

CAT 2018 Question Paper with Solution Slot 2 VARC

Direction (Q1-5): The passage given below is accompanied by a set of five questions. Choose the best answer to each question.

The complexity of modern problems often precludes any one person from fully understanding them. Factors contributing to rising obesity levels, for example, include transportation systems and infrastructure, media, convenience foods, changing social norms, human biology and psychological factors. . . . The multidimensional or layered character of complex problems also undermines the principle of meritocracy: the idea that the 'best person' should be hired. There is no best person. When putting together an oncological research team, a biotech company such as Gilead or Genentech would not construct a multiple-choice test and hire the top scorers, or hire people whose resumes score highest according to some performance criteria. Instead, they would seek diversity. They would build a team of people who bring diverse knowledge bases, tools and analytic skills. . . .

Believers in a meritocracy might grant that teams ought to be diverse but then argue that meritocratic principles should apply within each category. Thus the team should consist of the 'best' mathematicians, the 'best' oncologists, and the 'best' biostatisticians from within the pool. That position suffers from a similar flaw. Even with a knowledge domain, no test or criteria applied to individuals will produce the best team. Each of these domains possesses such depth and breadth, that no test can exist. Consider the field of neuroscience. Upwards of 50,000 papers were published last year covering various techniques, domains of enquiry and levels of analysis, ranging from molecules and synapses up through networks of neurons. Given that complexity, any attempt to rank a collection of neuroscientists from best to worst, as if they were competitors in the 50-metre butterfly, must fail. What could be true is that given a specific task and the composition of a particular team, one scientist would be more likely to contribute than another. Optimal hiring depends on context. Optimal teams will be diverse.

Evidence for this claim can be seen in the way that papers and patents that combine diverse ideas tend to rank as high-impact. It can also be found in the structure of the so-called random decision forest, a state-of-the-art machine-learning algorithm. Random forests consist of ensembles of decision trees. If classifying pictures, each tree makes a vote: is that a picture of a fox or a dog? A weighted majority rules. Random forests can serve many ends. They can identify bank fraud and diseases, recommend ceiling fans and predict online dating behaviour. When building a forest, you do not select the best trees as they tend to make similar classifications. You want diversity. Programmers achieve that diversity by training each tree on different data, a technique known as bagging. They also boost the forest 'cognitively' by training trees on the hardest cases – those that the current forest gets wrong. This ensures even more diversity and accurate forests.

Yet the fallacy of meritocracy persists. Corporations, non-profits, governments, universities and even preschools test, score and hire the 'best'. This all but

guarantees not creating the best team. Ranking people by common criteria produces homogeneity. . . . That's not likely to lead to breakthroughs.

1. Which of the following conditions, if true, would invalidate the passage's main argument?

- A. If top scorers possessed multidisciplinary knowledge that enabled them to look at a problem from several perspectives
- B. If assessment tests were made more extensive and rigorous
- C. If it were proven that teams characterised by diversity end up being conflicted about problems and take a long time to arrive at a solution
- D. If a new machine-learning algorithm were developed that proved to be more effective than the random decision forest

Answer: A

Solution:

We need to understand the main idea of the passage. The author's main idea is that diversity is important and homogeneity should be avoided. Also, he is against meritocracy and believes that 'Yet the fallacy of meritocracy persists. Corporations, non-profits, governments, universities and even preschools test, score and hire the "best". This all but guarantees not creating the best team. Ranking people by common criteria produces homogeneity.' Option A would weaken his argument because if it were true, it would actually establish a positive relationship between homogeneity and meritocracy.

Thus, options B, C, and D are eliminated since they do not conform to the explanation given above.

Hence, the correct answer is option A.

2. The author critiques meritocracy for all the following reasons EXCEPT that:

- A. an ideal team comprises the best individuals from diverse fields of knowledge.
- B. modern problems are multifaceted and require varied skill sets to be solved.
- C. criteria designed to assess merit are insufficient to test expertise in any field of knowledge.
- D. diversity and context-specificity are important for making major advances in any field.

Answer: A

Solution:

Option A is straight away the answer because 'Ideal Team' has not even been discussed in the passage.

Option B is upheld by the following extract, 'The multidimensional or layered character of complex problems also undermines the principle of meritocracy.'

Option C is supported by the following extract, 'Even with a knowledge domain, no test or criteria applied to individuals will produce the best team.'

Option D can be inferred from the following extract, 'Believers in a meritocracy might grant that teams ought to be diverse but then argue that meritocratic principles should apply within each category.'

Hence, the correct answer is option A.

3. Which of the following conditions would weaken the efficacy of a random decision forest?

- A. If a large number of decision trees in the ensemble were trained on data derived from easy cases
- B. If the types of decision trees in each ensemble of the forest were doubled
- C. If a large number of decision trees in the ensemble were trained on data derived from easy and hard cases
- D. If the types of ensembles of decision trees in the forest were doubled

Answer: A

Solution:

Refer to the relevant extract, 'Programmers achieve that diversity by training each tree on different data, a technique known as bagging. They also boost the forest "cognitively" by training trees on the hardest cases – those that the current forest gets wrong. This ensures even more diversity and accurate forests.' Option A weakens this argument. The efficacy of the random decision forest is weakened if a large number of decision trees in the ensemble were trained on data derived from easy cases.

Options B, C, and D do not logically conform to the above explanation and can thus be eliminated.

Hence, the correct answer is option A.

4. On the basis of the passage, which of the following teams is likely to be most effective in solving the problem of rising obesity levels?

- A. A team of nutritionists, psychologists, urban planners, and media personnel, who have each scored a distinction in their respective subject tests
- B. A team of nutritionists, psychologists, urban planners, and media personnel, who have each performed well in their respective subject tests
- C. A specialised team of nutritionists from various countries, who are also trained in the machine-learning algorithm of random decision forest
- D. A specialised team of top nutritionists from various countries, who also possess some knowledge of psychology

Answer: B

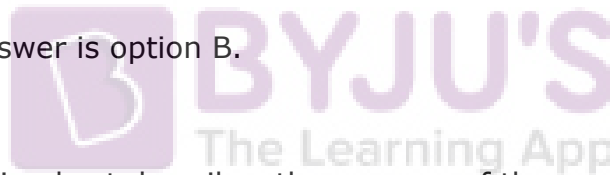
Solution:

The author vouches for diversity and also believes that no test can be designed to judge who is the 'Best'. The idea of 'distinction' in option A runs contrary to this argument. Eliminate option A.

Option B fits the bill as scoring 'well' in the test reflects a good knowledge of subject matter. Also, it combines 'scoring well' with 'diversity'. Thus, option B is the correct answer.

Option C and D fail to mention diversity. Thus, they are eliminated.

Hence, the correct answer is option B.



5. Which of the following best describes the purpose of the example of neuroscience?

- A. Unlike other fields of knowledge, neuroscience is an exceptionally complex field, making a meaningful assessment of neuroscientists impossible.
- B. In narrow fields of knowledge, a meaningful assessment of expertise has always been possible.
- C. Neuroscience is an advanced field of science because of its connections with other branches of science like oncology and biostatistics.
- D. In the modern age, every field of knowledge is so vast that a meaningful assessment of merit is impossible.

Answer: D

Solution:

Refer to the relevant extracts, 'Consider the field of neuroscience. Upwards of 50,000 papers were published last year covering various techniques, domains of enquiry and levels of analysis, ranging from molecules and synapses up through networks of neurons. Given that complexity, any attempt to rank a collection of neuroscientists from best to worst, as if they were competitors in the 50-metre butterfly, must fail.' 'Even with a knowledge domain, no test or criteria applied to

individuals will produce the best team. Each of these domains possesses such depth and breadth, that no test can exist.' Therefore, the author gives the example of 'Neuroscience' to explain the fact that each field is now so vast that a meaningful assessment of merit is impossible. Therefore, option D is the correct answer.

Option A is incorrect. The author implies that all fields are now vast and complex.

Option B mentions 'narrow field' which neuroscience is not.

Option C is not the reason for giving the example of neuroscience. The question is not 'advanced field' but vastness and complexity.

Hence, the correct answer is option D.

###TOPIC###Verbal||Reading Comprehension||Reading Comprehension###

Extra Tag: Byju's

Extra Tag: CAT 2018 Slot 2

Direction (Q6-9): The passage given below is accompanied by a set of four questions. Choose the best answer to each question.

Grove snails as a whole are distributed all over Europe, but a specific variety of the snail, with a distinctive white-lipped shell, is found exclusively in Ireland and in the Pyrenees mountains that lie on the border between France and Spain. The researchers sampled a total of 423 snail specimens from 36 sites distributed across Europe, with an emphasis on gathering large numbers of the white-lipped variety. When they sequenced genes from the mitochondrial DNA of each of these snails and used algorithms to analyze the genetic diversity between them, they found that . . . a distinct lineage (the snails with the white-lipped shells) was indeed endemic to the two very specific and distant places in question.

Explaining this is tricky. Previously, some had speculated that the strange distributions of creatures such as the white-lipped grove snails could be explained by convergent evolution—in which two populations evolve the same trait by coincidence—but the underlying genetic similarities between the two groups rules that out. Alternatively, some scientists had suggested that the white-lipped variety had simply spread over the whole continent, then been wiped out everywhere besides Ireland and the Pyrenees, but the researchers say their sampling and subsequent DNA analysis eliminate that possibility too. "If the snails naturally colonized Ireland, you would expect to find some of the same genetic type in other areas of Europe, especially Britain. We just don't find them," Davidson, the lead author, said in a press statement.

Moreover, if they'd gradually spread across the continent, there would be some genetic variation within the white-lipped type, because evolution would introduce variety over the thousands of years it would have taken them to spread from the

Pyrenees to Ireland. That variation doesn't exist, at least in the genes sampled. This means that rather than the organism gradually expanding its range, large populations instead were somehow moved en masse to the other location within the space of a few dozen generations, ensuring a lack of genetic variety.

"There is a very clear pattern, which is difficult to explain except by involving humans," Davidson said. Humans, after all, colonized Ireland roughly 9,000 years ago, and the oldest fossil evidence of grove snails in Ireland dates to roughly the same era. Additionally, there is archaeological evidence of early sea trade between the ancient peoples of Spain and Ireland via the Atlantic and even evidence that humans routinely ate these types of snails before the advent of agriculture, as their burnt shells have been found in Stone Age trash heaps.

The simplest explanation, then? Boats. These snails may have inadvertently traveled on the floor of the small, coast-hugging skiffs these early humans used for travel, or they may have been intentionally carried to Ireland by the seafarers as a food source. "The highways of the past were rivers and the ocean—as the river that flanks the Pyrenees was an ancient trade route to the Atlantic, what we're actually seeing might be the long lasting legacy of snails that hitched a ride...as humans travelled from the South of France to Ireland 8,000 years ago," Davidson said.

6. All of the following evidence supports the passage's explanation of sea travel/trade EXCEPT:
- A. archaeological evidence of early sea trade between the ancient peoples of Spain and Ireland via the Atlantic Ocean.
 - B. the oldest fossil evidence of white-lipped grove snails in Ireland dates back to roughly 9,000 years ago, the time when humans colonised Ireland.
 - C. absence of genetic variation within the white-lipped grove snails of Ireland and the Pyrenees, whose genes were sampled.
 - D. the coincidental existence of similar traits in the white-lipped grove snails of Ireland and the Pyrenees because of convergent evolution.

Answer: D

Solution:

The author's main argument is the fact that since the white-lipped snails are found in both Ireland and Pyrenees only, the only thing which explains this phenomenon is the possibility of humans indulging in frequent travels between the two places. Option D attacks this very premise by saying that 'the coincidental existence of similar traits in the white-lipped grove snails of Ireland and the Pyrenees is because of convergent evolution.' Therefore, option D is the correct answer.

Options A, B, and C support the passage's assertions about the white-lipped grove snails. They are thus eliminated.

Hence, the correct answer is option D.

7. In paragraph 4, the evidence that 'humans routinely ate these types of snails before the advent of agriculture' can be used to conclude that:

- A. 9,000 years ago, during the Stone Age, humans travelled from the south of France to Ireland via the Atlantic Ocean.
- B. white-lipped grove snails may have inadvertently travelled from the Pyrenees to Ireland on the floor of the small, coast-hugging skiffs that early seafarers used for travel.
- C. the seafarers who travelled from the Pyrenees to Ireland might have carried white-lipped grove snails with them as edibles.
- D. rivers and oceans in the Stone Age facilitated trade in white-lipped grove snails.

Answer: C

Solution:

Refer to the relevant extract, "These snails may have inadvertently travelled on the floor of the small, coast-hugging skiffs these early humans used for travel, or they may have been intentionally carried to Ireland by the seafarers as a food source." With reference to these lines, option C is the clear answer.

Options A, B, and D do not mention that humans considered the snails to be edible. They can thus be eliminated.

Hence, the correct answer is option C.

8. Which one of the following makes the author eliminate convergent evolution as a probable explanation for why white-lipped grove snails are found in Ireland and the Pyrenees?

- A. The absence of genetic similarities between white-lipped grove snails of Ireland and snails from other parts of Europe, especially Britain
- B. The distinct lineage of white-lipped grove snails found specifically in Ireland and the Pyrenees
- C. The absence of genetic variation between white-lipped grove snails of Ireland and the Pyrenees
- D. The coincidental evolution of similar traits (white-lipped shell) in the grove snails of Ireland and the Pyrenees

Answer: C

Solution:

Refer to the relevant extract, 'Previously, some had speculated that the strange distributions of creatures such as the white-lipped grove snails could be explained

by convergent evolution—in which two populations evolve the same trait by coincidence—but the underlying genetic similarities between the two groups rules that out.’ Therefore, the reason that makes the author eliminate ‘convergent evolution’ is the presence of ‘genetic similarities’ or the ‘absence of genetic variation’. Thus, option C is the correct answer.

Option A with ‘the absence of genetic similarities’ contradicts the passage.

Option B talks about ‘lineage’—something that has not been discussed in the passage.

Option D talks about another type of evolution, which is, coincidental evolution and not convergent evolution.

Hence, the correct answer is option C.

9. The passage outlines several hypotheses and evidence related to white-lipped grove snails to arrive at the most convincing explanation for:

A. how the white-lipped variety of grove snails independently evolved in Ireland and the Pyrenees.

B. how the white-lipped variety of grove snails might have migrated from the Pyrenees to Ireland.

C. why the white-lipped variety of grove snails are found only in Ireland and the Pyrenees.

D. why the white-lipped variety of grove snails were wiped out everywhere except in Ireland and the Pyrenees.

Answer: C

Solution:

Option A is a subsidiary hypothesis of the main idea, which is, as to why the white-lipped variety of grove snails are found only in Ireland and the Pyrenees.

Option B is not ‘the main idea’ which is the reason as to why the white-lipped variety of grove snails are found only in Ireland and the Pyrenees. Rather, option B is a subsidiary hypothesis of the main hypothesis.

Option C is the correct answer. The central idea or the central question the passage seeks to answer is ‘why the white-lipped variety of grove snails are found only in Ireland and the Pyrenees.’

Option D has been negated by the passage.

Hence, the correct answer is option C.

###TOPIC###Verbal||Reading Comprehension||Reading Comprehension###

Extra Tag: Byju's
Extra Tag: CAT 2018 Slot 2

Direction (Q10-14): The passage given below is accompanied by a set of five questions. Choose the best answer to each question.

More and more companies, government agencies, educational institutions and philanthropic organisations are today in the grip of a new phenomenon: 'metric fixation'. The key components of metric fixation are the belief that it is possible – and desirable – to replace professional judgment (acquired through personal experience and talent) with numerical indicators of comparative performance based upon standardised data (metrics); and that the best way to motivate people within these organisations is by attaching rewards and penalties to their measured performance.

The rewards can be monetary, in the form of pay for performance, say, or reputational, in the form of college rankings, hospital ratings, surgical report cards and so on. But the most dramatic negative effect of metric fixation is its propensity to incentivise gaming: that is, encouraging professionals to maximise the metrics in ways that are at odds with the larger purpose of the organisation. If the rate of major crimes in a district becomes the metric according to which police officers are promoted, then some officers will respond by simply not recording crimes or downgrading them from major offences to misdemeanours. Or take the case of surgeons. When the metrics of success and failure are made public – affecting their reputation and income – some surgeons will improve their metric scores by refusing to operate on patients with more complex problems, whose surgical outcomes are more likely to be negative. Who suffers? The patients who don't get operated upon.

When reward is tied to measured performance, metric fixation invites just this sort of gaming. But metric fixation also leads to a variety of more subtle unintended negative consequences. These include goal displacement, which comes in many varieties: when performance is judged by a few measures, and the stakes are high (keeping one's job, getting a pay rise or raising the stock price at the time that stock options are vested), people focus on satisfying those measures – often at the expense of other, more important organisational goals that are not measured. The best-known example is 'teaching to the test', a widespread phenomenon that has distorted primary and secondary education in the United States since the adoption of the No Child Left Behind Act of 2001.

Short-termism is another negative. Measured performance encourages what the US sociologist Robert K Merton in 1936 called 'the imperious immediacy of interests ... where the actor's paramount concern with the foreseen immediate consequences excludes consideration of further or other consequences'. In short, advancing short-term goals at the expense of long-range considerations. This problem is endemic to publicly traded corporations that sacrifice long-term research and

development, and the development of their staff, to the perceived imperatives of the quarterly report.

To the debit side of the ledger must also be added the transactional costs of metrics: the expenditure of employee time by those tasked with compiling and processing the metrics in the first place – not to mention the time required to actually read them. . . .

10. What main point does the author want to convey through the examples of the police officer and the surgeon?

- A. Some professionals are likely to be significantly influenced by the design of performance measurement systems.
- B. Metrics-linked rewards may encourage unethical behaviour among some professionals.
- C. The actions of police officers and surgeons have a significant impact on society.
- D. Critical public roles should not be evaluated on metrics-based performance measures.

Answer: B

Solution:

Refer to the relevant extracts on police officers and surgeons, 'But the most dramatic negative effect of metric fixation is its propensity to incentivise gaming: that is, encouraging professionals to maximise the metrics in ways that are at odds with the larger purpose of the organisation' and 'If the rate of major crimes in a district becomes the metric according to which police officers are promoted, then some officers will respond by simply not recording crimes or downgrading them from major offences to misdemeanours. Or take the case of surgeons. When the metrics of success and failure are made public – affecting their reputation and income – some surgeons will improve their metric scores by refusing to operate on patients with more complex problems.' From these extracts, we see that option B is the correct answer since unethical behaviour is involved in both the cases.

Option A has not been mentioned in the passage.

Option C is true but is not the main point of the passage with regard to the examples of the police officer and the surgeon.

Option D is incorrect. No role in the passage has been labelled a 'critical public role'.

Hence, the correct answer is option B.

11. Which of the following is NOT a consequence of the 'metric fixation' phenomenon mentioned in the passage?

- A. Improving cooperation among employees leading to increased organisational effectiveness in the long run
- B. Short-term orientation induced by frequent measurement of performance
- C. Finding a way to show better results without actually improving performance
- D. Deviating from organisationally important objectives to measurable yet less important objectives

Answer: A

Solution:

Options B and D can be verified from the following extract, 'In short, advancing short-term goals at the expense of long-range considerations. This problem is endemic to publicly traded corporations that sacrifice long-term research and development, and the development of their staff, to the perceived imperatives of the quarterly report.'

Option C can be verified from the following extract, 'But the most dramatic negative effect of metric fixation is its propensity to incentivise gaming: that is, encouraging professionals to maximise the metrics in ways that are at odds with the larger purpose of the organisation.' Option A has not been stated in the passage. Secondly, it does not mention any form of metrics.

Hence, the correct answer is option A.

12. Of the following, which would have added the least depth to the author's argument?

- A. An analysis of the reasons why metrics fixation is becoming popular despite its drawbacks
- B. More real-life illustrations of the consequences of employees and professionals gaming metrics-based performance measurement systems
- C. A comparative case study of metrics- and non-metrics-based evaluation, and its impact on the main goals of an organisation
- D. Assessment of the pros and cons of a professional judgment-based evaluation system

Answer: B

Solution:

Option B doesn't give a new dimension to the author's argument as he has already cited several real-life illustrations of the consequences of employees and professionals gaming metrics-based performance measurement systems. Thus, option B is the correct answer.

Options A, C, and D are relevant and will add depth to the author's arguments about the metrics system. Thus, they are eliminated.

Hence, the correct answer is option B.

13. All of the following can be a possible feature of the No Child Left Behind Act of 2001 EXCEPT:

- A. that standardised test scores can be critical in determining a student's educational future.
- B. that the focus is more on test-taking skills than on higher order thinking and problem-solving.
- C. that school funding and sanctions are tied to yearly improvement shown on tests.
- D. that assessment is dependent on the teacher's subjective evaluation of students' class participation.

Answer: D

Solution:

We have to choose an answer which doesn't make use of a metric-based criterion.

Option D does not make use of a metric-based criterion and is the correct answer. 'Subjective Evaluation' means the professional judgement of the teacher and this cannot be the core idea of a metric-based assessment. Options A, B, and C all have the features of the metric-based assessment and hence can be eliminated.

Hence, the correct answer is option D.

14. What is the main idea that the author is trying to highlight in the passage?

- A. All kinds of organisations are now relying on metrics to measure performance and to give rewards and punishments.
- B. Long-term organisational goals should not be ignored for short-term measures of organisational success.
- C. Performance measurement needs to be precise and cost-effective to be useful for evaluating organisational performance.
- D. Evaluating performance by using measurable performance metrics may misguide organisational goal achievement.

Answer: D

Solution:

Option A may be true but it is not the core idea of the passage.

Option B is also true but is also not the main idea. Secondly, it fails to make a mention of any 'metric-based' system.

'Cost-effective' in option C is out of the scope of this passage.

Option D is the correct answer. The main idea of the passage is that the metric-based assessment that relies on measurable performance may misguide an organization's goals.

Hence, the correct answer is option D.

###TOPIC###Verbal||Reading Comprehension||Reading Comprehension###
Extra Tag: Byju's
Extra Tag: CAT 2018 Slot 2

Direction (Q15-19): The passage given below is accompanied by a set of five questions. Choose the best answer to each question.

NOT everything looks lovelier the longer and closer its inspection. But Saturn does. It is gorgeous through Earthly telescopes. However, the 13 years of close observation provided by Cassini, an American spacecraft, showed the planet, its moons and its remarkable rings off better and better, revealing finer structures, striking novelties and greater drama. . . .

By and large the big things in the solar system—planets and moons—are thought of as having been around since the beginning. The suggestion that rings and moons are new is, though, made even more interesting by the fact that one of those moons, Enceladus, is widely considered the most promising site in the solar system on which to look for alien life. If Enceladus is both young and bears life, that life must have come into being quickly. This is also believed to have been the case on Earth. Were it true on Enceladus, that would encourage the idea that life evolves easily when conditions are right.

One reason for thinking Saturn's rings are young is that they are bright. The solar system is suffused with comet dust, and comet dust is dark. Leaving Saturn's ring system (which Cassini has shown to be more than 90% water ice) out in such a mist is like leaving laundry hanging on a line downwind from a smokestack: it will get dirty. The lighter the rings are, the faster this will happen, for the less mass they contain, the less celestial pollution they can absorb before they start to discolour. . . . Jeff Cuzzi, a scientist at America's space agency, NASA, who helped run Cassini, told the Lunar and Planetary Science Conference in Houston that combining the mass estimates with Cassini's measurements of the density of comet-dust near Saturn suggests the rings are no older than the first dinosaurs, nor younger than the last of them—that is, they are somewhere between 200m and 70m years old.

That timing fits well with a theory put forward in 2016, by Matija Cuk of the SETI Institute, in California and his colleagues. They suggest that at around the same time as the rings came into being an old set of moons orbiting Saturn destroyed themselves, and from their remains emerged not only the rings but also the

planet's current suite of inner moons—Rhea, Dione, Tethys, Enceladus and Mimas. . .

Dr Cuk and his colleagues used computer simulations of Saturn's moons' orbits as a sort of time machine. Looking at the rate at which tidal friction is causing these orbits to lengthen they extrapolated backwards to find out what those orbits would have looked like in the past. They discovered that about 100m years ago the orbits of two of them, Tethys and Dione, would have interacted in a way that left the planes in which they orbit markedly tilted. But their orbits are untilted. The obvious, if unsettling, conclusion was that this interaction never happened—and thus that at the time when it should have happened, Dione and Tethys were simply not there. They must have come into being later. . . .

15. Data provided by Cassini challenged the assumption that:

- A. Saturn's ring system is composed mostly of water ice.
- B. there was life on earth when Saturn's rings were being formed.
- C. new celestial bodies can form from the destruction of old celestial bodies.
- D. all big things in the solar system have been around since the beginning.

Answer: D

Solution:

Refer to the following lines of the second passage.

'By and large the big things in the solar system—planets and moons—are thought of as having been around since the beginning. The suggestion that rings and moons are new is, though, made even more interesting by the fact that one of those moons, Enceladus, is widely considered the most promising site in the solar system on which to look for alien life.' The very first sentences of the passage lay down the assumption that things in the universe are believed to be there right from the beginning and in the remaining parts of the passage, Cassini strives to break this myth. Thus, option D is the correct answer.

Options A, B, and C have been mentioned in the passage but they are not assumptions that Cassini's data has challenged. They can thus be eliminated.

Hence, the correct answer is option D.

16. The main objective of the passage is to:

- A. establish that Saturn's rings and inner moons have been around since the beginning of time.
- B. demonstrate how the orbital patterns of Saturn's rings and moons change over time.

- C. highlight the beauty, finer structures, and celestial drama of Saturn's rings and moons.
- D. provide evidence that Saturn's rings and moons are recent creations.

Answer: D

Solution:

Refer to the following extract, 'By and large the big things in the solar system—planets and moons—are thought of as having been around since the beginning. The suggestion that rings and moons are new is, though, made even more interesting by the fact that one of those moons, Enceladus, is widely considered the most promising site in the solar system on which to look for alien life.' Clearly, the main objective of the passage is to provide evidence that Saturn's rings and moons are recent creations. Thus, option D is the correct answer.

Option A runs contrary to what the author has stated.

Options B and C are only small parts of the passage. The bulk of the passage consists of finding evidence that Saturn's rings and moons are recent creations.

Hence, the correct answer is option D.

17. Based on information provided in the passage, we can infer that, in addition to water ice, Saturn's rings might also have small amounts of:

- A. methane and rock particles.
- B. helium and methane.
- C. helium and comet dust.
- D. rock particles and comet dust.

Answer: D

Solution:

Refer to the following extract, 'The solar system is suffused with comet dust, and comet dust is dark. Leaving Saturn's ring system (which Cassini has shown to be more than 90% water ice) out in such a mist is like leaving laundry hanging on a line downwind from a smokestack: it will get dirty. The lighter the rings are, the faster this will happen.' So from here, it is clear that Saturn's rings would have a small amount of comet dust.

Furthermore, refer the following lines: 'They suggest that at around the same time as the rings came into being an old set of moons orbiting Saturn destroyed themselves, and from their remains emerged not only the rings but also the planet's current suite of inner moons—Rhea, Dione, Tethys, Enceladus and Mimas. . . .' Since the rings came into being after an old set of moons destroyed themselves, a very educated guess is that those moons would have been composed mainly of

rock. Thus, we can say that Saturn's rings might also have small amounts of rock particles. Therefore, option D is the correct answer.

Options A and B do not mention comet dust and can be eliminated.

Option C does not mention rock particles and it too can be eliminated.

Hence, the correct answer is option D.

18. The phrase 'leaving laundry hanging on a line downwind from a smokestack' is used to explain how the ringed planet's:

- A. atmosphere absorbs comet dust.
- B. rings discolour and darken over time.
- C. rings lose mass over time.
- D. moons create a gap between the rings.

Answer: B

Solution:

Refer to the following extract, 'The solar system is suffused with comet dust, and comet dust is dark. Leaving Saturn's ring system (which Cassini has shown to be more than 90% water ice) out in such a mist is like leaving laundry hanging on a line downwind from a smokestack: it will get dirty. The lighter the rings are, the faster this will happen, for the less mass they contain, the less celestial pollution they can absorb before they start to discolour...' The key words here are 'dirty' and 'discolor'. Thus, option B is the correct answer.

Options A, C, and D do not explain the phrase in the question stem correctly. They can be eliminated.

Hence, the correct answer is option B.

19. Based on information provided in the passage, we can conclude all of the following EXCEPT:

- A. that Saturn's lighter rings discolour faster than rings with greater mass.
- B. that Saturn's rings were created from the remains of older moons.
- C. that none of Saturn's moons ever had suitable conditions for life to evolve.
- D. that Thethys and Dione are less than 100 million years old.

Answer: C

Solution:

Option C is the clear cut answer as it runs contrary to what the author has stated in the passage. He is exploring the suitability and possibility of life on Saturn's moons and feels that 'one of those moons, Enceladus, is widely considered the most promising site in the solar system on which to look for alien life.'

Options A, B, and D are supported by the passage.

Hence, the correct answer is option C.

###TOPIC###Verbal||Reading Comprehension||Reading Comprehension###

Extra Tag: Byju's

Extra Tag: CAT 2018 Slot 2

Direction (Q20-24): The passage given below is accompanied by a set of five questions. Choose the best answer to each question.

Will a day come when India's poor can access government services as easily as drawing cash from an ATM? . . . [N]o country in the world has made accessing education or health or policing or dispute resolution as easy as an ATM, because the nature of these activities requires individuals to use their discretion in a positive way. Technology can certainly facilitate this in a variety of ways if it is seen as one part of an overall approach, but the evidence so far in education, for instance, is that just adding computers alone doesn't make education any better. . .

The dangerous illusion of technology is that it can create stronger, top down accountability of service providers in implementation-intensive services within existing public sector organisations. One notion is that electronic management information systems (EMIS) keep better track of inputs and those aspects of personnel that are 'EMIS visible' can lead to better services. A recent study examined attempts to increase attendance of Auxiliary Nurse Midwife (ANMs) at clinics in Rajasthan, which involved high-tech time clocks to monitor attendance. The study's title says it all: Band-Aids on a Corpse . . . e-governance can be just as bad as any other governance when the real issue is people and their motivation.

For services to improve, the people providing the services have to want to do a better job with the skills they have. A study of medical care in Delhi found that even though providers, in the public sector had much better skills than private sector providers their provision of care in actual practice was much worse.

In implementation-intensive services the key to success is face-to-face interactions between a teacher, a nurse, a policeman, an extension agent and a citizen. This relationship is about power. Amartya Sen's . . . report on education in West Bengal

had a supremely telling anecdote in which the villagers forced the teacher to attend school, but then, when the parents went off to work, the teacher did not teach, but forced the children to massage his feet. . . . As long as the system empowers providers over citizens, technology is irrelevant.

The answer to successfully providing basic services is to create systems that provide both autonomy and accountability. In basic education for instance, the answer to poor teaching is not controlling teachers more . . . The key . . . is to hire teachers who want to teach and let them teach, expressing their professionalism and vocation as a teacher through autonomy in the classroom. This autonomy has to be matched with accountability for results—not just narrowly measured through test scores, but broadly for the quality of the education they provide.

A recent study in Uttar Pradesh showed that if, somehow, all civil service teachers could be replaced with contract teachers, the state could save a billion dollars a year in revenue and double student learning. Just the additional autonomy and accountability of contracts through local groups—even without complementary system changes in information and empowerment— led to that much improvement. The first step to being part of the solution is to create performance information accessible to those outside of the government. . . .

20. The main purpose of the passage is to:

- A. argue that some types of services can be improved by providing independence and requiring accountability.
- B. find a solution to the problem of poor service delivery in education by examining different strategies.
- C. analyse the shortcomings of government-appointed nurses and their management through technology.
- D. critique the government's involvement in educational activities and other implementation-intensive services.

Answer: A

Solution:

Refer to the following extract, 'The answer to successfully providing basic services is to create systems that provide both autonomy and accountability.' The author also cites many examples to reinforce this point he has stated in the above extract. Thus, we can say that the author seems to argue that some types of services can be improved by providing independence and requiring accountability. Thus, option A is the correct answer.

Option B is incorrect because the author has not examined different strategies in finding solutions to the problem of poor service delivery in education. Furthermore, the education sector is just an example through which the author is trying to prove his point.

Option C again focuses on one example given by the author and is very narrow in scope.

Option D can be ignored because like option C, it is a small part of the passage pertaining only to the government's involvement in education.

Hence, the correct answer is option A.

21. In the context of the passage, we can infer that the title 'Band Aids on a Corpse' (in paragraph 2) suggests that:

- A. the nurses who attended the clinics were too poorly trained to provide appropriate medical care.
- B. the electronic monitoring system was a superficial solution to a serious problem.
- C. the clinics were better funded, but performance monitoring did not result in any improvement.
- D. the nurses attended the clinics, but the clinics were ill-equipped.

Answer: B

Solution:

Refer to the relevant extract, 'A recent study examined attempts to increase attendance of Auxiliary Nurse Midwife (ANMs) at clinics in Rajasthan, which involved high-tech time clocks to monitor attendance. The study's title says it all: Band-Aids on a Corpse . . . e-governance can be just as bad as any other governance when the real issue is people and their motivation.' The phrase 'Band-Aid on Corpse' implies a mindless or a simplistic solution to a bigger or more grievous problem. Option B is, thus, the correct answer.

Option A is incorrect because the nurses' expertise in providing medical services hasn't been questioned.

Clinics 'were better funded' is not mentioned in the passage. Eliminate option C.

Option D cannot be inferred from the relevant extract given above.

Hence, the correct answer is option B.

22. The author questions the use of monitoring systems in services that involve face-to-face interaction between service providers and clients because such systems:

- A. are ineffective because they are managed by the government.
- B. are not as effective in the public sector as they are in the private sector.

- C. do not improve services that need committed service providers.
- D. improve the skills but do not increase the motivation of service providers.

Answer: C

Solution:

Refer to the following extract, 'For services to improve, the people providing the services have to want to do a better job with the skills they have.' 'Have to want to do a better job' are the key words, which equates to 'need committed service providers' stated in option C.

Options A and B cannot be determined from the passage.

Option D is close but the passage has not stated that the monitoring systems 'improve the skills' of the service providers.

Hence, the correct answer is option C.

23. According to the author, service delivery in Indian education can be improved in all of the following ways EXCEPT through:

- A. use of technology.
- B. access to information on the quality of teaching.
- C. recruitment of motivated teachers.
- D. elimination of government involvement.

Answer: D

Solution:

Option A can be verified from the following lines, 'Technology can certainly facilitate this in a variety of ways if it is seen as one part of an overall approach.'

Option B can be verified from the following lines, 'This autonomy has to be matched with accountability for results—not just narrowly measured through test scores, but broadly for the quality of the education they provide.'

Option C can be verified from the following lines, 'For services to improve, the people providing the services have to want to do a better job with the skills they have.'

Option D is not stated in relation to service delivery in education.

Hence, the correct answer is option D.

24. Which of the following, IF TRUE, would undermine the passage's main argument?

- A. Empowerment of service providers leads to increased complacency and rigged performance results.
- B. If absolute instead of moderate technological surveillance is exercised over the performance of service providers
- C. If it were proven that service providers in the private sector have better skills than those in the public sector
- D. If it were proven that increase in autonomy of service providers leads to an exponential increase in their work ethic and sense of responsibility

Answer: A

Solution:

The author advocates 'autonomy and empowerment' to the service providers in the passage, but if this results in 'increased complacency and rigged performance results' as stated in option A, then the main argument is negated. Thus, option A is the correct answer.

Technological surveillance will not lead to better performance. Eliminate option B.

Option C does not pertain to the main argument of ensuring better delivery in various services.

The author is supportive of autonomy. Eliminate option D.

Hence, the correct answer is option A.

###TOPIC###Verbal||Reading Comprehension||Reading Comprehension###

Extra Tag: Byju's

Extra Tag: CAT 2018 Slot 2

25. **Direction:** 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 and key in your answer using the numeric keypad.

- 1) Much has been recently discovered about the development of songs in birds.
- 2) Some species are restricted to a single song learned by all individuals, others have a range of songs.
- 3) The most important auditory stimuli for the birds are the sounds of other birds.

- 4) For all bird species there is a prescribed path to development of the final song,
- 5) A bird begins with the subsong, passes through plastic song, until it achieves the species song.

Answer: 3

Solution:

Sentences 1, 2, 4, and 5 delve into the development of songs in birds, from subsong to plastic song to the final song.

Sentence 3 talks of 'auditory stimuli' which doesn't fit into the sequence. It is not about the development of songs unlike the other sentences.

Hence, the correct answer is sentence 3.

###TOPIC###Verbal||Verbal Reasoning||Parajumbles###

Tag Type: Type 2

Extra Tag: Byju's

Extra Tag: CAT 2018 Slot 2

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

- 1) It was his taxpayers who had to shell out as much as \$1.6bn over 10 years to employees of failed companies.
- 2) Companies in many countries routinely engage in such activities which means that the employees are left with unpaid entitlements
- 3) Deliberate and systematic liquidation of a company to avoid liabilities and then restarting the business is called phoenixing.
- 4) The Australian Minister for Revenue and Services discovered in an audit that phoenixing had cost the Australian economy between 2.9bn and 5.1bn last year.

Answer: 3241

Solution:

Sentence 3 opens the paragraph by defining the term 'Phoenixing'.

3-2 form a pair as 2 carries forward the discussion of phoenixing and its effects on employees.

4-1 form a pair with 4 citing a very specific instance of 'Phoenixing' in Australia and 1 concludes the paragraph by elaborating on phoenixing in Australia which cost its taxpayers as much as \$1.6bn.

Hence, the correct sequence is 3241.

###TOPIC###Verbal||Verbal Reasoning||Parajumbles###

Tag Type: Type 1

Extra Tag: Byju's

Extra Tag: CAT 2018 Slot 2

27. **Direction:** The passage given below is followed by four summaries. Choose the option that best captures the author's position.

The early optimism about sport's deterrent effects on delinquency was premature as researchers failed to find any consistent relationships between sports participation and deviance. As the initial studies were based upon cross-sectional data and the effects captured were short-term, it was problematic to test and verify the temporal sequencing of events suggested by the deterrence theory. The correlation between sport and delinquency could not be disentangled from class and cultural variables known. Choosing individuals to play sports in the first place was problematic, which became more acute in the subsequent decades as researchers began to document just how closely sports participation was linked to social class indicators.

- A. Sports participation is linked to class and cultural variables such as education, income, and social capital.
- B. Contradicting the previous optimism, latter researchers have proved that there is no consistent relationship between sports participation and deviance.
- C. Statistical and empirical weaknesses stand in the way of inferring any relationship between sports participation and deviance.
- D. There is a direct relationship between sport participation and delinquency but it needs more empirical evidence.

Answer: C

Solution:

Option A can be ignored as there has been no mention of 'education, income, and social capital' in the paragraph.

Option D runs contrary to what the paragraph is saying.

Option B is incorrect because the weaknesses of the study meant that researchers could not find any consistent relationship between sports participation and deviance. This is exactly what option C states.

Hence, the correct answer is option C.

###TOPIC###Verbal||Verbal Reasoning||Paragraph Summary###

Tag Type: Type 1

Extra Tag: Byju's

Extra Tag: CAT 2018 Slot 2

28. **Direction:** The four sentences (labelled 1, 2, 3, 4) given in this question, when properly sequenced, form a coherent paragraph. Each sentence is labelled with a number. Decide on the proper sequence of order of the sentences and key in this sequence of four numbers as your answer.

1) They would rather do virtuous side projects assiduously as long as these would not compel them into doing their day jobs more honourably or reduce the profit margins.

2) They would fund a million of the buzzwordy programs rather than fundamentally question the rules of their game or alter their own behavior to reduce the harm of the existing distorted, inefficient and unfair rules.

3) Like the dieter who would rather do anything to lose weight than actually eat less, the business elite would save the world through social-impact-investing and philanthrocapitalism.

4) Doing the right thing — and moving away from their win-win mentality — would involve real sacrifice; instead, it's easier to focus on their pet projects and initiatives.

Answer: 3241

Solution:

Sentence 3 opens the paragraph by introducing the topic of the discussion.

3-2 form a pair. 'They would fund a million of the buzzwordy programs' in 2 follows 'social-impact-investing and philanthrocapitalism' in 3.

4-1 form a pair. The 'They would rather do virtuous side projects assiduously' in 1 follows 'would involve real sacrifice; instead,' in 4.

Hence, the correct answer is 3241.

###TOPIC###Verbal||Verbal Reasoning||Parajumbles###

Tag Type: Type 1

Extra Tag: Byju's

Extra Tag: CAT 2018 Slot 2

29. **Direction:** 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 and key in your correct answer using the numeric keypad.

1) As India looks to increase the number of cities, our urban planning must factor in potential natural disasters and work out contingencies in advance.

2) Authorities must revise data and upgrade infrastructure and mitigation plans even if their local area hasn't been visited by a natural calamity yet.

3) Extreme temperatures, droughts, and forest fires have more than doubled since

4) There is no denying the fact that our baseline normal weather is changing.

5) It is no longer a question of whether we will be hit by nature's fury but rather when.

Answer: 3

Solution:

Sentence 4 can be a very good opening sentence as it introduces the theme of the paragraph—weather.

5 is a consequence of the change in the baseline normal weather in 4.

Sentence 1 and Sentence 2 also form a pair as both lay stress on the point that our cities must be prepared for natural calamities.

The odd one out here is 3. The reason being it doesn't form a pair with any other sentence.

The remaining sentences present the author's opinions whereas sentence 3 is more of a fact-based sentence.

Hence, the correct answer is sentence 3.

###TOPIC###Verbal||Verbal Reasoning||Parajumbles###

Tag Type: Type 2

Extra Tag: Byju's

Extra Tag: CAT 2018 Slot 2

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

- 1) Self-management is thus defined as the 'individual's ability to manage the symptoms, treatment, physical and psychosocial consequences and lifestyle changes inherent in living with a chronic condition'.
- 2) Most people with progressive diseases like dementia prefer to have control over their own lives and health-care for as long as possible.
- 3) Having control means, among other things, that patients themselves perform self-management activities.
- 4) Supporting people in decisions and actions that promote self-management is called self-management support requiring a cooperative relationship between the patient, the family, and the professionals.

Answer: 2314

Solution:

Option 2 is a very good opening sentence as it introduces the topic of the discussion, which is dementia.

2-3 form a pair. 'To have control' in 2 connects with 'having control' in 3.

3-1 form a pair. 1 can be placed after 3 as it seeks to define the term 'self-management' which is mentioned in 3.

4 can be placed in the end as it elaborates further on the topic of self-management.

Hence, the correct answer is 2314.

###TOPIC###Verbal||Verbal Reasoning||Parajumbles###

Tag Type: Type 1

Extra Tag: Byju's

Extra Tag: CAT 2018 Slot 2

31. **Direction:** The passage given below is followed by four summaries. Choose the option that best captures the author's position.

A Japanese government panel announced that it recommends regulating only genetically modified organisms that have had foreign genes permanently introduced into their genomes and not those whose endogenous genes have been edited. The only stipulation is that researchers and businesses will have to register their modifications to plants or animals with the government, with the exception of microbes cultured in contained environments. Reactions to the decision are mixed. While lauding the potential benefits of genome editing, an editorial opposes across-the-board permission. Unforeseen risks in gene editing cannot be ruled out.

All genetically modified products must go through the same safety and labelling processes regardless of method.

- A. A government panel in Japan says transgenic modification and genome editing are not the same.
- B. Excepting microbes cultured in contained environments from the regulations of genome editing is premature.
- C. Exempting from regulations, the editing of endogenous genes is not desirable as this procedure might be risk-prone.
- D. Creating categories within genetically modified products in terms of transgenic modification and genome editing advances science but defies laws.

Answer: C

Solution:

Option A is out of context as the paragraph has not mentioned that 'transgenic modification' and 'genome editing' are not the same.

Option B is more of a far-fetched inference. The paragraph does not give any reason as to why exempting microbes from regulations is premature.

The 'defies law' in D is incorrect. The Japanese government has allowed transgenic modification and genome editing.

Option C covers the essence of the paragraph. Exempting endogenous genes from regulations is not desirable as there may be risks involved.

Hence, the correct answer is option C.

###TOPIC###Verbal||Verbal Reasoning||Paragraph Summary###

Tag Type: Type 1

Extra Tag: Byju's

Extra Tag: CAT 2018 Slot 2

32. **Direction:** The four sentences (labelled 1, 2, 3, 4) given in this question, when properly sequenced, form a coherent paragraph. Each sentence is labelled with a number. Decide on the proper sequence of order of the sentences and key in this sequence of four numbers as your answer.

1) In the era of smart world, however, 'Universal Basic Income' is an ineffective instrument which cannot address the potential breakdown of the social contract when large swathes of the population would effectively be unemployed.

2) In the era of industrial revolution, the abolition of child labour, poor laws and the growth of trade unions helped families cope with the pressures of mechanised work.

3) Growing inequality could be matched by a creeping authoritarianism that is bolstered by technology that is increasingly able to peer into the deepest vestiges of our lives.

4) New institutions emerge which recognise ways in which workers could contribute to and benefit by economic growth when, rather than if, their jobs are automated.

Answer: 4213

Solution:

2-1 form a pair. 2 talks about the past, i.e., 'in the era of industrial revolution', whereas 1 talks about the present 'in the era of the smart world'. Thus, 2-1 gives a comparative analysis.

1-3 form a pair. 3 elaborates on the ideas put forth in 1. 1 talks about massive unemployment and 3 about the resultant growing inequality.

Therefore, 213 is a logical sequence.

4 is the opening sentence as 'ways' in 4 refer to the two different approaches being discussed in 213.

Hence, the correct answer is 4213.

###TOPIC###Verbal||Verbal Reasoning||Parajumbles###

Tag Type: Type 1

Extra Tag: Byju's

Extra Tag: CAT 2018 Slot 2

33. **Direction:** 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 the number in.

1) Our smartphones can now track our diets, our biological cycles, even our digestive systems and sleep-patterns.

2) Researchers have even coined a new term, "orthosomnia", to describe the insomnia brought on by paying too much attention to smartphones and sleep-tracking apps.

3) Sleep, nature's soft nurse, is a blissful, untroubled state all too easily disturbed by earthly worries or a guilty conscience.

4) The existence of a market for such apps is unsurprising: shift work, a long-hours culture and blue light from screens have conspired to rob many of us of sufficient rest.

5) A new threat to a good night's rest has emerged – smart-phones, with sleep-tracking apps.

Answer: 3

Solution:

While the remaining sentences discuss the ill-effects of smartphones and applications with regard to rest and untroubled sleep, 3 is about 'sleep' and how it is a 'blissful, untroubled state'. Moreover, 3 does not talk about the ill-effects of smartphones and various applications on sleeping.

Hence, the correct answer is sentence 3.

###TOPIC###Verbal||Verbal Reasoning||Parajumbles###

Tag Type: Type 2

Extra Tag: Byju's

Extra Tag: CAT 2018 Slot 2

34. **Direction:** The passage given below is followed by four summaries. Choose the option that best captures the author's position.

Should the moral obligation to rescue and aid persons in grave peril, felt by a few, be enforced by the criminal law? Should we follow the lead of a number of European countries and enact bad Samaritan laws? Proponents of bad Samaritan laws must overcome at least three different sorts of obstacles. First, they must show the laws are morally legitimate in principle, that is, that the duty to aid others is a proper candidate for legal enforcement. Second, they must show that this duty to aid can be defined in a way that can be fairly enforced by the courts. Third, they must show that the benefits of the laws are worth their problems, risks and costs.

A. A number of European countries that have successfully enacted bad Samaritan laws may serve as model statutes.

B. Everyone agrees that people ought to aid others, the only debate is whether to have a law on it.

C. If bad Samaritan laws are found to be legally sound and enforceable, they must be enacted.

D. Bad Samaritan laws may be desirable but they need to be tested for legal soundness.

Answer: D

Solution:

Option A is incorrect because it does not address the issue of legally testing bad samaritan laws for their soundness.

'Everyone agrees' in B hasn't been mentioned in the paragraph.

Option C gives a definitive 'If bad Samaritan laws are found to be legally sound and enforceable, they **must** be enacted' which is not borne out by the passage.

Option D summarizes the paragraph accurately by stating that bad samaritan laws are desirable but first they must be legally tested for their soundness.

Hence, the correct answer is option D.

###TOPIC###Verbal||Verbal Reasoning||Paragraph Summary###

Tag Type: Type 1

Extra Tag: Byju's

Extra Tag: CAT 2018 Slot 2

