Directions of Test

Test Name	2016 Bull CAT 05	Total Questions	100	Total Time	180 Mins

Section Name	No. of Questions	Time limit	Marks per Question	Negative Marking
Verbal	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

DIRECTIONS for the question: *Five sentences related to a topic are given below. Four 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. : 1

1. Wait, though. Rub your eyes, refocus your gaze, and really, is there any real reason why this ought to be weird?
2. Earlier this year, the 17-year-old son of Will Smith and Jada Pinkett Smith, brother of Willow, appeared in a Louis Vuitton womenswear campaign.
3. If you wanted to choose a celebrity avatar for everything supposedly weird about The Youth, you could do worse than Jaden Smith: a gnomic tweeter, sometime crystal devotee, self-described "Future of Music, Photography, and Filmmaking," who has little attachment to the gender binary.
4. Jaden Smith, quasar of contemporary teen behaviors, wears a fringed white top and an embellished, knee-length black skirt.
5. The impulse to re examine assumptions has had practical consequences " gender-neutral college dorms and high-school bathrooms " and cultural ripples.

A) 5 B) C) D)

DIRECTIONS for the question: *Five sentences related to a topic are given below. Four 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. : 2

1. Life on the rebel side"the only side I had access to"was perilous and miserable.
2. At the time, Aleppo was divided roughly in half, one side held by the rebels, the other by the regime.
3. There was a river that snaked through Aleppo from the regime side to the rebel side, and occasionally bodies dumped in the former would wash up in the latter.
4. In the spring of 2013, I spent a month in the Syrian city of Aleppo, reporting an article about the protests that had become an uprising that had become a war.
5. Almost every day, regime jets and mortars and missiles randomly obliterated civilian targets: homes, markets, hospitals, and schools.

A) 3 B) C) D)

DIRECTIONS for the question: *Five sentences related to a topic are given below. Four 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. : 3

1. You're not invited to attend a meeting.
2. A co-worker gets coffee " for everyone but you. Your input is laughed at or ignored.
3. Workplace rudeness is not limited to one industry, but has been observed in a wide variety of settings in a variety of countries with different cultures
4. You wonder: where did this come from? Did I do something? Why would he treat me that way?
5. Most people can relate to the experience of having a colleague inexplicably treat them rudely at work.

A) 3 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. : 4

1. This is nothing unusual.
2. It implies intense appreciation on behalf of the reader, and suggests that books in themselves are enjoyable and delicious, like warm pastries.
3. Last year, a reporter in the Guardian described how the Man Booker Prize judges spent a summer devouring novel after magnificent novel, culminating in their selection of a (baker's) dozen.
4. The language of eating is often used to describe reading habits.
5. If pressed for an explanation, one might say that to 'devour' books is to do something positive.

A) 31452 B) C) D)

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

Question No. : 5

Sport is interesting because people take sport more seriously than religion. Sport is the last bastion of our nature as human animals. It's a combat between human animals displaying their genetic fitness. And people don't like cheating because it goes against everything that we needed as animals, that was an accurate display of people's genetic potential. That's why you want to find out who is naturally the fastest runner in the world, not the person who can run the fastest with the assistance of technology, but who was just born with the best genes. So in fact, it;'s profoundly just what the Nazis would've admired"the strongest, the fittest, the most beautiful.

1. sports is the driver of our genetic instincts
2. sports is the gateway to our genetic ancestry
3. sports defines our genetic connect and potential
4. sports allows us to connect with our deeper genetic responses

A) 4 B) C) D)

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

Question No. : 6

Tall people have lower life expectancies, on average, than short people: They're at increased risk for Alzheimer's, heart disease, diabetes, and cancer"the latter because higher levels of growth hormone increases cell division rates and thus the likelihood for genetic mistakes. Though it was good for our ancestors to be large"outrunning predators and conserving thermal energy in cold winters was crucial for survival in their day"growing in the presence of good nutrition may be a vestigial response, given that those threats no longer persist.

1. Being bigger is no longer feasible
2. Being bigger is no longer advisable
3. Being bigger is no longer relevant
4. Being bigger is no longer better

A) 4 B) C) D)

DIRECTIONS for the question: *Five sentences related to a topic are given below. Four 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. : 7

1. Too often you fail until you succeed, and then you are expected to stop failing.
2. But that is not the way of science.
3. Once you have succeeded you supposedly know something that helps you to avoid further failure.
4. Success can lead only to more failure.
5. Failing is good as long as it doesn't become a habit

A) 5 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. : 8

1. The first method to attack the issue is to crunch numbers, and reduce the statistics of hungry people
2. While hasty techno-fixes to deal with the crisis in the farming community are afoot, malnutrition and genuine problems in the agricultural sector in the country fail to be seriously addressed
3. Increasing production is not the only solution to hunger in an unequal society
4. Farmers committing suicide are linked to the commercial pressures of tech dependent agriculture, along with the controls of companies, the market, and credit agencies

A) 1 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. : 9

1. They say that because the turbines are usually seen from some way away, their size would not be noticed because of the scale of the countryside.
2. The National Wind Power Company wants to develop a huge wind farm on the top of Flaight Hill, an extremely beautiful area of Northern England.
3. Such allegations are dismissed out of hand by the company.
4. If they are given the go-ahead, the company will erect 44 rotors there.
5. Local residents are determined to fight this plan and they complain that the 60 metre turbines will spoil one of Britain's last remaining areas of natural beauty.

(in numerical value)

A) 24531 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. : 10

1. That's a very high price to pay for getting rid of Greece, and much more expensive than letting it stay.
2. It would be costly for the rest of Europe, too.
3. Rationally, then, this standoff should end with a compromise"relaxing some austerity measures, and giving Greece a little more aid and time to reform. And we may still end up there.
4. Even though a devalued currency would make Greece's exports cheaper and attract tourists, it would do so at a terrible price, destroying huge amounts of wealth and seriously harming the country's G.D.P.
5. Greece owes almost half a trillion euros, and containing the damage would likely require the recapitalization of banks,

continent-wide deposit insurance (to prevent bank runs), and more aid to Portugal, Spain, and Italy, which seem to be the next countries in line to default.
(in numerical value)

A) 42513 B) C) D)

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

Question No. : 11

When we think about the past and the way our society was constructed, it is difficult not to marvel at how well managed it was to contain the potentially disruptive power of money. First, we constructed a social framework where the highest echelons lived a lifestyle that was conspicuously demonetized. They lived in official quarters, and drove official cars, either officially or otherwise. They went to clubs that served food and beverages at a price that was, notionally, a notch above free, holidayed in guest houses and circuit houses available only to them and got land allotted at throwaway prices to build their own houses.

Then we made sure that money could buy very little. High taxes on goods, low access to the best the world had to offer and overall shortages, reduced avenues for expenditure. This process was aided considerably by making the use of money very difficult. Withdrawing and depositing money was a one-day outing, booking tickets a well orchestrated nightmare, travelling from one place to another an adventure and so on. The government was deviously stingy not only in giving its citizens any facilities but even more so in collecting its dues. Whether it was about paying taxes, remitting the electricity bill or renewing one's train pass, every effort to pay the government any money was met with heroic resistance on its part.

And we closed the loop by limiting money-making avenues. Private enterprise was placed under house arrest and stared at with unblinking hostility by several watchdogs as it fretted listlessly in its confined quarters. In effect, our economy disowned its fundament unit, money. We were an access economy, where power was the deity and access its currency. If god had an ambition, it would be one day to become a joint secretary. The queue in front of one's door became more valuable than one's bank balance. An access economy became the fertile ground for the agent, who whispered hot promises of access in our ears. Middlemen brokered everything - be it a driving license, a manufacturing license, a school admission, a railway reservation, or a cinema ticket.

Ironically, money became a potent force. It became everything we feared about it " it became an instrument of illegitimate access. People with money bought power and used it to precise personal effect. A license guaranteed profits; there was no reason to worry about the quality of goods. Capitation fees allowed the unworthy unfettered access to coveted degrees.

But at its heart, the idea of money is inherently a democratic one. When set free, it allows for uniform access universally. When things operate on the basis of money, they become more transparent and available to all. In a society as fragmented as ours, with as intricate a system for discriminating between people, money can be a real force of democracy. If in an access economy, there is an in-built mechanism that fosters scarcity as a source of power, here the mechanism drives us towards more availability. Where power was the speed-breaker, money is the accelerator. Money liberates us from the cavernous mysteries of the corridors of power but in doing so, it perhaps sets in motion its own set of distortions.

The above reading selection is organized like which of the following?

A) A critique of how historically, money was deliberately underplayed vis-à-vis access to power and the subsequent changes.
B) A summary of the relative importance of money power in the past and the present.
C) An argument against making money the medium of day-today economic transactions.
D) Views and counter-views on how the demonetized society of the past gave way to the present-day society.

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

Question No. : 12

The author's expression .....*we closed the loop* in the third paragraph most likely **IMPLIES**

A) gave the process a leg up B) completed the process C) worsened the situation D) plugged the gap

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

Question No. : 13

Which of the following can serve as a suitable title for the above passage?

A) Money Makes the Mare Go B) It's All About Money, Honey C) From Power To Money D) Money: Now and Then

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

Question No. : 14

Until I was 35 years old I thought talking about the weather was for losers. A waste of time, insulting even. No one can do anything about the weather anyway. I believed that any comment that does not offer new insight or otherwise advance the cause of humanity is just so much hot air. I might make an exception for intimate friends, but I sure did not want that kind of intimacy with the man on the street, or the one in my office.

Then something happened. Alone for the first time in a long time, living in challenging circumstances, experiencing a cold winter in New England, I noticed the weather. It affected me deeply and directly, every single day. Slowly it dawned on me that the weather affected everyone else, too. Maybe talking about it wasn't totally vacuous after all.

I started with the cashier at a gas station. I figured I'd never see her again, so it was pretty safe. She has no clue that I was a smart person with a lot of potential. Years of cynicism made me almost laugh as I said. 'Sure got a lot of snow this year so far. Yep, was her reply. Then she said, I could barely get my car out of the lot, be careful driving. Talking about the weather was easy, even effortless. An entree to at least one person on the planet who apparently cared about me, at least enough to share her small challenge and want me safe on the road.

Next time I tried it at work. It turned out to be even more effective with people I already knew. Talking about the weather acted as a little bridge, sometimes to further conversation and sometimes just to the mutual acknowledgment of shared experience. Whether it was rainy or snowy or sunny or damp for everyone, each had their own relationship with the weather. They might be achy, delighted, burdened, grumpy, relieved or simply cold or hot. Like anything of personal importance, most were grateful for the opportunity to talk about it.

Then something else happened. As talking about the weather became more natural, I found myself talking about a whole lot more. I found out about people's families, their frustrations at work, their plans and aspirations. Plus, I found out that the weather is not the same for everyone! And it's only one of many factors dependent on location that you'll never know about without engaging in casual conversation.

For a businessperson, there may be no better way to make a connection, continue a thread, or open a deeper dialogue. Honoring the simple reality of another person's experience is an instant link to the bigger world outside one's self. It's the seed of empathy, and it's free.

Excerpted from 'The Big Moo' edited by Seth Godin.

As used in the third paragraph, the word *entree* most likely stands for -

A) An ice-breaker B) An example C) An accompaniment D) A critical comment

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

Question No. : 15

What is the main theme of the passage?

A) Weather is the most important aspect of everyday conversation for all sections of society
B) Talking about the weather leads to increased sales and increased commissions
C) Casual conversation can often lead to profound insights
D) Weather is a topic which can be talked about with the most vacuous of minds

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

Question No. : 16

In the fourth paragraph, what is meant by the phrase 'each had their own relationship with the weather'?

A) Though everyone experiences the same things, their reactions are different
B) Weather was a metaphor for the varied reactions that the author encountered
C) Though weather meant different things to different people, all handled the situation analogously
D) The reaction to the weather decided the extent of involvement of the person in his surroundings

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

Question No. : 17

The way book authors get paid these days is pretty straightforward: publishers keep careful track of how many books they sell and pay authors a royalty — agreed upon when the contract is signed — of each sale. Authors can check sales figures using resources like Bookscan or their own accountants. Royalty rates are well established throughout much of the industry. Everyone is protected by copyright. Easy peasy.

The playing field hasn't always been so level. As **Johann Wolfgang von Goethe** observed in 1797, "the publisher always knows the profit to himself and his family whereas the author is totally in the dark." This problem of lopsided information was aggravated by the near-absence of copyright protection in the 18th and 19th century. A bestseller could be expected to spawn an abundance of pirated versions. **Charles Dickens**, on his first trip to the United States in 1842, complained endlessly about the pirating of his works for the U.S. market. This lack of intellectual property protection led to further conflicts of interest and opinion between authors and publishers: it was standard practice among publishers — even respectable ones — to have multiple print runs without an author's permission, and writers sometimes tried to sell near-identical editions of the same title to multiple publishers. Because authors couldn't trust the sales numbers if and when their publishers provided them, 19th-century book contracts were for a fixed fee rather than per-copy royalty payments.

All of this drove Goethe nuts. Like many artists, Goethe had an uneasy relationship with money in the first place. He was on the one hand disdainful of the profit motive (he once wrote to a publisher, "I look odd to myself when I pronounce the word Profit"), and yet he referred to the asymmetry of information as "the main evil" of publishing. He wanted to ensure that he got his fair share of the fruits of his labors, and to this end he employed various ruses and strategies to ensure that his more materialistically minded publishers didn't exploit him. Among the most intriguing of these schemes was the peculiar auction he devised for the sale of the manuscript for his epic poem, *Hermann and Dorothea*.

Goethe wasn't planning on awarding the manuscript to the highest bidder — the kind of auction you might picture at Sotheby's for fine art, where the auctioneer raises the price with each bid until the sale price is reached (what's known as an "open ascending price" or "English auction"). Instead, Goethe engineered the following mechanism, as he explained to Mr. **Vieweg**, his publisher, in a letter dated January 16, 1797:

I am inclined to offer Mr. Vieweg from Berlin an epic poem, Hermann and Dorothea, which will have approximately 2000 hexameters. …Concerning the royalty we will proceed as follows: I will hand over to Mr. Counsel ***Bottiger*** *[Goethe's lawyer] a sealed note which contains my demand, and I wait for what Mr. Vieweg will suggest to offer for my work. If his offer is lower than my demand, then I take my note back, unopened, and the negotiation is broken. If, however, his offer is higher, then I will not ask for more than what is written in the note to be opened by Mr. Bottiger.*

What's going on here?According to Moldovanu and Tietzel, scholars had treated Goethe's proposition as one of the enigmas left behind by one of history's greatest literary figures. But the economists argue that there's no mystery to Goethe's choice of mechanism. The author wanted to know how much he was worth to Vieweg (perhaps with an eye to extracting higher royalties from his publishers over the longer run), and he devised this peculiar "auction" to get Vieweg to tell him.

It can be inferred from the passage that:

A) selling of books was not an easy proposition in the 18th and 19th century
B) piracy was more rampant in the 18th and 19th century that it is today
C) auditing of sales was more cumbersome in the 18th and 19th century that it is today D) both (1) and (3)

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

Question No. : 18

It can be deduced from the passage that:

A) Goethe abhorred commercial transactions. B) Goethe devalued profit based transactions.
C) Goethe underestimated of profit-based ventures. D) Goethe did not appreciate profit-driven enterprises.

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

Question No. : 19

From the information given in the passage, it can be figured out:
I. Intellectual property rights were not stringent in the 18th century.
II. The desired levels of transparency between authors and publishers did not exist in the 18th century.
III. It was not given that publishers would keep authors in the dark with respect to their actions.

A) I & II B) II & III C) I & III D) All of the above

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

Question No. : 20

The mechanism adopted by Goethe for awarding his manuscript to the highest bidder:

A) was a enigmatic mechanism adopted by Goethe to confuse his buyers.
B) was a clever mechanism adopted by Goethe to derive the maximum value for this work.
C) was a clever manoeuvre adopted by Goethe to establish his worth.
D) was a clever subterfuge adopted by Goethe to trick publishers.

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

Question No. : 21

From the information provided in the passage, how many of the following character traits can be ascribed with certainty to Goethe:

1. reclusive and reticent
2. commercially astute
3. intellectually driven
4. monetarily covetous

A) Only one out of four B) Only two out of four C) Only three out of four D) All four

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

Question No. : 22

The way book authors get paid these days is pretty straightforward: publishers keep careful track of how many books they sell and pay authors a royalty — agreed upon when the contract is signed — of each sale. Authors can check sales figures using resources like Bookscan or their own accountants. Royalty rates are well established throughout much of the industry. Everyone is protected by copyright. Easy peasy.

The playing field hasn't always been so level. As **Johann Wolfgang von Goethe** observed in 1797, "the publisher always knows the profit to himself and his family whereas the author is totally in the dark." This problem of lopsided information was aggravated by the near-absence of copyright protection in the 18th and 19th century. A bestseller could be expected to spawn an abundance of pirated versions. **Charles Dickens**, on his first trip to the United States in 1842, complained endlessly about the pirating of his works for the U.S. market. This lack of intellectual property protection led to further conflicts of interest and opinion between authors and publishers: it was standard practice among publishers — even respectable ones — to have multiple print runs without an author's permission, and writers sometimes tried to sell near-identical editions of the same title to multiple publishers. Because authors couldn't trust the sales numbers if and when their publishers provided them, 19th-century book contracts were for a fixed

fee rather than per-copy royalty payments.

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What's going on here?According to Moldovanu and Tietzel, scholars had treated Goethe's proposition as one of the enigmas left behind by one of history's greatest literary figures. But the economists argue that there's no mystery to Goethe's choice of mechanism. The author wanted to know how much he was worth to Vieweg (perhaps with an eye to extracting higher royalties from his publishers over the longer run), and he devised this peculiar "auction" to get Vieweg to tell him.

The tone of the author of the passage can be said to be:

A) descriptive B) analytical C) critical D) subjective

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

Question No. : 23

In the given context, the word 'ubiquitous' means:

A) well-formed B) pervasive C) effective D) comprehensive

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

Question No. : 24

From the information provided for the consequentialist approach, we can say which of the following about this approach?

A) it is the theory about the maximum good delivered at the lowest cost possible
B) it is the theory about the maximum good delivered irrespective of cost
C) it is the theory about the maximum good delivered at the highest cost possible
D) it is the theory about delivering the maximum costs required for the maximum good

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

Question No. : 25

According to SelimBerker, Greene:

A) uses circular reasoning to prove his points B) uses specious reasoning to prove his points
C) employs ad hominem to prove his argument D) employees butterfly logic to prove his point

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

Question No. : 26

Assuming the information provided by Greene's experiment to be correct, one of the following is driven by reasoning and one by emotions. Identify the two in the respective order.

A) consequentialist moral theories and deontological moral theories
B) deontological moral theories and consequentialist moral theories C) both of the above adhere to the given criteria
D) none of the above adhere to the given criteria

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

Question No. : 27

In the given context, the author of the passage is clearly:

A) supportive of the view offered by science on the subject under consideration.
B) against the view offered by science on the subject under consideration
C) sympathetic of the view offered by science on the subject under consideration
D) empathizes with the view offered by science on the subject under consideration

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

Question No. : 28

Which of the following is an apt title for the passage?

A) Science just cannot seem to have enough to say about moral intuitions
B) Science has the last laugh when it comes to moral intuitions
C) Science has always been the enfant terrible when it comes moral intuitions
D) Science has next to nothing to say about moral intuitions

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

Question No. : 29

Stop me if you've heard this one before. On 19 December 1984, The New York Times ran a story about parents who feared the risks of routine vaccinations. The parent quoted in the article was a lawyer who blamed vaccines for the death of his daughter. The story was framed as a conflict between parents such as him and medical experts, who pointed out that serious side-effects of vaccines were extremely rare, and that the diseases vaccines prevented were far worse.

On 27 April 1999, The New York Times ran a story about parents who feared the risks of routine vaccinations. The parent quoted in the article was college-educated, an author and professional activist, who blamed vaccines for her son's brain damage.

On 21 March 2008, The New York Times ran a story about parents who feared the risks of routine vaccinations. The article noted that parents who refused vaccines for their children were often 'well-educated and financially stable'.

These stories were framed as a conflict between those parents and medical experts, who worried that geographical pockets of vaccine refusal could help spread preventable diseases, such as measles. Parents today just haven't seen the devastation vaccine-preventable diseases can cause, the scientists said.

For more than 30 years now, we journalists have been telling the same story, with the same actors, playing the same roles, and speaking the same lines. The authors change, but the news doesn't. It barely even counts as 'new'.

There are two groups of people you can blame for this pattern of repetitive storytelling. Maybe it's them: maybe the problem is parents whose anti-science proclivities have carried them so far away from the facts that journalists have no choice but to repeat ourselves ad nauseum. The story doesn't change because the story hasn't changed.

That could be true. But there's also another option. Maybe it's us: maybe journalists aren't listening. The story never changes

because we stopped looking for the other stories we could tell.

If that's true, it's a big deal. And not just for journalists. Vaccination is a deeply important part of public health. Whether to vaccinate or not isn't simply a decision you make for yourself or your family, independent of the choices of everyone else. Vaccines work in two ways. They decrease your personal risk of contracting a disease, and they reduce the number of potential hosts and carriers in the population. That means the more vaccinated people there are, the harder it is for a disease to spread. Vaccines can stop an outbreak before it happens. This so-called 'herd immunity' protects children who are too young to get a vaccine, people who are too sick to get one, and anybody whose vaccination isn't working as well as it should.

That's why medical experts really care about vaccination and why they're worried about vaccine rejection, even though, nationwide in the United States, children are vaccinated at rates of 90 per cent or better for most vaccines. In specific places, and for specific vaccines, uptake can be a lot lower, enough to give diseases a foothold. Measles, for instance, is highly contagious. To prevent its spread, you need at least a 96 per cent vaccination rate. In California, where a measles outbreak last year infected nearly 200 people and spread to 23 other states, the measles vaccination rate is about 92 per cent – and scientists have estimated that regions near where the outbreak began could have rates as low as 50 per cent and certainly no higher than 86 per cent.

We still seem to be pretty clueless when it comes to why those people fear vaccines and what could be done to change their minds. Case in point, a paper published in 2014 tested different strategies for improving the likelihood that skeptical parents would vaccinate their kids. None of the tested techniques worked. When the researchers tried debunking vaccine misinformation, they succeeded in convincing more parents that vaccines don't cause autism. But those same parents were actually more likely to reject vaccines afterwards.

Clearly, something is amiss here, and it matters to all of us. What I hadn't done, at least until recently, was question whether those stories were accurate. I don't mean in the sense that I'd published incorrect information. Instead, I've come to believe that I haven't been asking the right people the right questions, and that's leading me to write stories that are factually correct, but don't accurately reflect what's really happening. What if scientists are wrong about the reasons parents don't vaccinate? What if, as a journalist, I've been steering the national conversation in the wrong direction by not questioning the reasons put forth? Herd immunity matters a lot, and there's good reason to think we aren't listening well enough to what the herd has to say.

The author of the passage uses the news stories at the start of the passage:

A) to establish a conjecture B) to highlight an incongruity C) to establish a narrative D) to point out pattern

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

Question No. : 30

The author of the passage clearly believes that:

A) parents can do more to educate themselves about the benefits of vaccination
B) journalists can do more to steer the debate on vaccination in the right direction
C) scientists can do more to effectively convey the benefits of vaccination D) none of the above

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

Question No. : 31

In the given context of the passage, the phrase 'ad nauseum' means:

A) To a resounding extent B) To a niggling extent C) To a deafening extent D) To a sickening extent

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

Question No. : 32

It can be inferred from the passage that the author of the passage is suggesting:

I. Parents who reject vaccination prefer to put the public good below their children
II. Parents who reject vaccination prefer to put their children below the public good

III. Parents who reject vaccination prefer to put the public good above their children
IV. Parents who reject vaccination prefer to put their children above the public good

A) I & III B) II & III C) I & III D) I & IV

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

Question No. : 33

According to the author of the passage:

A) the decision to vaccinate your child has wider implications.
B) herd immunity has an impact on those who are not vaccinated.
C) one can contract a disease even if one has taken the vaccination for the same. D) all of the above

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

Question No. : 34

The primary purpose of the author of the passage is:

A) to provide an explanation for a certain set of actions B) to explain a contentious issue and its widespread implications
C) to highlight an oversight on part of a specific set of people
D) to stir a debate over an issue that deserves deeper understanding

Section : DI & Reasoning

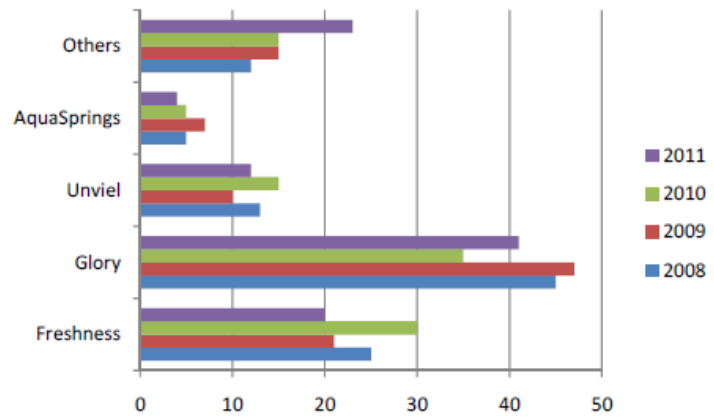
DIRECTIONS for the question: *Analyse the graph/s given below and answer the question that follows.*

Question No. : 35

KC Hygiene Products Ltd. manufactures and sells Toothpaste, Detergent, Toilet Soap and other hygiene products. The table below shows the sales of different products of the company from 2008 to 2011.

	Sales (million units)			
	2008	**2009**	**2010**	**2011**
Toothpaste	150	225	210	170
Detergent	90	100	150	95
Toilet Soap	18	15	30	16
Total	**1200**	**1350**	**1460**	**1320**

KC Hygiene Products Ltd. manufactures 10 different brands of Toilet Soap. Of these 10 brands, the four largest selling brands are Freshness, Glory, Unviel and AquaSprings. The chart below shows the percent breakup of the total number of Toilet Soap sold from 2008 to 2011.



What is the approximate percentage change in the number of units of Glory sold from 2008 to 2011?

A) 4% decrease B) 25% decrease C) 20% decrease D) 12% decrease

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

Question No. : 36

In which year did the sales of Unviel show the greatest percentage increase over the previous year? (in numerical value)

A) 2010 B) C) D)

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

Question No. : 37

Which of the following statements is / are true?

I. From 2008 to 2011, the sales of Other Toilet Soap increased by approximately 92%.
II. As compared to the previous year, the combined sales of Freshness and AquaSprings showed the maximum percentage increase in 2009.

A) I only B) II only C) Both I and II D) Neither I nor II

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

Question No. : 38

In a telecommunication cable assembly plant, cables are assembled by twisting plastic coated wires together. There are wires of exactly six different solid colours - red, yellow, violet, green, white and black. Wires must be assembled into single cables according to the following rules.

1. Each cable must contain at least three wires and wires of at least three different colours.
2. At most two wires in a single cable can be black.
3. At most two wires in a single cable can be white.
4. There can be at most one wire of each of the other colours in a single cable.
5. If one wire is red, then one wire must be yellow.
6. If one wire is violet, then no wire can be green.

Which of the following could be the complete set of wires in an acceptable cable assembly?

A) A green wire, a white wire and a violet wire B) A violet wire, a black wire and a white wire
C) A red wire, a black wire and a green wire D) A yellow wire and exactly two black wires

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

Question No. : 39

In a telecommunication cable assembly plant, cables are assembled by twisting plastic coated wires together. There are wires of exactly six different solid colours - red, yellow, violet, green, white and black. Wires must be assembled into single cables according to the following rules.

1. Each cable must contain at least three wires and wires of at least three different colours.
2. At most two wires in a single cable can be black.
3. At most two wires in a single cable can be white.
4. There can be at most one wire of each of the other colours in a single cable.
5. If one wire is red, then one wire must be yellow.
6. If one wire is violet, then no wire can be green.

The maximum number of wires that can be used in an acceptable cable assembly is (in numerical value)

A) 7 B) C) D)

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

Question No. : 40

In a telecommunication cable assembly plant, cables are assembled by twisting plastic coated wires together. There are wires of exactly six different solid colours - red, yellow, violet, green, white and black. Wires must be assembled into single cables according to the following rules.

1. Each cable must contain at least three wires and wires of at least three different colours.
2. At most two wires in a single cable can be black.
3. At most two wires in a single cable can be white.
4. There can be at most one wire of each of the other colours in a single cable.
5. If one wire is red, then one wire must be yellow.
6. If one wire is violet, then no wire can be green.

If exactly one black wire and exactly one white wire is used in an assembled cable, then which of the following must be true?

A) The cable contains not more than five wires B) The cable contains exactly six wires C) The cable contains a yellow wire
D) The cable does not contain a red wire

DIRECTIONS for the question: *Go through the following graph/information and answer the question that follows.*

Question No. : 41

In order to repay his debt, A decides to try his luck at betting. He bets with B, C and D and doubles his money. He then repays a quarter of his loan and bets the remaining money. In all he bets four times, each time doubling his money and paying off a quarter of his debt. B loses half as much as D. C loses Rs. 7,000 more than $1/4^{th}$ the amount lost by D. C loses Rs. 22,000 less than the average amount lost by B, C, and D. In the end A is left with no money.

How much money does B lose?

A) Rs. 27000 B) Rs. 35000 C) Rs. 40000 D) Rs. 45000

DIRECTIONS for the question: *Study the following graph/information and answer the question that follows.*

DIRECTIONS for the question: *Go through the following graph/information and answer the question that follows.*

Question No. : 42

In order to repay his debt, A decides to try his luck at betting. He bets with B, C and D and doubles his money. He then repays a quarter of his loan and bets the remaining money. In all he bets four times, each time doubling his money and paying off a quarter of his debt. B loses half as much as D. C loses Rs. 7,000 more than $1/4^{th}$ the amount lost by D. C loses Rs. 22,000 less than the average amount lost by B, C, and D. In the end A is left with no money.

How much money does A win in round 2?

A) Rs. 42000 B) Rs. 45000 C) Rs. 84000 D) Rs. 51000

DIRECTIONS for the question: *Go through the following graph/information and answer the question that follows.*

Question No. : 43

In order to repay his debt, A decides to try his luck at betting. He bets with B, C and D and doubles his money. He then repays a quarter of his loan and bets the remaining money. In all he bets four times, each time doubling his money and paying off a quarter of his debt. B loses half as much as D. C loses Rs. 7,000 more than $1/4^{th}$ the amount lost by D. C loses Rs. 22,000 less than the average amount lost by B, C, and D. In the end A is left with no money.

How much money did A start with?

A) Rs. 42000 B) Rs. 45000 C) Rs. 48000 D) Rs. 51000

DIRECTIONS for the question: *Go through the following graph/information and answer the question that follows.*

Question No. : 44

In order to repay his debt, A decides to try his luck at betting. He bets with B, C and D and doubles his money. He then repays a quarter of his loan and bets the remaining money. In all he bets four times, each time doubling his money and paying off a quarter of his debt. B loses half as much as D. C loses Rs. 7,000 more than $1/4^{th}$ the amount lost by D. C loses Rs. 22,000 less than the average amount lost by B, C, and D. In the end A is left with no money.

What is A's debt?

A) Rs. 45000 B) Rs. 48000 C) Rs. 150000 D) Rs. 192000

DIRECTIONS for the question: *Go through the following graph/information and answer the question that follows.*

Question No. : 45

In order to repay his debt, A decides to try his luck at betting. He bets with B, C and D and doubles his money. He then repays a quarter of his loan and bets the remaining money. In all he bets four times, each time doubling his money and paying off a quarter of his debt. B loses half as much as D. C loses Rs. 7,000 more than $1/4^{th}$ the amount lost by D. C loses Rs. 22,000 less than the average amount lost by B, C, and D. In the end A is left with no money.

How much money does A win in the 4th round?

A) Rs. 24000 B) Rs. 48000 C) Rs. 55000 D) Rs. 96000

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

Question No. : 46

Four friends, Ali, Salu, Kadu and Madu, who could not get tickets to a football match decided to watch the match from the hills

surrounding the stadium. They carried a bottle of water with them. While climbing up the hill, they came across a rickety old bridge strong enough to hold at most two people at a time. Ali, Salu, Kadu and Madu can cross the bridge in 2 min, 3 min, 6 mins and 9 min respectively. Two people crossing the bridge together can move only as fast as the slower of the two and the bottle of water must be carried while crossing the bridge.

What is the minimum time taken to cross the bridge? (in min)

A) 20 B) C) D)

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

Question No. : 47

Four friends, Ali, Salu, Kadu and Madu, who could not get tickets to a football match decided to watch the match from the hills surrounding the stadium. They carried a bottle of water with them. While climbing up the hill, they came across a rickety old bridge strong enough to hold at most two people at a time. Ali, Salu, Kadu and Madu can cross the bridge in 2 min, 3 min, 6 mins and 9 min respectively. Two people crossing the bridge together can move only as fast as the slower of the two and the bottle of water must be carried while crossing the bridge.

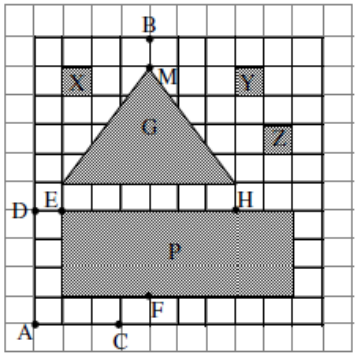
Who are the last two persons to cross the bridge?

A) Ali, Madu B) Kadu, Madu C) Ali, Salu D) Kadu, Salu

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

Question No. : 48

The following diagram shows a square area, 10 km - 10 km. The grid lines show a road network where the roads are spaced 1 km apart. The shaded region P is a pond that can be crossed by boat from and at only the three points shown. Roads around the pond cannot be walked upon. People can walk through as well as along the sides of the garden shown by the shaded region G. The paths around the shaded regions X, Y and Z cannot be walked upon; however the corners of each of these regions can be traversed.



What is the minimum distance that a person has to walk to reach point B from point A?

A) 11 km B) 12 km C) 16 km D) 14 km

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

Question No. : 49

If the paths along the sides of the garden cannot be walked upon, how many different paths of minimum length can a person take to travel from point A to point B?

A) less than 5 B) 5 C) 6 D) more than 6

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

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

Question No. : 50

If it cost Rs. 2.25, Rs. 3.25 and Rs. 2.00 respectively to travel 1 km by road, along the garden and by boat across the pond respectively, what is the minimum cost incurred in travelling from point A to point B?

A) Rs. 31.50 B) Rs. 32.00 C) Rs. 39.90 D) Rs. 24.23

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

Question No. : 51

In a college every student, except physically handicapped students, has to participate in at least one sport. There are 1200 students in the college, of which 40% are girls. The table below gives the number of boys and girls participating in a sport.

	Boys	**Girls**
Cricket	120	80
Football	240	100
Hockey	160	120
Chess	320	240
Volley Ball	100	50
Table tennis	200	60
Badminton	160	150

Cricket, Football, Hockey and Volley ball are outdoor games and rest are indoor games. 30 boys and 10 girls do not participate in any of the games.
Note:*One student can participate in at most one outdoor and one indoor game.*

How many boys participate in only one game? (in numerical value)

A) 80 B) C) D)

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

Question No. : 52

6 % of the girls participating in indoor games are physically handicapped. Also, the number of physically handicapped boys participating in indoor games is twice that of the physically handicapped girls participating in indoor games. If no physically handicapped person participates in outdoor games, then how many students are physically handicapped?

A) 121 B) C) D)

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

Question No. : 53

A chess tournament was organized and all students who participated in the college chess competition took part in it. It was arranged in the following pattern**:** Pairs of randomly selected players play against each other. The winners proceed to the next round. In case there are an odd number of players in a round, one player plays with one of the winners in the same round. Then depending on who wins either one (the earlier winner) or both proceed to the next round. There is no draw possible and the player winning a game gets one point. Then after how many rounds can we surely find out a winner? (in numerical value)

A) 10 B) C) D)

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

Question No. : 54

If only mixed doubles and doubles games are possible in badminton and every student who participated in badminton participated in at least one doubles game and one mixed doubles game, then what is the minimum number of students who formed more than two teams?(*Ignoring the note given in the information: for this question only)*

A) 1 B) C) D)

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

Question No. : 55

Each year, the Meteorological Department of Maharashtra predicts the rainfall for the coming year and compares it with the actual rainfall recorded during the year. The predicted rainfall in any year is calculated as:

$P_{n+1} = (1 + \alpha)A_n + P_n$, where,

P_{n+1} = predicted rainfall for the $(n + 1)^{th}$ year,

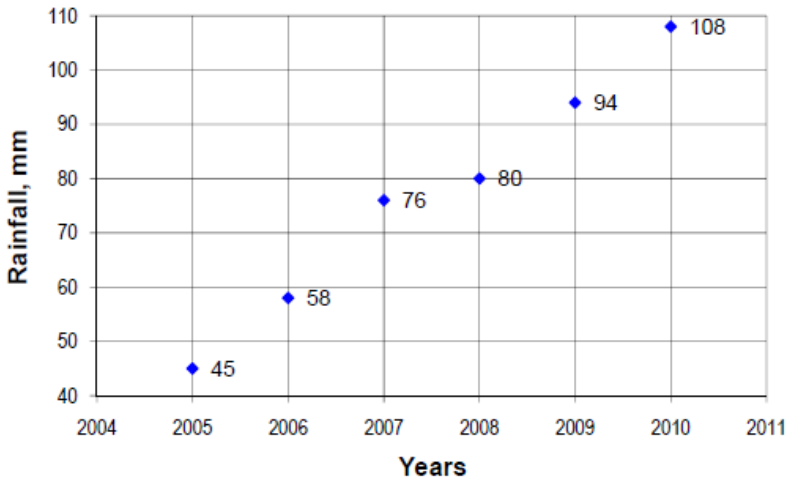
A_n = actual rainfall recorded during the n^{th} year,

P_n = predicted rainfall for the n^{th} year, and,

α = a constant term based on the quality of the n^{th} year as described below .

- If the actual rainfall recorded during any year is less than 50% of the predicted rainfall for that year, the year is described as a *Poor* year, and $\alpha = -0.6$.
- If the actual rainfall recorded during any year is 50% or more, but less than 90% of the predicted rainfall for that year, the year is described as an *Average* year, and $\alpha = -0.2$.
- If the actual rainfall recorded during any year is 90% or more, but not more than 100% of the predicted rainfall for that year, the year is described as a *Good* year, and $\alpha = 0.3$.
- If the actual rainfall recorded during any year is more than 100% of the predicted rainfall for that year, the year is described as an *Exceptional* year, and $\alpha = 0.1$.

The chart below shows the actual rainfall recorded in Maharashtra, in mm, during the years 2005 to 2010.



If the predicted rainfall for 2005 was 48 mm, what could the year 2007 be described as?

A) Poor B) Average C) Good D) Exceptional

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

Question No. : 56

If 2009 was described as a Good year, what could the year 2010 be described as?

A) Good B) Average C) Poor D) Cannot be determined

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

Question No. : 57

If 2008 was described as a *Good* year, what could have been the predicted rainfall for 2010?

A) 310 mm B) 240 mm C) 295 mm D) 215 mm

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

Question No. : 58

In a family with four generations, A is the oldest male with age 80 years. There are four married couples in the family and all husbands are 3 years older than their respective wives. In the family there are two brothers and two sisters and difference between the two brothers is 2 years and also the difference between the two sisters is 2 years. Q is R's sister-in-law and she has two girls. E is the mother of two sons and P is one of them. Q and S are daughters-in-law of D. Age of Q is 27 years. R is the younger grandson of C. D is 25 years older than his elder son. J and Z are granddaughters of E, sum of their ages is 8 and J is older.

What is the age of P's grandmother? (in years)

A) 77 B) C) D)

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

Question No. : 59

In a family with four generations, A is the oldest male with age 80 years. There are four married couples in the family and all husbands are 3 years older than their respective wives. In the family there are two brothers and two sisters and difference between the two brothers is 2 years and also the difference between the two sisters is 2 years. Q is R's sister-in-law and she has two girls. E is the mother of two sons and P is one of them. Q and S are daughters-in-law of D. Age of Q is 27 years. R is the younger grandson of C. D is 25 years older than his elder son. J and Z are granddaughters of E, sum of their ages is 8 and J is older.

What is the relationship between S and J?

A) Aunt – Niece B) Uncle – Niece C) Father – Daughter D) None of these

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

Question No. : 60

At the recent Cricket Premier League, four owners of teams, all males – Mukesh, Raj, Shashi and Vijay – and three of their wives – Neeta, Preeti and Shilpa – made speeches. Each of the wives made her speech immediately after her husband. The first two owners to speak were Vijay and Raj respectively.

Which of the following statements must be true?

A) In case the second speaker was a male, the seventh speaker was a female
B) In case the second speaker was a female, the seventh speaker was a male
C) In case the third speaker was a male, the seventh speaker was a female
D) In case the seventh speaker was a female, the first and third speakers were males

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

Question No. : 61

At the recent Cricket Premier League, four owners of teams, all males – Mukesh, Raj, Shashi and Vijay – and three of their wives – Neeta, Preeti and Shilpa – made speeches. Each of the wives made her speech immediately after her husband. The first two owners to speak were Vijay and Raj respectively.

If Preeti is the third wife to speak, and Shashi is the owner whose wife is not present, which of the following statements must be true?

A) Preeti spoke sometime before Shashi B) Mukesh spoke sometime before Raj C) Shilpa spoke sometime before Mukesh
D) Mukesh spoke sometime before Shashi

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

Question No. : 62

At the recent Cricket Premier League, four owners of teams, all males – Mukesh, Raj, Shashi and Vijay – and three of their wives – Neeta, Preeti and Shilpa – made speeches. Each of the wives made her speech immediately after her husband. The first two owners to speak were Vijay and Raj respectively.

The addition of which of the following statements to the original information would ensure that the only possible order of speakers is Vijay, Shilpa, Raj, Neeta, Shashi, Mukesh and Preeti?

A) The order of the first four speakers was Vijay, Shilpa, Raj and Neeta
B) Shilpa is Vijay's wife, Neeta is Raj's wife and Preeti is Mukesh's wife
C) The order in which the males spoke was Vijay, Raj, Shashi and Mukesh
D) Shilpa is Vijay's wife, Neeta is Raj's wife and Preeti was the second to speak after Shashi

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

Question No. : 63

5 friends - Prachi, Rupali, Sayali, Tanu and Roopam - are college students and share an apartment. Each one of them must take responsibility for one chore - sweeping, dusting, mopping, laundry and shopping - on any one day from Monday to Friday.

- Laundry must be done on Fridays so that the clothes would dry over the weekend.
- Dusting must happen before sweeping and sweeping must happen before mopping.
- Sayali is fond of shopping and agrees to shoulder the responsibility, but not on Mondays or Wednesdays as she has extra classes on these days.
- Roopam completes her chore on the day immediately after sweeping, but before the day that Rupali completes her chore.
- Tanu is free only on Tuesdays and agrees to take care of sweeping.

Which of the following is true?

A) Roopam completes her chore on Thursday B) Rupali agrees to take care of mopping
C) Sayali completes her chore on Tuesday D) Prachi agrees to take care of dusting

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

Question No. : 64

5 friends - Prachi, Rupali, Sayali, Tanu and Roopam - are college students and share an apartment. Each one of them must take responsibility for one chore - sweeping, dusting, mopping, laundry and shopping - on any one day from Monday to Friday.

- Laundry must be done on Fridays so that the clothes would dry over the weekend.
- Dusting must happen before sweeping and sweeping must happen before mopping.
- Sayali is fond of shopping and agrees to shoulder the responsibility, but not on Mondays or Wednesdays as she has extra

classes on these days.

- Roopam completes her chore on the day immediately after sweeping, but before the day that Rupali completes her chore.
- Tanu is free only on Tuesdays and agrees to take care of sweeping.

Which of the following *name – chore – day* matches is true?

A) Rupali – Dusting – Monday B) Prachi – Dusting – Thursday C) Roopam – Mopping – Wednesday
D) Sayali – Shopping – Tuesday

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

Question No. : 65

A factory uses 3 machines, M1, M2 and M3 to manufacture 3 products, X, Y and Z. Each of the machines is operated in a single shift of 12 hours each day. The table below indicates the time taken in minutes to manufcture one unit each of X, Y and Z on machines M1, M2 and M3 respectively. Irrespective of the machine on which it is manufactured, one unit each of X, Y and Z costs Rs. 8, Rs. 10 and Rs. 15 respectively and is sold for Rs. 12, Rs. 15 and Rs. 20 respectively.

	M1	M2	M3
X	15	28	24
Y	20	18	25
Z	35	24	30

On a particular day, the factory had an order of 50 units each of X and Z. What is the maximum number of units of Y that can be manufactured on that day?

A) 2 B) 0 C) 4 D) 1

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

Question No. : 66

On a particular day, the factory had an order of 100 units of X, 100 units of Y and 25 units of Z. Since the factory was forced to run a second shift of 12 hours, the manufacturing cost of each unit of X, Y and Z increased by 25%, 20% and 20% respectively. What is the profit earned from the sale of all the units of X, Y and Z manufactured on that day (in second shift)?

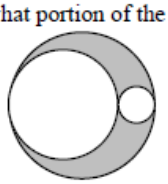
A) 1025 B) 550 C) 625 D) 525

Section : Quantitative Ability

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

Question No. : 67

The figure below shows three circles tangent to each other. If the diameter of the large un-shaded circle is 300% of the diameter of the small un-shaded circle, what portion of the sum of the areas of the three circles is shaded?



A) $\frac{3}{13}$ B) $\frac{4}{21}$ C) $\frac{9}{16}$ D) $\frac{3}{8}$

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

Question No. : 68

What is the value of $\frac{q-m}{p-k}$ if $(x+a)$ is the HCF of x^2+px+q and x^2+kx+m?

A) a B) $\frac{1}{a}$ C) a^2 D) $\frac{1}{a^2}$

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

Question No. : 69

135,000 Arabs were lined up to face 90,000 Spartans in battle. When the call for battle goes on, the Arabs and the Spartans fire arrows on each other. An observer of the battle realises that 1 out of every 3 arrows shot finds its mark. What is the absolute difference between the percentage of Arabs alive and the percentage of Spartans alive after two rounds of arrows have been fired?

A) 27.77 B) 55.55 C) 35.72 D) 0

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

Question No. : 70

A and C together can complete a piece of work in 12 days, which C and D together can complete in 24 days. If B and D work together, they can complete the same work in $15\ ^{5}/_{13}$ days. A worked at the job for 4 days, then D took over and worked at it for 12 days; C then took over and worked at it for 14 days before B completed the job in 5 days. How long will they take to complete the job if all four of them work together?

A) $14\ ^{6}/_{13}$ days B) $4\ ^{2}/_{7}$ days C) $2\ ^{17}/_{29}$ days D) $6\ ^{66}/_{89}$ days

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

Question No. : 71

Let a, b, and c be natural numbers such that a> b> c = 3 and abc = 3003. Let X and Y be the maximum and minimum values, respectively, of a + b + c, find X - Y. (in numerical value)

A) 108 B) C) D)

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

Question No. : 72

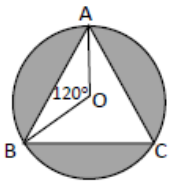
A shopkeeper bought 4 pens for Rs. 1250 each and sold them at an overall profit of 25%. If he sold two of the pens at a profit of 65% and a loss of 23% respectively, which of the following cannot be the percentage profit (%P) and / or percentage loss (%L) that the other two pens were sold for?

A) 80%P, 22%L B) 40%P, 18%P C) 54%P, 12%L D) 78%P, 20%L

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

Question No. : 73

In the figure below, O is the circum-centre of Δ ABC, such that ∠ AOB = 120°. If AC = BC and area of Δ AOB is $12\sqrt{3}$ cm^2, what is the area of the shaded region?



A) $36(3\pi - \sqrt{3})$ cm^2 B) $4(4\pi - 3\sqrt{3})$ cm^2 C) $12(\pi - \sqrt{3})$ cm^2 D) $12(4\pi - 3\sqrt{3})$ cm^2

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

Question No. : 74

Moody's, a modelling agency, was on the lookout for new models. It had called 150 candidates for the purpose of recruiting models who were tall, dark and handsome. The break-up of the candidates with different attributes in that group of 150 was:

- Tall and handsome but not dark = 9
- Dark and handsome but not tall = 12
- Tall or dark but not handsome = 107

Each candidate had at least one of the three attributes that the agency was looking for. The agency could find only one person who satisfied its criteria and so was considering relaxing the requirements a little. It was also found that, for any attribute, the number of candidates who had that attribute alone did not exceed one-third of the total number of candidates called.

What is the minimum number of candidates who had at least two of the three attributes? (in numerical value)

A) 29 B) C) D)

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

Question No. : 75

Moody's, a modelling agency, was on the lookout for new models. It had called 150 candidates for the purpose of recruiting models who were tall, dark and handsome. The break-up of the candidates with different attributes in that group of 150 was:

- Tall and handsome but not dark = 9
- Dark and handsome but not tall = 12
- Tall or dark but not handsome = 107

Each candidate had at least one of the three attributes that the agency was looking for. The agency could find only one person who satisfied its criteria and so was considering relaxing the requirements a little. It was also found that, for any attribute, the number of candidates who had that attribute alone did not exceed one-third of the total number of candidates called.

If the number of candidates who were dark is less than those who were tall, then at least how many candidates were dark as well as tall? (in numerical value)

A) 12 B) C) D)

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

Question No. : 76

Moody's, a modelling agency, was on the lookout for new models. It had called 150 candidates for the purpose of recruiting models who were tall, dark and handsome. The break-up of the candidates with different attributes in that group of 150 was:

- Tall and handsome but not dark = 9
- Dark and handsome but not tall = 12
- Tall or dark but not handsome = 107

Each candidate had at least one of the three attributes that the agency was looking for. The agency could find only one person who satisfied its criteria and so was considering relaxing the requirements a little. It was also found that, for any attribute, the number of candidates who had that attribute alone did not exceed one-third of the total number of candidates called.

If exactly half of the candidates who were tall were also dark and exactly half of the candidates who were dark were also tall, then how many candidates were only tall? (in numerical value)

A) 34 B) C) D)

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

Question No. : 77

Moody's, a modelling agency, was on the lookout for new models. It had called 150 candidates for the purpose of recruiting models who were tall, dark and handsome. The break-up of the candidates with different attributes in that group of 150 was:

- Tall and handsome but not dark = 9
- Dark and handsome but not tall = 12
- Tall or dark but not handsome = 107

Each candidate had at least one of the three attributes that the agency was looking for. The agency could find only one person who satisfied its criteria and so was considering relaxing the requirements a little. It was also found that, for any attribute, the number of candidates who had that attribute alone did not exceed one-third of the total number of candidates called.

If the number of candidates who were tall is twice the number who had at least two attributes, then at least how many candidates were only dark? (in numerical value)

A) 41 B) C) D)

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

Question No. : 78

In how many ways 2050 can be written as the sum of two or more consecutive positive integers? (in numerical value)

A) 5 B) C) D)

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

Question No. : 79

For what values of x is $3|x| - |x - 3| > 0$?

A) $x > 3$ B) $x > 0$ C) $x > {}^{3}/_{4}$ D) $x < {}^{3}/_{2}$

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

Question No. : 80

Six persons, A, B, C, D, E and F, have made it to the final round of a chess tournament. In the final round, each player plays against the other players only once and the player with the highest points in this round is declared the winner. In case of ties in the number of points, all the players tied for the highest points are declared winners of the tournament. A player gets 5 for a win, 3 points for a draw, and loses 2 points for a loss. The number of wins, draws and losses, in that order, for A, B, C and D are A(2, 2, 1), B(2, 1, 2), C(0, 4, 1) and D(1, 3, 1). Based on this information, what is the maximum number of winners the tournament could possibly have? (in numerical value)

A) 2 B) C) D)

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

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

Question No. : 81

The line joining the points A(2, 0) and B(4, 2) is rotated in the anti-clockwise direction about A through 15° to form the line AC. What is the area of Δ ABC?

A) 4 B) 1.03 C) 3.46 D) 0.58

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

Question No. : 82

There is a clock hanging on the wall. The reflection of the clock in a mirror shows exactly the same time as the clock. How many times does this happen in 6 days? (in numerical value)

A) 24 B) C) D)

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

Question No. : 83

Bhanwar's Restaurant buys equal quantities of milk from three milkmen – Gokudas, Shyamsunder and Kishenlal. The milk bought from these three milkmen contain water, such that the percentages of water form a geometric progression respectively. For making milkshakes, Bhanwar mixes the milk bought from the milkmen in the ratio 2 : 3 : 4 respectively, so that the mixture contains 52% water. For making faludas, Bhanwar mixes the milk bought from the milkmen in the ratio 6 : 5 : 4 respectively, so that the mixture contains 36% water.

What is the percentage of water in the total quantity of milk bought from the three milkmen?

A) 64% B) 42% C) 48% D) 56%

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

Question No. : 84

Bhanwar's Restaurant buys equal quantities of milk from three milkmen – Gokudas, Shyamsunder and Kishenlal. The milk bought from these three milkmen contain water, such that the percentages of water form a geometric progression respectively. For making milkshakes, Bhanwar mixes the milk bought from the milkmen in the ratio 2 : 3 : 4 respectively, so that the mixture contains 52% water. For making faludas, Bhanwar mixes the milk bought from the milkmen in the ratio 6 : 5 : 4 respectively, so that the mixture contains 36% water.

For making kulfi, Bhanwar mixed the milk bought from the milkmen in the ratio 3 : 2 : 1 respectively. What was the percentage of pure milk in the mixture?

A) 27% B) 36% C) 73% D) 48%

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

Question No. : 85

3 circles with centres A, B and C and radii R_1, R_2 and R_3 respectively are tangent to each other. If the in-radius of "ABC is 4", what is the ratio of the product of the radii to the sum of the radii?

A) 4 : 1 B) 16 : 1 C) 8 : 3 D) Cannot be determined

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

Question No. : 86

A man takes 80 days to circumnavigate the globe along the equator. He can carry food only enough for 60 days. His servant, also carrying enough food for 60 days, accompanies him for part of the journey. When the servant turns back, he transfers part of the food to the man. If the man and his servant completed their respective journeys, for how many days did the servant accompany the man? (in numerical value)

A) 20 B) C) D)

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

Question No. : 87

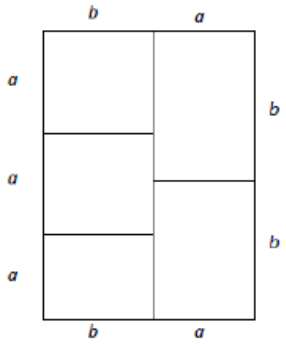
A grasshopper hops 1 meter in four directions – north, south, east and west – and leaves a blot wherever it lands, and returns to the original position before hopping again. In the first stage, the grasshopper starts from a point S and hops in all four directions. In the second stage, the grasshopper uses the previous blots as starting points and hops in all four directions. In the third stage, the grasshopper uses the new blots left in the second stage as starting points and hops in all four directions. If the grasshopper continues this pattern of hopping from new starting points and leaving blots where ever it lands, which of the following cannot be the total number of distinct blots, other than S, left by the grass hopper after any stage?

A) 112 B) 312 C) 480 D) 860

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

Question No. : 88

My house is in the shape of a rectangle with a perimeter of 88m and has 5 rooms which are also by chance congruent rectangles (as shown in the diagram). What is the perimeter of each of the rooms? (in meter)



A) 40 B) C) D)

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

Question No. : 89

If s is the semi-perimeter of triangle ABC with sides a, b and c, what is the value of $(s-a)^3 + (s-b)^3 + 3c(s-a)(s-b)$?

A) a^3 B) b^3 C) abc D) c^3

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

Question No. : 90

N is a three-digit natural number formed by using the digits from 1 to 9 such that the ten's place of N is a perfect square. What is the sum of all possible values of N? (in numerical value)

A) 134055 B) C) D)

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

Question No. : 91

Which of the following equations represents the reflection of the graph $2x - y + 4 = 0$ about the y-axis?

A) $2x - y - 4 = 0$ B) $2x + y - 4 = 0$ C) $4x - y - 2 = 0$ D) None of these

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

Question No. : 92

What is the value of the infinite series $S = \frac{2}{5} + \frac{6}{25} + \frac{12}{125} + \frac{20}{625} + \frac{30}{3125} + \ldots$?

1. $\frac{13}{16}$
2. $\frac{4}{5}$
3. $\frac{25}{32}$
4. $\frac{39}{50}$

(write the answer key)

A) 3 B) C) D)

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

Question No. : 93

What values of x will satisfy the inequality $x^2 - 18x - 646 > 2$?

A) $x < -24$, $x > 27$ B) $x < -18$, $x > 36$ C) $-15 < x < 24$ D) $-36 < x < 18$

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

Question No. : 94

A projectile is fired upwards from an initial height of 10 m at time $t = 0$. Its height after t seconds is defined by the function $h(t) = p - 10(q - t)^2$, where, p and q are positive constants. If the projectile attains its maximum height of 100 m after 3 seconds, what is its height after 4 seconds? (in m)

A) 90 B) C) D)

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

Question No. : 95

If k and n are positive integers such that k is odd and $n \geq 1$, then $1^k + 2^k + 3^k + \text{---} + n^k$ is divisible by

1. $n(n + 1)$

2. $n(n + 1)/2$
3. $n(n + 1)(2n + 1)/6$
4. $n(n + 1)(n + 2)/6$

(write the ans key)

A) 2 B) C) D)

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

Question No. : 96

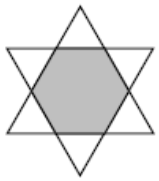
Ramlal was towing a rubber dinghy by motorboat from town A to town B, located *x* km upstream. At the half way mark, the tow line snapped and the dinghy started drifting downstream. Ramlal realised this when he reached town B. He immediately turned back and travelling at 125% of his former speed, caught up with the dinghy 10 km before town A. The motorboat's speed in still water was what percent greater than the speed of the stream?

A) 800% B) 500% C) 900% D) Cannot be determined

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

Question No. : 97

The figure below shows a six-pointed star formed by placing two equilateral triangles symmetrically one over the other. If the sides of the triangles are 21 cm each, what is the ratio of the numerical value of the area of the shaded region to the numerical value of the perimeter of the six-pointed star?



A) 3 : 2 B) $7\sqrt{3} : 8$ C) $1 : 4\sqrt{3}$ D) 1 : 1

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

Question No. : 98

What is the sum up to *n* terms of the series $\frac{43}{8}, \frac{137}{16}, \frac{379}{32}, \frac{977}{64}, \frac{2419}{128}, \frac{5849}{256}, \ldots..?$

A) $\frac{3^n - 1}{2^n} + \frac{3n^2 + 7n}{2}$ B) $\frac{3}{8} \times \frac{3^n - 1}{2^n} + \frac{n(3n+7)}{2}$ C) $\frac{3^n - 1}{2^{n+3}}$ D) $\frac{3^{n+1} - 3.2^n}{2^{n+2}} + \frac{n(3n+7)}{2}$

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

Question No. : 99

Δ ABC is a right angled triangle of area 20. If the legs of the right angle are *x* and *y* and the hypotenuse is 10, what is the value of $(x + y)^2$? (in numerical value)

A) 180 B) C) D)

DIRECTIONS for the question: *Mark the best option:*
Question No. : 100

How many integers between 100 and 10,000 contain exactly two 9s?

A) 434 B) 485 C) 459 D) 405