (A × D × B)^2$?

A) (CBCBC) B) (DCDCC) C) (CDCCAC) D) (CACBC)

Question No. : 53

The following figure shows the steps in the multiplication of a 3-digit integer, (AAC) by a 2-digit integer, (DD).Each of the letters A, B, C and D represents a distinct prime number.

```
    A A C
  × D D
  B D B C
B D B C 0
  B C C A C
```

Which of the following is not the value of A + B + C + D?

A) (B × C) + A B) (D × C) + 2 C) (B × D) + (A + C) D) (A × B) + D

Question No. : 54

The following figure shows the steps in the multiplication of a 3-digit integer, (AAC) by a 2-digit integer, (DD).Each of the letters A, B, C and D represents a distinct prime number.

```
    A A C
  × D D
  B D B C
B D B C 0
  B C C A C
```

What is the value of the product (AAC) × (DD)?

A) 25575 B) 25535 C) 75525 D) 75535

DIRECTIONS for the question: *Read the information given below and answer the question that follows.*

Question No. : 55

Children from three families, the Lalwanis, the Mangwanis and the Nagranis, are working on five different projects, P1, P2, P3, P4 and P5. The Lalwanis have two children, Anay and Bhairavi, the Mangwanis have four children, Chetan, Divya, Esha and Gautam and family Nagranis has three children Hetal, Rohit and Sohum. Children from each family have at least one laptop per project they are working on. P1 is done by Anay, Chetan, Divya and Hetal, P2 is done by Anay, Bhairavi, Divya and Gautam, P3 is done by Divya, Hetal and Sohum, P4 is done by Chetan, Gautam and Rohit and P5 is done by Bhairavi, Esha, Rohit and Sohum.

How many children need not have laptops for any project?

A) 0 B) 1 C) 2 D) 3

Question No. : 56

Which child will definitely not have a laptop for any project?

A) Chetan B) Esha C) Gautam D) Sohum

Question No. : 57

If the total number of laptops with the three families is the minimum possible, how many projects have exactly two laptops?

A) 0 B) 1 C) 2 D) 3

Question No. : 58

If the total number of laptops with the three families is the minimum possible, how many projects have exactly four laptops?

A) 0 B) 1 C) 2 D) 3

DIRECTIONS for the question: *Read the information given below and answer the question that follows.*

Question No. : 59

A cube of side 7 cm is cut into smaller cubes of side 1 cm by making cuts along all edges. The cubes in each row of the bottom layer are numbered 1 through 7 from left to right, then 8 through 14 and so on till the last row in the bottom layer is numbered 43 to 49. This process is repeated for all rows in all layers till the last cube is numbered 343.

What is the sum of the numbers on the cubes that lie on the longest diagonal starting at the vertex of the cube numbered 1? Type your answer in the box provided below.

A) 1204 B) C) D)

Question No. : 60

What is the sum of the numbers on the cubes that lie on the longest diagonal starting at the vertex of the cube numbered 49? Type your answer in the box provided below.

A) 1204 B) C) D)

Question No. : 61

What is the sum of the numbers on the cubes that lie on the diagonal of the surface containing the cubes numbered 7 and 343? Type your answer in the box provided below.

A) 1225 B) C) D)

Question No. : 62

What is the sum of the numbers on the cubes that lie on the diagonal of the surface containing the cubes numbered 49 and 337? Type your answer in the box provided below.

A) 1351 B) C) D)

DIRECTIONS for the question: *Read the information given below and answer the question that follows.*

Question No. : 63

Four students, A, B, C and D have qualified for the finals of a Sudoku competition. Each of them is given the same set of four Sudoku puzzles to be solved in 10 minutes each. Each correctly solved Sudoku puzzle earns the student 10 points. For any correctly solved Sudoku puzzle finished before time, the students earn an additional 2 points for every complete minute saved. Each of the four students has solved at least one Sudoku puzzle correctly and no two students have solved the same number of puzzles correctly. The student who has the second highest points is 12 points behind the student who scored the highest number of points. The students who came last and second last have scored the same number of points, but the student with the higher number of correctly solved Sudoku puzzles is ranked higher. A saved a total of 12 minutes on his correctly solved puzzles, B saved a total of 5 minutes on his correctly solved puzzles, C saved a total of 1 minute on his correctly solved puzzles and D could not save any time on his correctly solved puzzles.

The student who placed third had solved how many Sudoku puzzles correctly?

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

Question No. : 64

Who solved four Sudoku puzzles correctly?

A) A B) B C) C D) D

Question No. : 65

Who had solved the least number of puzzles correctly?

A) A B) B C) C D) D

Question No. : 66

What is the difference between the number of puzzles solved correctly by the student who was placed first and the student who was placed third?

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

Section : Quantitative Ability

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

Question No. : 67

A man is 6 years older than his wife. He noticed 4 years ago that he has been married to her exactly half of his life. How old will he be on their 50^{th} anniversary if in 10 years she will have spent two-thirds of her life married to him? (in years)

A) 76 B) C) D)

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

Question No. : 68

Let $n \geq 4$. The integers from 1 to n inclusive are arranged in some order around a circle. A pair (a, b) is called acceptable if $a < b$, a and b are not in adjacent positions around the circle and at least one of the arcs joining a and b contains only numbers that are less than both a and b. The number of acceptable pairs is equal to :

A) n B) $(n-1)$ C) $(n-2)$ D) $(n-3)$

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

Question No. : 69

If $(323)^j = (17)^k \times (19)^m$, then which of the following is true?

A) $\frac{1}{j}+\frac{1}{k}=\frac{1}{m}$ B) $k+m=\frac{1}{j}$ C) $1/k + 1/m = 2/j$ D) None of these

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

Question No. : 70

In cinema at the city mall there are 55 chairs in a row, all of them initially unoccupied. From time to time, a person enters the lounge and sits in one of the unoccupied chairs and if either of the neighboring chairs is occupied at that moment, one of the neighbors get up immediately and leaves. What is the maximum number of chairs that can be occupied at any given time?

A) 27 B) 28 C) 54 D) 47

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

Question No. : 71

For every positive integer n, the integer $1 + 5^n + 5^{2n} + 5^{3n} + 5^{4n}$ is (write the correct option)

1. Even 2. Prime 3. Odd 4. None of these

A) 3 B) C) D)

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

Question No. : 72

A milk merchant buys certain number of cans full of milk. If he sells milk at Rs. 13 per litre, he gains Rs. 333. But if he sells milk at Rs. 10 per litre, he loses Rs. 150. How many such cans did be buy, if the capacity of each can is 23 litres?

A) 5 B) 7 C) 9 D) 17

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

Question No. : 73

Find the integer n for which $S = 2^{1994} + 2^{1998} + 2^{1999} + 2^{2000} + 2^{2002} + 2^n$ is a perfect square. (write the correct option)

1. 2002 2. 2003 3. 2004 4. Infinite values

A) 1 B) C) D)

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

Question No. : 74

A merchant sold an article at a profit of 40%. Had he bought the article for 20% less and sold it at a discount of 20%, he would have gained Rs. 224. What was the merchant's profit from the sale of the article?

A) Rs. 700 B) Rs. 280 C) Rs. 560 D) Rs. 980

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

Question No. : 75

Every Wednesday at the Pizza Express, the manager gives away free slices of pizza and sodas. Every 6th customer gets a free slice of pizza and every 8th customer gets a free soda. The Pizza Express served 75 customers last Wednesday. How many customers received both a free slice of pizza and a free soda? (in numerical value)

A) 3 B) C) D)

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

Question No. : 76

The smallest integer that is a square and whose decimal representation starts with 2005. (in numerical value)

A) 2005056 B) C) D)

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

Question No. : 77

Of 90 MBA students, 43 study Marketing, 18 study HR and 27 study Finance. 8 students study HR and Marketing, 11 students study Marketing and Finance and 7 students study HR and Finance. 3 students are studying all 3 specialisations.

What percent of the students study none of the three specializations?

A) 24.4% B) 27.7% C) 28.6% D) 38.4%

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

Question No. : 78

Of 90 MBA students, 43 study Marketing, 18 study HR and 27 study Finance. 8 students study HR and Marketing, 11 students study Marketing and Finance and 7 students study HR and Finance. 3 students are studying all 3 specialisations.

What is the ratio of the number of students who study exactly two of the three specializations to the number of students who study none of the three specializations?

A) 4 : 5 B) 4 : 9 C) 22 : 25 D) 17 : 25

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

Question No. : 79

$10^{2008} - 10^{8}$ is divisible by: (write the correct option)

1. 2007 2. 2008 3. 2009 4. 2010

A) 2 B) C) D)

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

Question No. : 80

If the integers from 1 to 222,222,222 are written down in succession, how many of them have at least one zero?

A) 125367100 B) 123567100 C) 132567100 D) 135267100

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

Question No. : 81

An integer whose decimal representation consists of 3n identical digits is divisible by (write the correct option)

1. 3n 2. 3^n 3. $3n^2$ 4. None of these

A) 4 B) C) D)

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

Question No. : 82

There are M gold fish and K silver fish in a lake. They are caught and eaten one at a time at random until only one color of fish remains in the lake. One of the silver fish is named George. The probability that George is not eaten: (write the correct option)

1. 1/ (K+M) 2. 1/ M 3. 1/ (M+1) 4. (1/ M) + (1/K)

A) 3 B) C) D)

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

Question No. : 83

Three hundred men sit around a circular table. The men are numbered 1–300 and each man has two neighbors. (The neighbors of 1 are 2 and 300, and the neighbors of 300 are 1 and 299.)

There are three hundred waiters, also numbered from 1 to 300. Each waiter has an urn containing three balls, one lettered L, one C and one R. Each waiter y draws a ball at random from his urn and if the ball is lettered L, delivers a dessert to the man to the left of man y. If the letter is C man y gets the dessert, and if the letter is R the man to the right of man y gets the dessert. Call a man lucky if he gets three desserts. What is the probability of the greatest possible number of men to be lucky? (write the correct option)

1. $1/3^{301}$ 2. $1/3^{300}$ 3. $1/3^{299}$ 4. $1/3^{298}$

A) 3 B) C) D)

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

Question No. : 84

Given that x and y are positive integer solutions of the equation $x^3 - y^3 = xy + 61$, what is the value of $(x + y)$? (in numerical value)

A) 11 B) C) D)

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

Question No. : 85

An urn has four balls numbered 1, 2, 3, 4. They are drawn one at a time at random with replacement, that is, a ball is drawn, its number is noted, and the ball is replaced and the urn is mixed before the next draw. The draws continue until a number is drawn that is smaller than a previously drawn number. Find the probability that the last number drawn is 1. (write the correct option)

1. 29/81 2. 27/81 3. 43/81 4. 47/81

A) 2 B) C) D)

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

Question No. : 86

Let C be a circle in the xy-plane with center on the y-axis and passing through A = (0; a) and B = (0; b) with 0 < a < b. Let P be any

other point on the circle, let Q be the intersection of the line through P and A with the x-axis, and let O = (0; 0), then ∠BQP = _____.

A) B) C) D) None of these

∠OBQ ∠OPQ ∠BOP

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

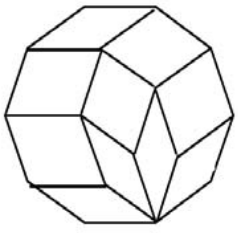
Question No. : 87

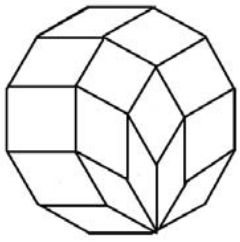
Any integer greater than or equal to 7 can always be written as a sum of

A) Two Primes B) An odd and an even integer C) Sum of Squares of two primes D) Two co-primes

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

Question No. : 88





A regular decagon and a regular dodecagon have been tiled with rhombuses. In each case, the sides of the rhombuses are the same length as the sides of the regular polygon.

How many rhombuses will be there in a tiling by rhombuses of a 2002-gon?

A) 2002 B) 500 × 1001 C) 1000 × 1001 D) 1000 × 2002

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

Question No. : 89

Let N be the number of ordered pairs (x,y) of integers (positive, negative, or zero) such that $x^2 + xy + y^2 \leq 2007$, then N is

A) Odd B) Even C) Prime D) None

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

Question No. : 90

If a triangle (with non-zero area) is constructed with the lengths of the sides chosen from the set{2,3,5,8,13,21,34,55,89,144}, then this triangle must be

A) Scalene B) Isosceles C) Right angled D) Obtuse angled

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

Question No. : 91

A shadow in the sun cast by a tree is 48 ft. At the same time, a shadow cast by a nearby post is 15 ft. If the line of sight distance from the farthest end of the tree's shadow to the top of the tree is 62 ft., what is the line of sight distance from the top of the post to the farthest end of the post's shadow?

A) 18.1 ft. B) 19.4 ft. C) 22.9 ft. D) 14.1 ft.

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

Question No. : 92

Two sentries start at point B. Sentry 1 walks back and forth between points A and B, taking 28 seconds to make the complete trip. Sentry 2 walks back and forth between points B and C, taking 90 seconds for the trip. Both are unwavering in their pace. How many seconds after they start will the two first meet back at point B again? (In seconds).

A) 1260 B) C) D)

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

Question No. : 93

The percentage profits on three articles A, B, and C is 10%, 20% and 25% and the ratio of their cost price is 1:2:4. Also, the ratio of the number of articles sold of A, B and C is 2:5:2.The overall profit percentage is:

A) 15 B) 17 C) 19 D) 21

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

Question No. : 94

Venkat borrowed Rs. 45,000 from bank at 10% compound interest. He repaid the sum in three annual instalments, which were in arithmetic progression. He ended up paying Rs. 54,000 in all. How much did he pay in the first year? (in Rs.)

A) 19500 B) C) D)

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

Question No. : 95

A and B stand at distinct points of a circular race track of length 120m. They run at speeds of a m/s and b m/s respectively. They meet for the first time 16 seconds after they start the race and for the second time 40 seconds from the time they start the race. Now, if B had started in the opposite direction to the one he had originally started, they would have meet for the first time after 40 seconds. If B is quicker than A, find B's speed. (write the correct option)

1. 3m/s 2. 4 m/s 3. 5 m/s 4. 8 m/s

A) 1 B) C) D)

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

Question No. : 96

The traffic on a certain east-west highway moves at a constant speed of 60 miles per hour in both directions. An eastbound driver passes 20 west-bound vehicles in a five minute interval. Assume vehicles in the westbound lanes are equally spaced. Which of the following is the closest to the number of westbound vehicles present in a 100-mile section of highway?

A) 120 B) 200 C) 240 D) 400

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

Question No. : 97

A merchant buys 80 articles, each at Rs. 40. He sells n of them at a profit of n% and the remaining at a profit of (100 – n)%. What is the minimum profit the merchant could have made on this trade?

A) Rs. 2160 B) Rs. 1420 C) Rs. 1580 D) Rs. 2210

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

Question No. : 98

In a movie, an RAW agent has to stop a ticking time bomb within 10 seconds by cutting one wire from a group of 4 indistinguishable red wires and another wire from a group of 5 indistinguishable green wires. There is exactly one combination that would stop the bomb from exploding. What is the probability that the FBI agent will succeed if he or she randomly cuts a red wire and a green wire?

A) 5% B) 20% C) 25% D) 45%

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

Question No. : 99

Every birthday of my life, my mother has seen to it that my cake contains my age in candles. Starting on my fourth birthday, I have always blown out all my candles. Before that age, I averaged a 50% total blowout rate. So far, I have blown out exactly 900 candles. How old am I? (in numerical value)

A) 42 B) C) D)

DIRECTIONS for the question: *Solve the following question and mark the best possible option.*

Question No. : 100

What is the largest possible area of a simple quadrilateral, two sides of which have length a, and two sides of which have length b?

A) $ab/2$ B) ab C) $2ab$ D) $a^2b^2/(a + b)$