

VARC

Q1. DIRECTIONS *for questions 1 to 4:* Five sentences (labelled 1, 2, 3, 4, 5) are given in the following question. Four of them can be put together to form a meaningful and coherent short paragraph and one sentence is the odd one out. Decide on the proper logical order for the sentences and key in the sequence of four numbers as your answer, even as you omit the contextually unrelated sentence.

1. The findings indicate that each hemisphere of the brain tends to specialize in and preside over different functions and process different kinds of information.
2. Sometimes we are knocked out of our left brain environment and into the right brain by an unplanned experience.
3. The left deals with words, the right with pictures; the left with parts and specifics, the right with wholes; the left with analysis, the right with synthesis.
4. A great deal of research has been conducted for decades on what has come to be called brain dominance theory.
5. Essentially, the left hemisphere is the more logical, verbal one and the right hemisphere the more intuitive, creative one.

Q2. DIRECTIONS *for questions 1 to 4:* Five sentences (labelled 1, 2, 3, 4, 5) are given in the following question. Four of them can be put together to form a meaningful and coherent short paragraph and one sentence is the odd one out. Decide on the proper logical order for the sentences and key in the sequence of four numbers as your answer, even as you omit the contextually unrelated sentence.

1. Most people, deep down, believe that the future is a blank.
2. Ultimately, to manage change we must anticipate it.
3. There are definite limits to the amount of newness that any individual or group can absorb in a short span of time.
4. However, the notion that one's personal future can be, to some extent, anticipated, flies in the face of persistent folk prejudice.
5. Yet the truth is that we can assign probabilities to some of the changes that lie in store for us.

Q3. DIRECTIONS *for questions 1 to 4:* Five sentences (labelled 1, 2, 3, 4, 5) are given in the following question. Four of them can be put together to form a meaningful and coherent short paragraph and one sentence is the odd one out. Decide on the proper logical order for the sentences and key in the sequence of four numbers as your answer, even as you omit the contextually unrelated sentence.

1. Our inner psychological states and personal histories are not important in explaining our behaviour.
2. For a crime to be committed, something extra, something additional, has to happen to tip a troubled person toward violence.
3. But there is a world of difference between being inclined toward violence and actually committing a violent act.
4. An enormous percentage of those who engage in violent acts, for example, have some kind of psychiatric disorder or come from deeply disturbed backgrounds.
5. This does not mean that our inner psychological states and personal histories are not important in explaining our behaviour.

Q4. DIRECTIONS *for questions 1 to 4:* Five sentences (labelled 1, 2, 3, 4, 5) are given in the following question. Four of them can be put together to form a meaningful and coherent short paragraph and one sentence is the odd one out. Decide on the proper logical order for the sentences and key in the sequence of four numbers as your answer, even as you omit the contextually unrelated sentence.

1. Second, judge only after listening, not during or before.
2. First, use all your faculties when gathering and absorbing information; keep all your senses open.
3. Judges in the first-century Celtic legal system received this charge before taking the bench to hear cases: "Listen with each ear, then render judgment."

4. While withholding judgment, even for an instant, runs counter to human instinct, sharp thinkers strive to consciously override that instinct.
5. This Celtic charge contains two separate, yet complementary imperatives.

DIRECTIONS for questions 5 to 10: The passage given below is followed by a set of six questions. Choose the best answer to each question.

MERCANTILISM is one of the great whipping boys in the history of economics. The school, which dominated European thought between the 16th and 18th centuries, is now considered no more than a historical artefact - and no self-respecting economist would describe themselves as mercantilist...

At the heart of mercantilism is the view that maximising net exports is the best route to national prosperity. Boiled to its essence mercantilism is "bullionism": the idea that the only true measure of a country's wealth and success was the amount of gold that it had. If one country had more gold than another, it was necessarily better off. This idea had important consequences for economic policy. The best way of ensuring a country's prosperity was to make few imports and many exports, thereby generating a net inflow of foreign exchange and maximising the country's gold stocks.

Such ideas were attractive to some governments. Accumulating gold was thought to be necessary for a strong, powerful state. Countries such as Britain implemented policies which were designed to protect its traders and maximise income. The Navigation Acts, which severely restricted the ability of other nations to trade between England and its colonies, were one such example...

But there is an important distinction between mercantilist practice and mercantilist thought. The opinions of thinkers were often mangled when they were translated into policies. And a paper by William Grampp, published in 1952, offers a subtler account of mercantilism.

Mr Grampp concedes that mercantilists were keen on foreign trade. One often reads in mercantilist tomes that foreign trade would be more beneficial than would domestic trade...

But Mr Grampp argues that, on the whole, we should stop confusing mercantilism and bullionism. Few mercantilists were slaves to the balance of payments. In fact, they were alarmed by the idea of hoarding gold and silver. This is because many mercantilist thinkers were most concerned with maximising employment. Nicholas Barbon - who pioneered the fire insurance industry after the Great Fire of London in 1666 - wanted money to be invested, not hoarded. As William Petty - arguably the first "proper" economist - argued, investment would help to improve labour productivity and increase employment. And almost all mercantilists considered ways of bringing more people into the labour force.

Mr Grampp even suggests that Keynesian economics "has an affinity to mercantilist doctrine", given their shared concern with full employment. Keynes, in a short note to his "General Theory", approvingly quotes mercantilists, noting that an ample supply of precious metals could be key in maintaining control over domestic interest rates, and therefore to ensuring adequate workforce utilisation. In some sense, the Keynesian theory of under consumption - that is, inadequate consumer demand - as a cause of recessions was presaged by mercantilist contributions...

Mercantilism is thought to have begun its intellectual eclipse with the publication of Adam Smith's "Wealth of Nations" in 1776. A simple interpretation of the economic history suggests that Smith's ruthless advocacy for free markets was squarely opposed to regulation-heavy mercantilist doctrine. But according to research by Lars Magnusson of Uppsala University, Smith's contribution did not represent such a sharp break. The father of economics was certainly concerned with the effects of some mercantilist policies. He saw the damage that overweening government intervention could do... And he hated monopolies, arguing that greedy barons could earn "wages or profit, greatly above their natural rate". Smith also grumbled that legislators could use mercantilist logic to justify stifling regulation.

But Smith points out circumstances in which government interference is necessary. He was in favour of the Navigation Acts. And in Smith's lesser-known "Lectures on Jurisprudence", he outlines other cases where government intervention in trade is useful. Smith was not opposed to regulation per se, but rather instances where individuals and governments could abuse their position of power for personal gain...

Q5. Which of the following is true regarding mercantilism and bullionism?

- a) Mercantilism is a part of bullionism.
- b) Bullionism is the only precept on which mercantilism is based on.
- c) Unlike bullionism, increasing gold reserves was not an objective of mercantilist thought.
- d) The principles of bullionism led to the formation of mercantilism as a separate school of economics.

Q6. Which of the following is common to both Keynesian economics and mercantilist thought?

- a) The principles of Keynesian economy, for the most part, are based on mercantilist thought.
- b) Both Keynesian economics and mercantilist thought recognize the importance of generating employment.
- c) The primary objective of both the schools was to obtain ample supply of precious metals.
- d) Both Keynesian economics and mercantilist thought are based on the principle of bullionism.

Q7. Which of the following can be inferred regarding Smith's objection to mercantilism?

- a) Smith was against the principles that mercantilism was based on.
- b) Mercantilist policies advocate government intervention and creation of monopolies, against which Smith had an objection.
- c) Smith believed that mercantilism cannot be used to explain the economic scenario of his time.
- d) Smith's objections are primarily against the people/institutions who use mercantile logic for personal gain.

Q8. Which of the following can be inferred from the first paragraph of the passage?

- a) Many economic issues of the 16th, 17th and 18th centuries were caused due to the adoption of mercantilist policies.
- b) Most of the economists of the 16th to 18th centuries did not describe themselves as mercantilists.
- c) Mercantilist practices were grudgingly adopted by the economists of the 16th, 17th and 18th centuries.
- d) Many economic issues in the history of economics were unjustly attributed to mercantilism.

Q9. Which of the following is definitely not a feature of mercantilism?

- 1. Considering foreign trade more important than domestic trade
- 2. Being in favour of higher exports and lower imports
- 3. Opposed to government intervention
- 4. Against complete absence of government interventions

a) Only III

b) Only II and IV

c) Only III and IV

d) Only I, III and IV

Q10. Which of the following is a distinction between mercantilist thought and mercantilist practice?

- a) The former considers bullionism to be very important while the latter is concerned with maximizing employment.
- b) While both consider bullionism to be the cornerstone of mercantilism, only the former is concerned with generating employment.
- c) The former is more concerned with maximizing employment than bullionism, while the latter considers bullionism to be the guiding principle of mercantilism.

d) While the latter considers foreign trade to be important, the former does not.

Q11. DIRECTIONS for questions 11 to 14: Given below is a paragraph with three blanks, numbered (i), (ii) and (iii). For each blank choose one numbered word /phrase from the corresponding column of choices that will best complete the text. Key in the appropriate numbers of the words /phrases for each blank, in the correct sequential order, in the input box given below the question. For example, if you think that words /phrases labelled (1), (4) and (7) can complete the text correctly, then enter 147 as your answer in the input box. (Note: Only one word /phrase in each column can fill the respective blank correctly.)

Why do we tend to _____(i)_____ improbability with impossibility? Partly it's because evolution did not favour complex probabilistic thinking. Honed by centuries of hunter-gathering, we are disposed to make snap decisions on the basis of minimal evidence and _____(ii)_____ theories - presumably because those who glimpsed a lion and started running, on the _____(iii)_____ that all wild animals always eat humans, were more likely to survive than those who preferred to test this hypothesis experimentally.

Blank (i)	Blank (ii)	Blank (iii)
(1) confuse	(4) fake	(7) slightest pretext
(2) rhapsodize	(5) facile	(8) remote possibility
(3) embody	(6) verisimilar	(9) crude assumption

Q12. DIRECTIONS for questions 11 to 14: Given below is a paragraph with three blanks, numbered (i), (ii) and (iii). For each blank choose one numbered word /phrase from the corresponding column of choices that will best complete the text. Key in the appropriate numbers of the words /phrases for each blank, in the correct sequential order, in the input box given below the question. For example, if you think that words /phrases labelled (1), (4) and (7) can complete the text correctly, then enter 147 as your answer in the input box. (Note: Only one word /phrase in each column can fill the respective blank correctly.)

In watching the flow of events over the past decade or so, it is hard to avoid the feeling that something very fundamental has happened in world history. The past year has seen a flood of articles _____(i)_____ the end of the Cold War, and the fact that "peace" seems to be breaking out in many regions of the world. Most of these analyses lack any larger _____(ii)_____ for distinguishing between what is essential and what is _____(iii)_____ or accidental in world history, and are predictably superficial.

Blank (i)	Blank (ii)	Blank (iii)
(1) ruminating	(4) conceptual framework	(7) contingent
(2) mulling	(5) obviation	(8) plausible
(3) commemorating	(6) canvas	(9) unreal

Q13. DIRECTIONS for questions 11 to 14: Given below is a paragraph with three blanks, numbered (i), (ii) and (iii). For each blank choose one numbered word /phrase from the corresponding column of choices that will best complete the text. Key in the appropriate numbers of the words /phrases for each blank, in the correct sequential order, in the input box given below

the question. For example, if you think that words /phrases labelled (1), (4) and (7) can complete the text correctly, then enter 147 as your answer in the input box. (Note: Only one word /phrase in each column can fill the respective blank correctly.)

There is a global movement to patrol and protect the natural environment and its fragile native ecosystems from _____(i)_____ species like the European water chestnut, which end up settling in places where they don't belong because of human activity. The reasons to fight these species may be economic, or conservationist, or just practical, but underneath all these efforts is a potent and _____(ii)_____ idea: that if we work hard enough to keep foreign species from _____(iii)_____ habitats where they might do harm, we can help nature heal from the damage we humans have done to it as a civilization.

Blank (i)	Blank (ii)	Blank (iii)
(1) peevish	(4) expunging	(7) infiltrating
(2) invasive	(5) appropriating	(8) flouting
(3) exacerbating	(6) galvanising	(9) supplanted

Q14. DIRECTIONS for questions 11 to 14: Given below is a paragraph with three blanks, numbered (i), (ii) and (iii). For each blank choose one numbered word /phrase from the corresponding column of choices that will best complete the text. Key in the appropriate numbers of the words /phrases for each blank, in the correct sequential order, in the input box given below the question. For example, if you think that words /phrases labelled (1), (4) and (7) can complete the text correctly, then enter 147 as your answer in the input box. (Note: Only one word /phrase in each column can fill the respective blank correctly.)

By any standards, the journey taken by the Lesedi La Rona, an enormous rough diamond on auction in London this week, has been epic. The stone was _____(i)_____ 2.5 billion years ago in molten rocks hundreds of kilometres beneath the Earth's surface, then thrust up out of the planet's mantle by volcanic eruptions. There, the diamond lay for millennia, until it was unearthed last year by miners in Botswana. The vastness of time and the power of nature give diamonds their _____(ii)_____. But they could not stop the auction from flopping. And they cannot protect the industry from a trio of forces that are _____(iii)_____ businesses everywhere.

Blank (i)	Blank (ii)	Blank (iii)
(1) addled	(4) baroque	(7) relinquishing
(2) extricated	(5) titillation	(8) immured in
(3) forged	(6) mystique	(9) upending

DIRECTIONS for questions 15 to 20: The passage given below is followed by a set of six questions. Choose the best answer to each question.

The symbol of the World Wide Fund for Nature is a giant panda. The panda's black-and-white pelage certainly makes for a striking logo. But, though pandas are an endangered species, the cause of their endangerment is depressingly quotidian: a loss of habitat as Earth's human population increases. A better icon might be an elephant, particularly an African elephant, for

elephants are not mere collateral damage in humanity's relentless expansion. Often, rather, they are deliberate targets, shot by poachers, who want their ivory; by farmers, because of the damage they do to crops; and by cattle herders, who see them as competitors for forage...

That most of the decline in the numbers of elephants has been brought about by poaching is scarcely in doubt... But habitat loss is important, too - and not just the conversion of bush into farmland. Roads, railways and fences, built as Africa develops, stop elephants moving around. And an elephant needs a lot of room. According to George Wittemyer of Save the Elephants (STE), a Kenyan research-and-conservation charity, an average elephant living in and around Samburu National Reserve, in northern Kenya, ranges over 1,500 square kilometres during the course of a year, and may travel as much as 60 km a day.

The question, then, is whether elephants and people can ever co-exist peacefully. And many of those who worry that the answer may be "no" fear the loss of more than just another species of charismatic megafauna. Elephants, about as unrelated to human beings as any mammal can be, seem nevertheless to have evolved intelligence, and possibly even consciousness. Though they may not be alone in this, they are certainly part of a small and select group. Losing even one example of how intelligence comes about and makes its living in the wild would not only be a shame in its own right, it would also diminish the ability of biologists of the future to understand the process, and thus how it happened to human beings.

Dr Wittemyer argues that, human beings aside, no species on Earth has a more complex society than that of elephants. And elephant society does indeed have parallels with the way humans lived before the invention of agriculture.

The nuclei of their social arrangements are groups of four or five females and their young that are led by a matriarch who is mother, grandmother, great-grandmother, sister or aunt to most of them. Though males depart their natal group when maturity beckons at the age of 12, females usually remain in it throughout their lives.

Within a group, most adult females have, at any given moment, a single, dependent calf. They will not give birth again until this offspring is self-sufficient, which takes about four years. From a male point of view, sexually receptive females are therefore a rare commodity, to be sought out and often fought over. Such competition means that, though capable of fatherhood from the age of about 14, a male will be lucky to achieve it before he is in his 20s. Until that time arrives, he will be seen off by stronger rivals.

Were this all there was to elephant society, it would still be quite complex by mammalian standards - similar in scope to that of lions, which also live in matriarchal family groups that eject maturing males. But it would not deserve Dr Wittemyer's accolade of near-human sophistication. Unlike lions, however, elephants have higher levels of organisation, not immediately obvious to the observer, that are indeed quite humanlike.

First of all, families are part of wider "kinship" groups that come together and separate as the fancy takes them... On top of this, each kinship group is part of what Dr Douglas-Hamilton, a Scot, calls a clan. Clans tend to gather in the dry season, when the amount of habitat capable of supporting elephants is restricted. Within a clan, relations are generally friendly. All clan members are known to one another and, since a clan will usually have at least 100 adult members, and may have twice that, this means an adult can recognise and have meaningful social relations with that many other individuals...

Q15. Why does the author mention that the elephant is a better symbol for the World Wide Fund for Nature than a giant panda?

- a) Giant pandas have become endangered due to a loss of their habitat, while elephants are killed by poachers.
- b) Elephants are under a greater threat of endangerment as compared to giant pandas.
- c) While giant pandas are collateral damage in humanity's relentless expansion, elephants are not.
- d) Humans have played a more direct role in the decline in the numbers of elephants as compared to those of giant pandas.

Q16. Which of the following can be inferred from the passage to be a reason why many people believe that elephants and humans cannot co-exist peacefully?

- a) Poaching elephants is too pervasive an activity to effectively restrain.
- b) The natural behaviour and activity of elephants is increasingly constrained because of the pervasive nature of human civilisation.
- c) The behaviour of an elephant is unpredictable because of its intelligence.
- d) Elephants tend to damage the crops surrounding their habitat.

Q17. Which of the following is definitely true regarding the nuclei of the social arrangement of elephants?

- a) Male elephants are not a part of a nucleus during their lifetimes.
- b) Male elephants are kept away from their nuclei after they attain 12 years of age until they attain fatherhood.
- c) A female elephant is always a part a nucleus throughout her life.
- d) No male elephant over 12 years of age will be a part of a nucleus.

Q18. Which of the following can be understood as the purpose of the question that the author asks in the third paragraph of the passage?

- a) The author attempts to answer the question in the subsequent paragraphs of the passage.
- b) The author highlights that the majority of the people believe that the answer to the question is “no”.
- c) The author indicates the importance of finding an affirmative answer to the question in the subsequent paragraphs of the passage.
- d) The author evaluates the consequences of the possible answers to the question.

Q19. Why does Dr. Wittemyer argue that no species on Earth, except human beings, has a more complex society than that of the elephants?

- a) Elephants have well-defined rules for organizing themselves into familial groups.
- b) While there are other species that organize themselves into families, elephants have higher levels of organization like kinship groups and clans.
- c) Elephants have the ability to recognize all the other individuals in their clan.
- d) Like humans, elephants maintain friendly relations within their clan.

Q20. The author states that “sexually receptive females are therefore a rare commodity” (para 6) because

- a) female elephants are not sexually receptive for significant time periods.
- b) there are a very few number of female elephants in a group as compared to that of the male elephants.
- c) female elephants are not sexually receptive towards male elephants younger than 20 years of age.
- d) male elephants tend to mingle with female elephants only during the dry seasons.

Q21. DIRECTIONS for questions 21 to 24: In each question, there are sentences, with each sentence having pairs of words or phrases, labelled (1) and (2) that are italicized and highlighted. In each sentence, from the pairs of italicized and highlighted words or phrases, select the appropriate word to form the correct sentence and then enter (in the input box provided below the question) the number corresponding to the appropriate words or phrases, in the same order that the pair of words appear in the question. For example, in a question with five sentences (a), (b), (c), (d) and (e) if you think that the appropriate words or phrases for the sentences are 1, 2, 1, 2 and 2 respectively, then enter your answer as 12122.

1. He *mopped (1)/moped (2)* the perspiration from his forehead.
2. Our economists say that any *punitive (1)/puny (2)* measures against foreign companies would hurt U.S. interests.
3. Entering devotees had to *clamour (1)/clamber (2)* over the pile of shoes in the courtyard, between the gate and the door of the temple.

4. The mice **skittered (1)/scuppered (2)** around in the drains and under the floor boards.
5. This antique wall clock cost me a pretty dollar (1)/a king's ransom (2).

Q22. DIRECTIONS for questions 21 to 24: In each question, there are sentences, with each sentence having pairs of words or phrases, labelled (1) and (2) that are italicized and highlighted. In each sentence, from the pairs of italicized and highlighted words or phrases, select the appropriate word to form the correct sentence and then enter (in the input box provided below the question) the number corresponding to the appropriate words or phrases, in the same order that the pair of words appear in the question. For example, in a question with five sentences (a), (b), (c), (d) and (e) if you think that the appropriate words or phrases for the sentences are 1, 2, 1, 2 and 2 respectively, then enter your answer as 12122.

1. The Prime Minister demonstrated his **mastery (1) /masterly (2)** of political manoeuvring.
2. All but one of these letter bombs had been intercepted by **vigilante (1)/vigilant (2)** post office staff.
3. On the steep climb he fell off his horse and suffered a **concussion (1)/concision (2)**.
4. These autocracies are non-apologetic (1)/unapologetic (2) and increasingly assertive (1)/affirmative (2), at home and abroad," he writes.

Q23. DIRECTIONS for questions 21 to 24: In each question, there are sentences, with each sentence having pairs of words or phrases, labelled (1) and (2) that are italicized and highlighted. In each sentence, from the pairs of italicized and highlighted words or phrases, select the appropriate word to form the correct sentence and then enter (in the input box provided below the question) the number corresponding to the appropriate words or phrases, in the same order that the pair of words appear in the question. For example, in a question with five sentences (a), (b), (c), (d) and (e) if you think that the appropriate words or phrases for the sentences are 1, 2, 1, 2 and 2 respectively, then enter your answer as 12122.

1. The police **rigorously (1)/vigorously (2)** denied that excessive force had been used.
2. There was a **reverent (1)/reverend (2)** hush of rapt attention when the leader led the prayer service.
3. He is **loathe (1)/loath (2)** to admit his mistakes.
4. As a scientist he would **deprecate (1)/depreciate (2)** any kind of legal control on gene therapy.
5. His **complacent (1)/complaisant (2)** behaviour led to him underestimating the extent to which the elections would impact the stock market.

Q24. DIRECTIONS for questions 21 to 24: In each question, there are sentences, with each sentence having pairs of words or phrases, labelled (1) and (2) that are italicized and highlighted. In each sentence, from the pairs of italicized and highlighted words or phrases, select the appropriate word to form the correct sentence and then enter (in the input box provided below the question) the number corresponding to the appropriate words or phrases, in the same order that the pair of words appear in the question. For example, in a question with five sentences (a), (b), (c), (d) and (e) if you think that the appropriate words or phrases for the sentences are 1, 2, 1, 2 and 2 respectively, then enter your answer as 12122.

1. The manufacturers have foreseen the consumers demand with their usual **perspicacity (1)/perspicuity (2)**.
2. She was sitting at home **pinning (1)/pinning (2)** for her husband lost at sea.
3. There is something **plaintiff (1)/plaintive (2)** and pleading about that statement.
4. His unhurried manner merely underlines his rather **noncommittal (1)/nonchalant (2)** attitude to life.
5. Threat of military action has always served as a **credible (1)/creditable (2)** deterrent.

DIRECTIONS for questions 25 to 30: The passage given below is followed by a set of six questions. Choose the best answer to each question.

MANY scientific studies are flawed. Often, the reason is poor methodology. Sometimes it is outright fraud. The conventional means of correction - a letter to the journal concerned - may take months. But there is now an alternative. PubPeer is a website that allows people to comment anonymously on research papers and so, in theory, helps purge the scientific literature of erroneous findings more speedily.

Since its launch in 2012, PubPeer has alerted scientists to errors and image manipulation in papers, and exposed cases of misconduct. But it has also attracted criticism, not least from journal editors, some of whom argue anonymity's cloak lets vendettas flourish unchecked. Now the site is embroiled in a court case that tests the limits of free speech under America's First Amendment, and may define what is permissible for researchers to say online and anonymously about science.

Fazlul Sarkar, a cancer researcher who was then based at Wayne State University in Detroit, was investigated in a series of experimental papers. Dr Sarkar claims that certain commenters insinuated he was guilty of scientific fraud. The comments, along with anonymous e-mails sent to the University of Mississippi, cost him the offer of a professorship there. In October 2014 he sued the commenters for defamation and subpoenaed PubPeer to disclose their identities. The court is now expected to decide whether the site will be forced to do so.

The American Civil Liberties Union has taken over the case on PubPeer's behalf. Its lawyer, Alex Abdo, says that the anonymity of PubPeer's commenters is protected by American law unless Dr Sarkar can provide evidence that their statements are false and have damaged his reputation. Evidence filed by PubPeer from John Krueger, an image-analysis expert, states that the images in question "did not depict different experiments as they purported to" or contained other "irregularities", and may have been manipulated. Mr. Abdo asserts that the comments identified by Dr. Sarkar are not defamatory. Therefore PubPeer should not be forced to disclose the commenters' identities.

By contrast, Dr Sarkar's lawyer, Nick Roumel, argues that the law should not provide anonymous commenters with more protection than it gives those who post under their real names. It is impossible to contact PubPeer's commenters to establish what they know about allegations without knowing their identities, he says.

In March 2015 a judge at the Wayne County Circuit Court agreed that PubPeer should not disclose the identities of any of its commenters except for one. That commenter had confirmed on the site that he or she had reported Wayne State University's problems with Dr Sarkar's papers. A prolific pseudonymous whistle blower named Clare Francis is known to have e-mailed Wayne State in November 2013, to notify it of concerns with Dr Sarkar's work aired on PubPeer, adding in her email (if, indeed, "Clare Francis" is a woman) that, in some cases, they amounted to "what many think of as scientific misconduct." Whether Clare Francis and the subject of the judge's order are the same is not clear.

Both parties lodged appeals against the ruling. PubPeer objects to revealing the identity of the last commenter. Mr Roumel wants to know the identities of all of them.

Two goliaths of information technology, Google and Twitter, submitted a brief report in support of PubPeer in January 2016. So did two giants of science: Harold Varmus, a Nobel Prize-winning cancer researcher, and Bruce Alberts, a former president of the National Academy Of Sciences. They argued that the First Amendment protects "unfettered scientific discourse".

On October 19, the *Scientist*, a magazine, published some findings of a misconduct investigation carried out by Wayne State University in 2015. The report of this investigation states that Dr. Sarkar "engaged in intentional fabrication and plagiarism of data."

Dr Sarkar rejects all the investigation's findings. His reputation has been destroyed because of "minor errors in a few articles." He states that he provided the correct images to the university but his explanations of how the errors occurred were dismissed out of hand. Philip Cunningham, who convened the Wayne State panel that investigated Dr. Sarkar, said all evidence was carefully considered and the university stands by the integrity and accuracy of the report.

Q25. What would be the main assumption with which the website PubPeer began its operations?

- a) The assumption that scientific journals have a tough time in checking the veracity of the claims made by scientists and PubPeer would help close this gap.
- b) The assumption that while critically reviewing scientific papers, peers would try to uphold ethical scientific values and never misuse the anonymity to wrongfully defame others.
- c) The assumption that the scientific community will pay the website for peer reviewing of scientific papers and exposing cases of scientific misconduct.
- d) The assumption that many reviews by the common man would certainly expose cases of misconduct in the arena of scientific publishing.

Q26. Which of the following best reflects the assertion of Nick Roumel as mentioned in the passage?

- a) The comments made by PubPeer and identified by Dr. Sarkar are not defamatory.
- b) PubPeer should reveal the names of all the anonymous users who are registered with PubPeer.
- c) PubPeer should reveal the names of all the anonymous users who allegedly attempted to defame Dr. Sarkar.
- d) The law should provide more protection to all the anonymous users.

Q27. According to the passage, Harold Varmus and Bruce Alberts

- a) approve of the way the court is treating the case under consideration.
- b) are furious that Nick Roumel is against the First Amendment of the U.S. Constitution.
- c) are in favour of the vision of PubPeer which allows open scientific discussion.
- d) are saddened by the fact that nowadays people like Dr. Sarkar are not adhering to ethical principles in the field of scientific research.

Q28. It can be inferred from the passage that the PubPeer website has attracted controversies because

- a) it is unable to deal with both tight-lipped scientists and publicity mongers who comment on erroneous findings.
- b) it has engineered scientific information while making the same intelligible to the common man.
- c) many a times it has kept the main findings of research papers to itself in order to serve its own ends and has given people delayed access to research articles.
- d) the anonymity of people's commentary on research content is leading to the growing impression that personal agendas, such as the wrongful maligning of a scientist's reputation, can be furthered.

Q29. All of the following statements are true from the passage EXCEPT?

- a) Philip Cunningham and Nick Roumel are some of the very few people on Dr. Sarkar's side.
- b) Alex Abdo is of the view that the anonymity of PubPeer's commenters remains protected by the American Constitution unless there is evidence that their statements are false.
- c) Claire Francis had voiced her concerns about Dr. Sarkar's research work.
- d) Due to the anonymous allegations made against him, Dr. Sarkar has lost his reputation and a professorship offer at a University.

Q30. The organization of the passage can best be described as?

- a) An industry is maligned and the attack is then carried forth in a caustic manner.
- b) A case of scrutiny of science is presented along with its associated details.
- c) A flaw in the working of an alternative solution to a problem is exposed and a return to the older methodology is advocated.
- d) A startling revelation is made which is then analyzed and countered.

Q31. DIRECTIONS for questions 31 to 34: The following question consists of a highlighted sentence and a paragraph from which the sentence may have been taken. The paragraph has a

total of three blanks numbered as (2), (3) and (4). Choose the number of the blank where the highlighted sentence can best be reinserted and key in that number in the input box provided below the question paragraph. (Note that blanks 2, 3 and 4 are within the given paragraph.)
Further:

If you think that the highlighted statement can be part of ANOTHER PARA that is prior to OR precedes OR is upstream of the given para, then key in the number 1 as your answer in the input box.

If you think that the statement can be part of ANOTHER para that is subsequent to OR succeeds OR is downstream of the given para, then key in the number 5 as your answer in the input box.

This could mean that under certain conditions, matter inexorably acquires the key physical attribute associated with life.

From the standpoint of physics, there is one essential difference between living things and inanimate clumps of carbon atoms. _____(2)_____. The former tend to be much better at capturing energy from their environment and dissipating that energy as heat. Jeremy England, a 31-year-old assistant professor at the Massachusetts Institute of Technology, has derived a mathematical formula that he believes explains this capacity.

_____ (3)_____. The formula, based on established physics, indicates that when a group of atoms is driven by an external source of energy (like the sun or chemical fuel) and surrounded by a heat bath (like the ocean or atmosphere), it will often gradually restructure itself in order to dissipate increasingly more energy. _____(4)_____.

Q32. DIRECTIONS for questions 31 to 34: The following question consists of a highlighted sentence and a paragraph from which the sentence may have been taken. The paragraph has a total of three blanks numbered as (2), (3) and (4). Choose the number of the blank where the highlighted sentence can best be reinserted and key in that number in the input box provided below the question paragraph. (Note that blanks 2, 3 and 4 are within the given paragraph.)

Further:

If you think that the highlighted statement can be part of ANOTHER PARA that is prior to OR precedes OR is upstream of the given para, then key in the number 1 as your answer in the input box.

If you think that the statement can be part of ANOTHER para that is subsequent to OR succeeds OR is downstream of the given para, then key in the number 5 as your answer in the input box.

But there is an exception.

Ammonia is as repulsive to most marine animals as it is to land-lubbing ones - and for good reason. It is extremely toxic. _____(2)_____. Far from being repelled by ammonia, sharks are actually attracted to it. The longtime assumption has been that this is because it is a waste product, voided into the water by fish and other creatures, that signals the presence of potential prey. _____(3)_____. But Chris Wood and Marina Giacomini of the University of British Columbia, in Vancouver, think that there may be more to it than this. _____(4)_____. They suspect that for sharks, ammonia is itself a useful resource.

Q33. DIRECTIONS for questions 31 to 34: The following question consists of a highlighted sentence and a paragraph from which the sentence may have been taken. The paragraph has a total of three blanks numbered as (2), (3) and (4). Choose the number of the blank where the highlighted sentence can best be reinserted and key in that number in the input box provided below the question paragraph. (Note that blanks 2, 3 and 4 are within the given paragraph.)

Further:

If you think that the highlighted statement can be part of ANOTHER PARA that is prior to OR precedes OR is upstream of the given para, then key in the number 1 as your answer in the input box.

If you think that the statement can be part of ANOTHER para that is subsequent to OR succeeds OR is downstream of the given para, then key in the number 5 as your answer in the input box.

Yet the very newness of the circumstances brings about a revolutionary change in the nature of the decisions they are called upon to make.

Whether we are submitting masses of men to information overload or not, we are affecting their behavior negatively by imposing on them still a third form of overstimulation - decision stress.

_____ (2) _____ Many individuals tapped in dull or slowly changing environments yearn to break out into new jobs or roles that require them to make faster and more complex decisions. _____ (3) _____ But among the people of the future, the problem is reversed. "Decisions, decisions ..." they mutter as they race anxiously from task to task. _____ (4) _____ The reason they feel harried and upset is that transience, novelty and diversity pose contradictory demands and thus place them in an excruciating double bind.

Q34. DIRECTIONS for questions 31 to 34: The following question consists of a highlighted sentence and a paragraph from which the sentence may have been taken. The paragraph has a total of three blanks numbered as (2), (3) and (4). Choose the number of the blank where the highlighted sentence can best be reinserted and key in that number in the input box provided below the question paragraph. (Note that blanks 2, 3 and 4 are within the given paragraph.)

Further:

If you think that the highlighted statement can be part of ANOTHER PARA that is prior to OR precedes OR is upstream of the given para, then key in the number 1 as your answer in the input box.

If you think that the statement can be part of ANOTHER para that is subsequent to OR succeeds OR is downstream of the given para, then key in the number 5 as your answer in the input box.

It was that view that froze the place.

_____ (2) _____ Dr. Robert Stadler paced his office, wishing he would not feel the cold. Spring had been late in coming. Beyond the window, the dead gray of the hills looked like the smeared transition from the soiled white of the sky to the leaden black of the river. Once in a while, a distant patch of hillside flared into a silver-yellow that was almost green, then vanished. The clouds kept cracking for the width of a single sunray, then oozing closed again. It was not cold in the office, thought Dr. Stadler. _____ (3) _____ Yes, it was not cold today, the chill was in his bones-he thought-the stored accumulation of the winter months, when he had had to be distracted from his work by an awareness of such a matter as inadequate heating and people had talked about conserving fuel. _____ (4) _____ It was preposterous, he thought, this growing intrusion of the accidents of nature into the affairs of men.

DIRECTIONS for questions 35 to 37: The passage given below is followed by a set of three questions. Choose the best answer to each question.

Sweden is a victim of its own generosity and success. No European country has a larger proportion of refugees in its population and in 2015 none welcomed a larger flow of asylum-seekers, proportionate to its population, than Sweden did (163,000 asylum-seekers arrived in Sweden in 2015). Employment rates for refugees are no lower than in most European countries, but the difference with Swedish-born workers is striking. Partly it is because many Swedish-born women work and Swedes are highly educated. Nevertheless, fears are mounting about the social impact of the two-tier labour market that is developing. Magnus Henrekson, an academic, fears further ghettoisation and alienation.

On the surface, Sweden has one of the least troubled labour markets in the world. The economy is growing, vacancies are plentiful, only 5% of 15-74-year-old native-born workers are jobless and the unemployment rate is falling. But foreign-born workers are three times as likely to be unemployed, and the ratio is rising. Hidden discrimination, housing problems and a Swedish reliance on informal networks help explain the gap. But many refugees simply lack the skills for Sweden's job market. Highly educated migrants also lag behind their Swedish-born peers in

finding work. ...The obstacles employers cite include uncertainty about refugees' qualifications and their right to work, sceptical public opinion, and worries that language barriers will mean lower productivity.

The concerns reflect changes in Sweden's employment market. Fewer than 5% of jobs are now low-skilled, requiring less than a high-school qualification, compared with 9% in Germany and 16% in Spain. Countries such as Greece and Italy have larger shadow economies, helping explain why refugees there have higher employment levels than natives. "High-school diplomas are Sweden's biggest divider," says Anna Breman, chief economist at Swedbank. Nearly all Swedes have them, yet only half of new arrivals do, according to government statistics.

The paradox, says Thomas Liebig, from the OECD, is that Sweden has among the most advanced refugee-integration policies. A two-year programme is meant to make refugees "job-ready", but is often too long for educated refugees and too short for those lacking basic literacy and numeracy. Only 22% of low-educated foreign-born men and 8% of women found work in the year after completing the programme. On average it takes seven to eight years for newcomers to find employment.

Q35. Which of the following is a reason for the author of the passage to state that "Sweden is a victim of its own generosity and success." (para 1)?

- a) Though Swedes invited refugees, they never provided them with opportunities to develop their skill sets and progress in life.
- b) Many refugees ingress into refugee-friendly Sweden from other European countries resulting in unemployment problems for the native Swedes.
- c) Though Swedes invited a lot of refugees from other countries, their own superior skillsets / qualifications meant that refugees find it difficult to find a job in Sweden.
- d) Among European nations, Sweden has invited the highest number of refugees but after the refugees became successful, they deserted Sweden and returned to their native lands *enmasse*.

Q36. According to the passage, Magnus Henrekson believes that refugees seeking asylum in Sweden will encounter which of the following imminent hindrances?

- a) Hidden discrimination, housing problems and a Swedish reliance on informal networks.
- b) Refugees will be affected by economic and social conditions that make integration difficult.
- c) A two-tier labour market which will be established in the near future.
- d) All of the above.

Q37. What contradiction is Thomas Liebig, from the OECD, referring to in the passage?

1. The real bottleneck in Sweden is that the lowest wages for native Swedes are so high and migrants cannot achieve these high wage levels because they are less skilled.
2. Sweden is inviting low skilled refugees when it has only high skilled jobs.
3. Sweden is offering beneficial two year integration programme for refugees but too few refugees, not too many, wish to be a part of the working population in Sweden.
4. Nearly all Swedes have high school diplomas, yet only half of new arrivals in Sweden do so.
5. It takes newcomers a long time to find employment in Sweden inspite of progressive reforms intended to support the integration of refugees in Sweden.

- a) a and d
- b) b and e
- c) c and e
- d) Only e

DIRECTIONS for questions 38 to 40: The passage given below is followed by a set of three questions. Choose the best answer to each question.

As I address you today, it seems to me a lecturer's duty to tell you about any remarkable thoughts at this moment engaging the attention of western philosophers and men of science - partly because without a knowledge of them you might form incorrect ideas in relation to a philosophic character's utterances. I am not going to discourse about Nietzsche, though the title of

this lecture is taken from one of his books. You will not find the ideas that I will discuss in his books. It is most extraordinary that these ideas never occurred to him, for he was an eminent man of science before writing his probably insane books. I have not the slightest sympathy with his ideas; they seem to be either misinterpretations of evolutionary teachings or simply undeveloped thoughts. But the title of one of his books, and the idea which he tries always unsuccessfully to explain, that of a state above mankind, a moral condition "beyond man", is worth talking about. It is not nonsense at all, but fact. Leaving Nietzsche alone, let us ask if it is possible to suppose such a state? It is not only possible but has also been predicted by thinkers like Herbert Spencer. ...

Could a world exist in which the nature of all inhabitants would be so moral that the mere idea of what is immoral could not exist? Imagine a society in which the ideas of dishonesty, unchastity, envy would not exist, because no person could be dishonest, unchaste or envious. In such a world, ideas of duty would be quite useless; for every action of existence would represent the constant, painless and faultless performance of what we term duty. With us, what is wrong often gives pleasure; and what is good to do, commonly causes pain. But in the world which I am asking you to imagine; all the pleasure would be in right-doing.

Young people tend to eat, drink, or sleep too much. But in our imaginary world, to eat or drink or to sleep in even the least degree more than is necessary cannot be done; the constitution of the race will not permit it. Our children have to also be educated in regard to what is right and wrong; in the world of which I am speaking, no time would be wasted in such education, for every child would be born with full knowledge of what is right and wrong. Does such a world in which morality would have been transmitted into inherited instinct exist? You may answer - In heaven and nowhere else. But the world of insects actually furnishes examples of such moral transformation. Writers such as Sir John Lubbock and Herbert Spencer say that certain kinds of social insects have immensely surpassed men, both in social and in ethical progress.

Q38. It can be inferred from the speaker's views that social insects are superior to humans because

- a) insects seem to make better use of a moral compass than humans do.
- b) morality is immanent in insects.
- c) there is no immorality in the world of insects.
- d) insects follow universal ethics.

Q39. According to the first para of the passage, it can be inferred that the speaker provides a reference to Nietzsche in his lecture because

- a) philosophers like Nietzsche entertained amorphous thoughts and one of these thoughts caught the speaker's attention.
- b) he wants to prove that eminent men of science like Nietzsche, who focus on scientific problems, do not indulge in immature and flawed thought processes.
- c) he wants to set right incorrect ideas in relation to Nietzsche's sayings.
- d) the subject of his lecture was an idea propounded but not explained well enough by Nietzsche.

Q40. According to the passage, it can be inferred that a world where humans are not associated with immoral things

- a) is an utopian world.
- b) cannot exist as it is only a figment of the speaker's imagination.
- c) is a possible but currently non-existent world.
- d) is a world not only possible but also currently existing.

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DIRECTIONS for questions 1 to 5: Answer these questions on the basis of the information given below.

Suraj, a fashion model, planned to meet and audition with twelve fashion designers - Designer A through Designer L - on a particular day to try and secure modelling contracts with as many

designers as possible. On that day, Suraj planned to wear a shirt with a pair of trousers, socks and shoes, and also a tie and a blazer, i.e., a total of six pieces of clothing. However, before meeting the designers, as he was researching each designer, he found out that each designer prefers a certain colour for each piece of clothing. Suraj also figured that, to secure the modelling contract with any designer, he should be wearing at least three pieces of clothing (out of the six mentioned above), each in the respective colour preferred by that designer.

The following table provides the colour preferred by each designer for each piece of clothing:

Designer	Shirt	Tie	Blazer	Trousers	Socks	Shoes
A	Blue	Black	Grey	Black	Black	Brown
B	Black	Blue	Blue	Grey	Pink	Black
C	Blue	Yellow	Grey	Red	Red	Pink
D	Brown	Yellow	Blue	Grey	Brown	Brown
E	Blue	Blue	Orange	Black	Pink	Yellow
F	Grey	Orange	Red	Blue	Red	Brown
G	Black	Blue	Red	Red	Black	Yellow
H	Grey	Black	Orange	Blue	Brown	Pink
I	Brown	Orange	Blue	Black	Brown	Brown
J	Black	Yellow	Grey	Red	Pink	Black
K	Blue	Blue	Red	Blue	Red	Pink
L	Grey	Yellow	Grey	Red	Blue	Yellow

Q1. DIRECTIONS for questions 1 to 5: Select the correct alternative from the given choices. If Suraj wears a Black Shirt, an Orange Tie, a Blue Blazer, Red Trousers, Pink Socks and Brown Shoes, how many modelling contracts can he secure?

- a) 5
- b) 4
- c) 3
- d) 2

Q2. DIRECTIONS for questions 1 to 5: Select the correct alternative from the given choices. If Suraj wears a Grey Shirt, Yellow Tie, Grey Trouser and Brown Socks, what should be the colours of the Blazer and the Shoes that Suraj must wear to maximize the number of modelling contracts that he can secure?

- a) Orange Blazer and Pink Shoes
- b) Blue Blazer and Black Shoes
- c) Orange Blazer and Yellow Shoes
- d) Grey Blazer and Pink Shoes

Q3. DIRECTIONS for questions 1 to 5: Select the correct alternative from the given choices. If Suraj wore a Blue Shirt, a Grey Blazer and Black Shoes and secured a modeling contract with D, the total number of modelling contracts that he secures

- a) can be 2 or 3.
- b) is 3.
- c) can be 3 or 4.
- d) is 4.

Q4. DIRECTIONS for questions 1 to 5: Select the correct alternative from the given choices. If Suraj wore a Black Shirt, Black Trousers, Black Shoes, Black Tie, Red Blazer and Red Socks, how many modelling contracts can he secure?

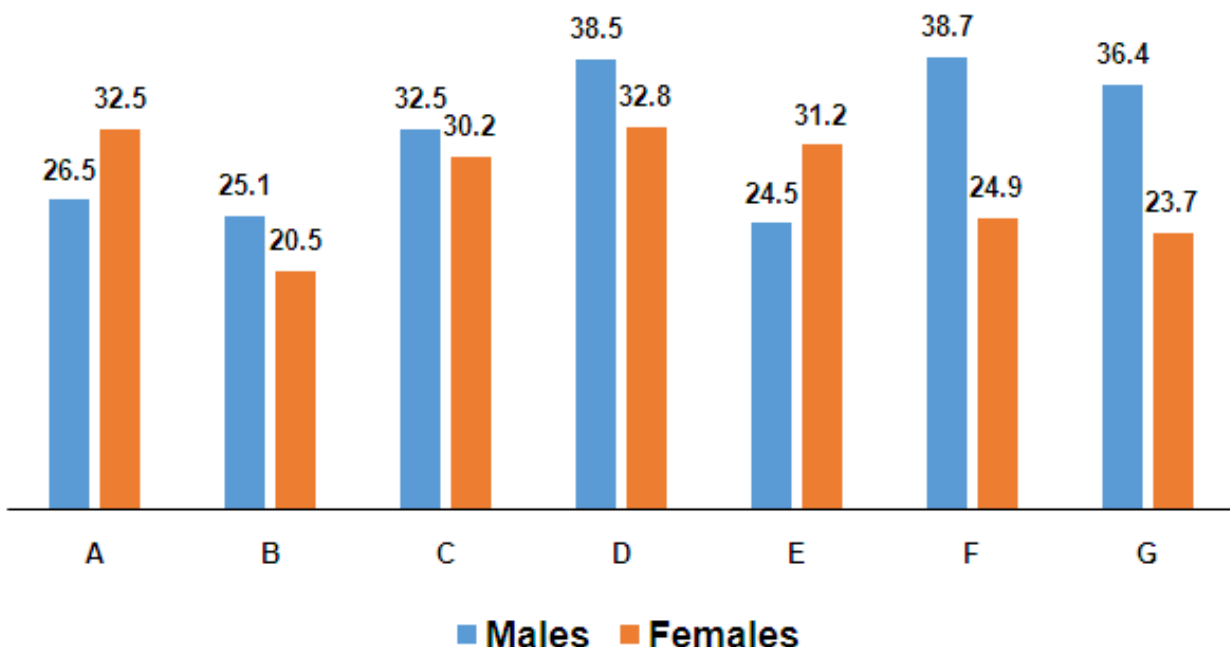
- a) 0
- b) 1
- c) 2
- d) 3

Q5. DIRECTIONS for questions 1 to 5: Select the correct alternative from the given choices. If the colour of each piece of clothing that Suraj wore was the same, what is the maximum number modelling contracts that he can secure?

- a) 0
- b) 1
- c) 2
- d) 3

DIRECTIONS for questions 6 to 10: Answer these questions on the basis of the information given below.

The graph below provides the number of males (in mn) and the number of females (in mn) in each of seven states - A through G - of a country. The males and females in any state comprise the total population of that state and the populations of the seven states together comprise the total population of the country.



Q6. DIRECTIONS for questions 6 and 7: Type in your answer in the input box provided below the question.

For how many states is the percentage of population of that state less than 15% of the country's population?

Q7. DIRECTIONS for questions 6 and 7: Type in your answer in the input box provided below the question.

For how many states is the ratio of the number of females to the number of males greater than that for the country?

Q8. DIRECTIONS for question 8: Select the correct alternative from the given choices.

If, in each state, exactly 60% of the males and 40% of the females are literate, which state has the third highest illiterate population?

- a) A
- b) C
- c) G
- d) F

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

For how many states is it possible that the population of the unmarried persons in the state is less than 10% of the population of the state?

Assume that there are no widows or widowers in the country.

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

For how many states is the number of males in the state as a percentage of the total number of males in the country less than 15.46%?

DIRECTIONS for questions 11 to 15: Answer these questions on the basis of the information given below.

Six persons, Akbar, Barry, Chand, Dhruv, Himesh and Gaurav, form a human pyramid, which has three levels. The first level consists of three persons who are standing on the ground; the second level consists of two persons who are standing on the shoulders of the three persons at the first level; the third level consists of one person who is standing on the shoulders of the two persons at the second level. Further, at each level, every person supports an equal weight and all the persons at a particular level together support the total weight

of all the people on all the levels above them. The weights of the six persons are 50 kg, 60 kg, 70 kg, 80 kg, 90 kg and 100 kg, not necessarily in the same order. The following information is known about the persons at each level of the pyramid:

1. Akbar supports the same weight as Barry, which is not the same as the weight supported by Chand.
2. No one is standing on Himesh but he does not weigh the least.
3. Dhruv, who weighs the most, is not at the same level as Chand, while Barry weighs more than each of Himesh and Gaurav.
4. Chand weighs less than Gaurav and the weight of Gaurav is the average of the weights of Akbar and Barry.
5. Every person at the first level supports a weight of 70 kg.

Q11. DIRECTIONS for questions 11 to 15: Select the correct alternative from the given choices.

Who among the following is standing at the second level?

- a) Akbar
- b) Dhruv
- c) Himesh
- d) Gaurav

Q12. DIRECTIONS for questions 11 to 15: Select the correct alternative from the given choices.

What is the weight of Himesh?

- a) 60 kg
- b) 70 kg
- c) 80 kg
- d) Cannot be determined

Q13. DIRECTIONS for questions 11 to 15: Select the correct alternative from the given choices.

Who among the following weighs the least?

- a) Akbar
- b) Chand
- c) Barry
- d) Gaurav

Q14. DIRECTIONS for questions 11 to 15: Select the correct alternative from the given choices.

Among the six persons, how many persons support a weight greater than their own weight?

- a) 0
- b) 1
- c) 2
- d) 3

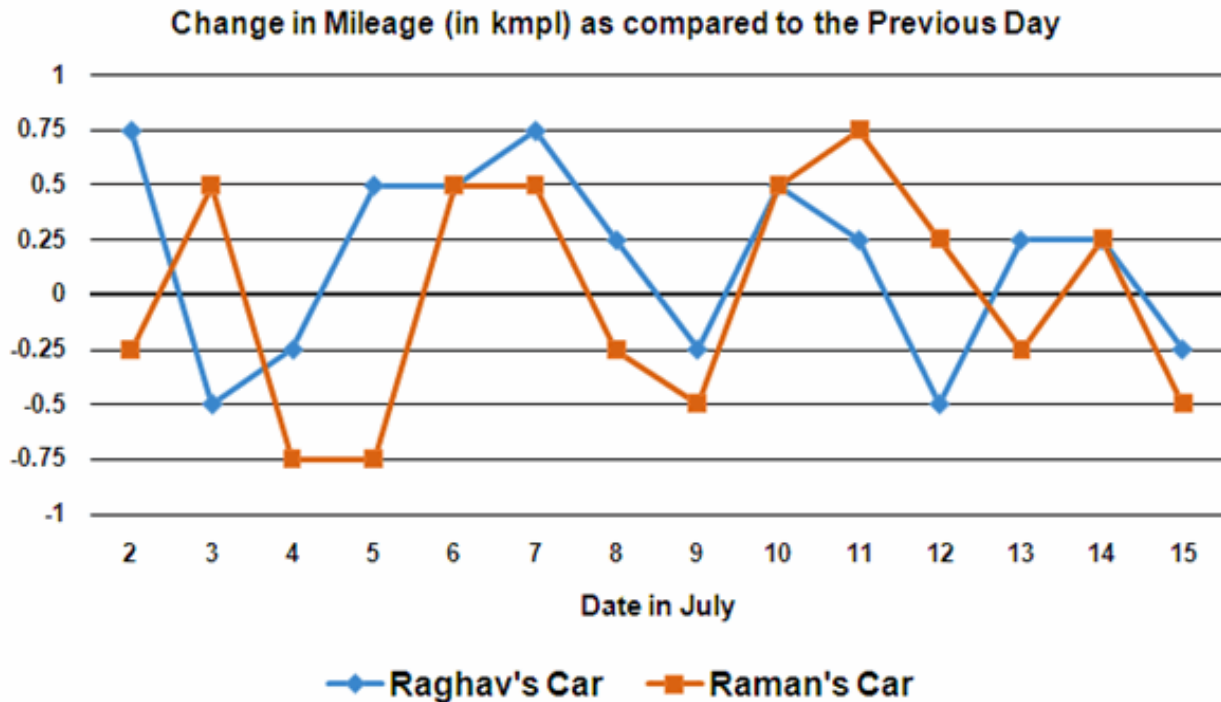
Q15. DIRECTIONS for questions 11 to 15: Select the correct alternative from the given choices.

The minimum difference between the weight of a person and the weight that he supports is

- a) 10 kg.
- b) 20 kg.
- c) 30 kg.
- d) 40 kg.

DIRECTIONS for questions 16 to 20: Answer these questions on the basis of the information given below.

Raghav and Raman, who worked in the same office, travel to their office every day in two different cars. At the end of each day, each of them calculated the mileage (in kilometres per litre) that his car gave on that day. It is known that on July 1st, Raghav's car gave a mileage of 13 kmpl, while Raman's car gave a mileage of 15 kmpl. The following graph provides the change in mileage given by each car on each day as compared to that on the previous day, from July 2nd till July 15th:



Q16. DIRECTIONS for questions 16 to 20: Select the correct alternative from the given choices.

What is the maximum mileage that any of the two cars gave on any of the given days?

- a) 15.25 kmpl
- b) 15.5 kmpl
- c) 15.75 kmpl
- d) None of the above

Q17. DIRECTIONS for questions 16 to 20: Select the correct alternative from the given choices.

On how many days did Raghav's car give a better mileage than Raman's car?

- a) 7
- b) 6
- c) 5
- d) 4

Q18. DIRECTIONS for questions 16 to 20: Select the correct alternative from the given choices.

On how many days did the mileage of at least one of the two cars increase by more than 5%?

- a) 3
- b) 4
- c) 5
- d) 2

Q19. DIRECTIONS for questions 16 to 20: Select the correct alternative from the given choices.

If each of Raghav's and Raman's cars consumed 2 liters of fuel every day, then what is the maximum total distance that any of the two cars travelled from July 1st to July 15th?

- a) 428.5 km
- b) 433.5 km
- c) 438.5 km
- d) 443.5 km

Q20. DIRECTIONS for questions 16 to 20: Select the correct alternative from the given choices.

If Raghav's car and Raman's car travelled the same distance on each day from July 11th till July 15th, what is the ratio of the fuel consumed by Raman's car during this period to that consumed by Raghav's car?

- a) 0.9675
- b) 0.9875
- c) 1.0125
- d) None of the above

DIRECTIONS for questions 21 to 25: Answer these questions on the basis of the information given below.

Each of five friends - Pavan, Qureshi, Rajesh, Sravan and Tim - subscribes to a different magazine among Filmware, Men, Comicdust, Reader and Rogue. Each friend receives a copy of the magazine that he subscribes to with a different frequency among Daily, Weekly, Fortnightly, Monthly and Quarterly.

The following information is known about the magazines that each friend subscribes to:

1. Pavan subscribes neither to the Monthly magazine nor to Reader.
2. Qureshi subscribes to Rogue, which is not a Weekly magazine.
3. Sravan receives more number of copies in a year than Rajesh.
4. Tim does not subscribe to Comicdust but he subscribes to the Fortnightly magazine.
5. Men is a Monthly magazine and Rajesh does not subscribe to it.
6. Reader is not a Fortnightly magazine.

Q21. DIRECTIONS for questions 21 to 25: Select the correct alternative from the given choices.

Who subscribes to Comicdust?

- a) Sravan
- b) Pavan
- c) Rajesh
- d) Cannot be determined

Q22. DIRECTIONS for questions 21 to 25: Select the correct alternative from the given choices.

Which of the following is a Quarterly magazine?

- a) Filmware
- b) Rogue
- c) Comicdust
- d) Reader

Q23. DIRECTIONS for questions 21 to 25: Select the correct alternative from the given choices.

Who among the following will receive more number of copies in a year as compared to Pavan?

- a) Qureshi
- b) Rajesh
- c) Sravan
- d) None of the above

Q24. DIRECTIONS for questions 21 to 25: Select the correct alternative from the given choices.

Who subscribes to the Monthly magazine?

- a) Rajesh
- b) Sravan
- c) Qureshi
- d) Cannot be determined

Q25. DIRECTIONS for questions 21 to 25: Select the correct alternative from the given choices.

Which magazine does Sravan subscribe to?

- a) Filmware
- b) Reader
- c) Comicdust
- d) Men

DIRECTIONS for questions 26 to 30: Answer these questions on the basis of the information given below.

Ranjit, an Army Major, sends supplies to the Barracks from the Supply Depot using a convoy of vehicles. The convoy includes four different types of vehicles - Cars, Jeeps, Trucks and Vans. Ranjit decides the number of vehicles of each type in the convoy and the order of the vehicles in the convoy. The vehicles in the convoy always travel one behind the other and, for any pair of vehicles travelling immediately next to each other in the convoy, the exact distance that should be maintained between the vehicles depends on the types of the vehicles and the relative order in which they are travelling.

The slack in the convoy is defined as the sum of the distances between all the pairs of adjacent vehicles in the convoy. Further, given the composition of vehicles in the convoy, Ranjit always decides the order of the vehicles in the convoy so as to ensure that the slack in the convoy is minimized. If the slack in the convoy is the same for more than one order of vehicles, he will choose any one order at random.

The following table provides, for any pair of vehicles, the distance (in feet) that needs to be maintained between them, based on the vehicle which is in front and the vehicle which is at the back:

Front \ Back	Car	Jeep	Truck	Van
Car	20	25	15	40
Jeep	15	10	20	10
Truck	25	25	25	20
Van	20	15	25	20

Q26. DIRECTIONS for questions 26 to 30: Select the correct alternative from the given choices.

If Ranjit wants to send a convoy comprising two Cars and two Jeeps, what will be the slack (in feet) in the convoy?

- a) 40
- b) 45
- c) 50
- d) 55

Q27. DIRECTIONS for questions 26 to 30: Select the correct alternative from the given choices.

If Ranjit wants to send two Jeeps, two Vans and one Truck, how many vehicles must be in front of the Truck?

- a) 0
- b) 1
- c) 2
- d) 4

Q28. DIRECTIONS for questions 26 to 30: Select the correct alternative from the given choices.

Ranjit sent a convoy of four vehicles comprising one Truck and three vehicles of another type. If the slack in the convoy was 60 ft, what type were the other three vehicles?

- a) Jeep
- b) **Car**
- c) Van
- d) Cannot be determined

Q29. DIRECTIONS for questions 26 to 30: Select the correct alternative from the given choices.

If Ranjit sent a convoy comprising one vehicle of each type, what will be the slack (in feet) in the convoy?

- a) 40
- b) 45
- c) **50**
- d) 55

Q30. DIRECTIONS for questions 26 to 30: Select the correct alternative from the given choices.

Ranjit sent a convoy comprising one Jeep along with four vehicles of another type. What is the maximum number of vehicles that can be behind the Jeep?

- a) 0
- b) 2
- c) 3
- d) **4**

DIRECTIONS for questions 31 to 35: Answer these questions on the basis of the information given below.

Everyday Raj phones seven friends - Ajay, Balu, Hari, Satish, Tarak, Lokesh and Piyush - and speaks to them. He decides the order in which to speak to them on each day based on the following criteria:

1. On any day, Raj first speaks to the person he last spoke to on the previous day, after which he speaks to the remaining six persons in the same relative order in which he spoke to them on the previous day.

2. If the date (of the month) of any day is a prime number and according to the above pattern, he has to talk to Tarak, Hari or Lokesh first, then, instead of following the above pattern, he first speaks to the sixth person that he spoke to on the previous day and then speaks to the last person he spoke to on the previous day, after which he speaks to the remaining five persons in the same relative order in which he spoke to them on the previous day.

On January 1st, he called them in the following order: Ajay, Tarak, Satish, Balu, Hari, Piyush, Lokesh

Q31. DIRECTIONS for questions 31 to 35: Select the correct alternative from the given choices.

On how many days in the month of January will Hari be the first person that Raj calls?

- a) 3
- b) 4
- c) 5
- d) 6

Q32. DIRECTIONS for questions 31 to 35: Select the correct alternative from the given choices.

Which of the following persons will Raj call first the maximum number of times in January?

- a) Balu
- b) Satish
- c) Lokesh
- d) Piyush

Q33. DIRECTIONS for questions 31 to 35: Select the correct alternative from the given choices.

On how many days in January will Raj call Lokesh immediately after he calls Piyush?

- a) 27
- b) 26
- c) 25
- d) 31

Q34. DIRECTIONS for questions 31 to 35: Select the correct alternative from the given choices.

On which of the following days will Lokesh be the third person that Raj calls?

- a) Jan 20th
- b) Jan 21st
- c) Jan 22nd
- d) Jan 24th

Q35. DIRECTIONS for questions 31 to 35: Select the correct alternative from the given choices.

What is the earliest day that Raj will call Tarak first?

- a) Jan 25th
- b) Jan 31st
- c) Feb 4th
- d) Feb 8th

DIRECTIONS for questions 36 to 40: Answer these questions on the basis of the information given below.

Manish wanted to learn three different languages each from a different family of language. He wanted to learn one language from three Dravidian languages, Toda, Tulu and Gondi; one language from three Romance languages, Catalan, Romanian and Latin; one language from three Afro-Asiatic languages, Hausa, Oromo and Amharic.

However, he must select the three languages that he wants to learn subject to the following criteria:

1. If he selects Toda, he cannot select Oromo.
2. If he selects Catalan or Hausa, he cannot select Gondi.
3. If he selects both Tulu and Romanian, he must select Amharic.
4. He cannot select both Toda and Catalan.
5. If he selects Latin, he cannot select Amharic.

Q36. DIRECTIONS for questions 36 to 40: Type in your answer in the input box provided below the question.

In how many ways can Manish select the three languages?

Q37. DIRECTIONS for questions 36 to 40: Type in your answer in the input box provided below the question.

If Manish selects Hausa, in how many ways can he select the other two languages?

Q38. DIRECTIONS for questions 36 to 40: Type in your answer in the input box provided below the question.

If Manish has to select exactly one language between Amharic and Romanian, in how many ways can he select the three languages?

Q39. DIRECTIONS for questions 36 to 40: Type in your answer in the input box provided below the question.

If Manish selects Tulu but not Romanian, in how many ways can he select the three languages?

Q40. DIRECTIONS for questions 36 to 40: Type in your answer in the input box provided below the question.

If Manish wants to select Latin, in how many ways can he select the other two languages?

QA

DIRECTIONS for questions 1 and 2: Answer the questions on the basis of the information given below.

Let the number of natural numbers that have at most k digits with the sum of their digits as at most d be N_d^k .

Q1. DIRECTIONS for questions 1 and 2: Type in your answer in the input box provided below the question.

Find $N_5^5 - N_4^5$.

Q2. DIRECTIONS for questions 1 and 2: Type in your answer in the input box provided below the question.

Find N_5^6 .

Q3. DIRECTIONS for question 3: Select the correct alternative from the given choices.

Two boys start simultaneously at the same point on a circular track and run along the track in the same direction. The point on the track at which they meet for the 5th time is the same as that at which they meet for the 17th time. If the ratio of the speed of the faster boy to that of the slower is $n : 1$, where n is a natural number, which of the following is not a possible value of n ?

- a) 2
- b) 4
- c) 5
- d) 6

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

If $N = 2^{1500}$, what is the remainder when N is divided by 13?

Q5. DIRECTIONS for questions 5 to 15: Select the correct alternative from the given choices.

If $x > 1$, find the minimum value of $17 \log_3 x - 3 \log_5 x + 20 \log_{10} x - 3 \log_6 x + 20 \log_3 x$.

- a) 8
- b) 34
- c) 18
- d) 24

Q6. DIRECTIONS for questions 5 to 15: Select the correct alternative from the given choices.

The lecturers of a certain college contributed for a charity programme. All lectures of the college are classified as either senior lecturers or junior lecturers. The senior lecturers contributed an average of Rs.250 per head and the junior lecturers contributed an average of Rs.100 per head. If the average contribution per lecturer was Rs.160 on the whole, what percentage of the lecturers are junior lecturers?

- a) 55%
- b) 60%
- c) 65%
- d) 80%

Q7. DIRECTIONS for questions 5 to 15: Select the correct alternative from the given choices.

If the two adjacent sides of a parallelogram are in the ratio 17 : 12 and the sum of a pair of opposite angles of the parallelogram is 120° , find the minimum number of equilateral triangles (not necessarily all of the same size) into which the parallelogram can be exactly cut.

- a) 5
- b) 12
- c) 14
- d) 408

Q8. DIRECTIONS for questions 5 to 15: Select the correct alternative from the given choices.

Ram and Shyam attended a food festival. Ram gave an order for 3 burgers, 4 pastries and 2 pizzas, whereas Shyam placed an order for 2 burgers, a pastry and 3 pizzas. The bill for Ram and Shyam was Rs.1050 and Rs.950 respectively. If Ram exchanges a pizza for a pastry with Shyam, then which of the following is true?

- a) Shyam owes Ram a sum of Rs.150
- b) Shyam owes Ram a sum of Rs.100
- c) Ram owes Shyam a sum of Rs.150
- d) Ram owes Shyam a sum of Rs.100

Q9. DIRECTIONS for questions 5 to 15: Select the correct alternative from the given choices.

The savings of Achyut are 30% of his earnings, while the savings of Ranjit are 150% of the savings of Achyut. The combined earnings of Achyut and Ranjit as a percentage of Achyut's earnings cannot be

- a) 150%.

- b) 160%.
- c) 120%.
- d) 180%.

Q10. DIRECTIONS for questions 5 to 15: Select the correct alternative from the given choices.

A group of $2N$ ($N > 5$) persons can do a piece of work in N days. When the group started the work, one of them could not join the work as he met with an accident. The remaining people started the work and, starting from the first day, at the end each day one person left the group. After the group finishes working in this manner, the remaining work, if any, is then taken up on the immediately following day by the first person (who could not initially join the group due to the accident) alone, who continues till the work is completed. In how many days will the work be completed?

- a) $2N$
- b) $3N - 1$
- c) $2N - 1$
- d) $2N - 2$

Q11. DIRECTIONS for questions 5 to 15: Select the correct alternative from the given choices.

If for a quadratic function $f(x)$, $f(7) = f(-3) = 0$ and $f(6) = -18$, then

- a) $f(x)$ attains its maximum at $x = 2$.
- b) $f(x)$ attains its minimum at $x = 4$.
- c) $f(x)$ attains its minimum at $x = 2$.
- d) $f(x)$ attains its minimum at $x = 5$.

Q12. DIRECTIONS for questions 5 to 15: Select the correct alternative from the given choices.

The area (in sq.units) enclosed by the graph of $|x - 1| + |y - 1| = 2$, is

- a) 16.
- b) 4.
- c) 9.
- d) 8.

Q13. DIRECTIONS for questions 5 to 15: Select the correct alternative from the given choices.

Find the area of the smallest possible circle that can circumscribe a triangle of area $3\sqrt{3}$ sq.cm.

- a) 3π sq.cm
- b) 4π sq.cm
- c) 9π sq.cm
- d) 6π sq.cm

Q14. DIRECTIONS for questions 5 to 15: Select the correct alternative from the given choices.

Consider the following sum of 232 terms:

$$S = 1 + \frac{1}{2} + \frac{1}{3} + \frac{1}{4} + \frac{1}{5} + \frac{1}{6} + \frac{1}{7} + \dots + \frac{1}{2^{32}}$$

Which of the following statements is true of S ?

- a)

$$5 < S < 8\frac{1}{2}$$

- b) $9 < S < 16\frac{1}{2}$
 c) $17 < S < 32\frac{1}{2}$
 d) $33 < S < 64\frac{1}{2}$

Q15. DIRECTIONS for questions 5 to 15: Select the correct alternative from the given choices.

Raj distributed N coins equally among his three children. The eldest son of Raj observed that the last digit of the sum of N and the number formed by reversing the digits of N is 9. How many values can N assume between 400 and 999?

- a) 18
 b) 20
 c) 24
 d) 30

DIRECTIONS for questions 16 and 17: Answer these questions on the basis of the information given below.

There are 700 employees in a company. Each employee of the company is either a Junior Software Engineers (JSE) or a Senior Software Engineers (SSE) and belongs to exactly one area among Testing and Programming.

Further it is known that

- The ratio of males who are into programming to females who are JSEs is 3 : 2.
- The number of females who are SSEs is equal to the number of males who are into Testing, which, in turn, is equal to 200.

Q16. DIRECTIONS for questions 16 and 17: Select the correct alternative from the given choices.

How many males are working in the company?

- a) 400
 b) 380
 c) 360
 d) 320

Q17. DIRECTIONS for questions 16 and 17: Select the correct alternative from the given choices.

If 300 employees are into Testing, then how many females are into Programming?

- a) 260
 b) 240
 c) 220
 d) 200

Q18. DIRECTIONS for questions 18 to 20: Select the correct alternative from the given choices.

Incy, the spider, has 10 legs. For each leg, Incy has exactly one shoe and one sock, neither of which can fit on any other leg. Assuming that on each leg, the sock must be put on before the shoe, in how many different orders (i.e., sequences) can Incy put on the socks and shoes on all of its legs?

- a) $\frac{2^8}{19!}$
 b) $\frac{2^9}{5 \cdot 18!}$
 c) $\frac{2^9}{20!}$
 d) 2^9

Q19. DIRECTIONS for questions 18 to 20: Select the correct alternative from the given choices.

If $\frac{y+z-x}{x}$, $\frac{x+z-y}{y}$ and $\frac{x+y-z}{z}$ are in arithmetic progression, then which of the following are in arithmetic progression?

- a) x, y, z
 b) $x+y, x+z, y+z$
 c) $\frac{1}{x}, \frac{1}{y}, \frac{1}{z}$
 d) $\frac{1}{x+y}, \frac{1}{x+z}, \frac{1}{y+x}$

Q20. DIRECTIONS for questions 18 to 20: Select the correct alternative from the given choices.

Three circles of equal radii have been drawn inside an equilateral triangle, of side a , such that each circle touches the other two circles as well as exactly two sides of the triangle. Find the radius of each circle.

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

DIRECTIONS for questions 21 and 22: Answer the questions based on the information given below.

John and Peter run a race between two points, A and B, 12 km apart. John starts at 7 a.m. from A, at a speed of 8 km/hr, reaches B, and returns to A at the same speed. Peter starts at 8 a.m. from A, at a speed of 12 km/hr, reaches B, and comes back to A at the same speed.

Q21. DIRECTIONS for questions 21 and 22: Select the correct alternative from the given choices.

At what time do John and Peter first meet each other?

- a) 8:58 am
- b) 8:48 am
- c) 8:30 am
- d) 8:40 am

Q22. DIRECTIONS for questions 21 and 22: Select the correct alternative from the given choices.

At what time do Peter and John meet for the second time?

- a) 9:45 am
- b) 9:30 am
- c) 9:50 am
- d) 10:00 am

Q23. DIRECTIONS for question 23: Type in your answer in the input box provided below the question.

If k is a natural number and x_1, x_2, x_3 and x_4 are real numbers, where x_1 and x_2 are the roots of the equation $x^2 - kx + 35 = 0$, while x_3 and x_4 are the roots of the equation $x^2 - 7x + k = 0$, find k .

Q24. DIRECTIONS for question 24: Select the correct alternative from the given choices.
The LCM of two numbers is 315. Which of the following cannot be the sum of the two numbers, given that their HCF is a prime number greater than 3?

- a) 322
- b) 98
- c) 320
- d) 126

DIRECTIONS for questions 25 to 27: Answer the questions on the basis of the information given below.

The seven basic symbols in a certain numeral system and their respective values are as follows.
 $I = 1, V = 5, X = 10, L = 50, C = 100, D = 500, M = 1000$

In general, the symbols in the numeral system are written (and read) from left to right, starting with symbols representing larger values. The value of the numeral is the sum of the values of the symbols.

For example, XXXVIII = $10 + 10 + 10 + 5 + 1 + 1 + 1 = 38$.

An exception to the left to right reading occurs when a symbol is followed immediately by a symbol of greater value; then, the smaller value is subtracted from the larger.

For example XIX = $10 + (10 - 1) = 19$

Q25. DIRECTIONS for questions 25 to 27: Select the correct alternative from the given choices.

The value of the numeral MMCMXCIX is

- a) 2899.
- b) 3309.
- c) 3321.
- d) None of the above

Q26. DIRECTIONS for questions 25 to 27: Select the correct alternative from the given choices.

Which of the following can represent the numeral for 2095?

1. MMLXLV
2. MMXCV
3. MMVC
4. MMCCV

- a) Only (a)
- b) Only (b) and (c)
- c) Only (c) and (d)
- d) Only (a), (b) and (c)

Q27. DIRECTIONS for questions 25 to 27: Select the correct alternative from the given choices.

If α , β are two symbols, not necessarily distinct, belonging to the set of symbols described above, such that $DC\alpha\beta V + MMCCVC = MMMCCL$, then what is the value of the numeral $\beta\alpha$?

- a) 50
- b) 60
- c) 450
- d) 550

Q28. DIRECTIONS for questions 28 and 29: Select the correct alternative from the given choices.

A pentagon is formed by drawing an equilateral triangle PQT on the side PQ of a square PQRS, such that T lies outside the square. A circle is now drawn such that the vertices R, S and T of the pentagon lie on the circumference of the circle. If the side of the square is 5 cm, what is the radius of the circle drawn?

- a) 5 cm
- b) $5\sqrt{2}$ cm
- c) $5\sqrt{3}$ cm
- d) $\frac{5\sqrt{3}}{\sqrt{2}}$ cm

Q29. DIRECTIONS for questions 28 and 29: Select the correct alternative from the given choices.

A and B have written an entrance exam and scored 55 marks and 85 marks respectively. Every question answered correctly fetches one mark but the negative marks per wrong answer for the first twenty wrong answers is different from that for the remaining wrong answers. A and B

attempted 160 and 150 questions respectively. If A and B correctly answered 50% and $66\frac{2}{3}\%$ of the questions that they attempted respectively, find the negative mark for each wrong answer beyond the first twenty wrong answers.

- a) $\frac{1}{2}$
- b) $\frac{1}{3}$

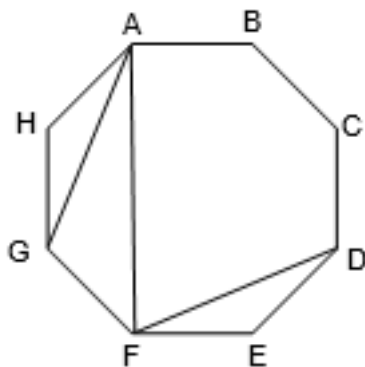
- c) $\frac{1}{4}$
 $\frac{2}{2}$
d) $\frac{3}{3}$

Q30. DIRECTIONS for question 30: Type in your answer in the input box provided below the question.

If $(ab)c$ equals the five-digit number $bac25$, where a , b and c are all single-digit natural numbers, find the value of $a + b + c$?

Q31. DIRECTIONS for question 31: Select the correct alternative from the given choices.

In the regular octagon given below, if $\angle AGF = x^\circ$, find $\angle HAF + \angle FDE$.



- a) x°
b) $180^\circ - x^\circ$
c) $2x^\circ - 180^\circ$
d) $2(180^\circ - x^\circ)$

Q32. DIRECTIONS for question 32: The question below is followed by two statements, I and II. Answer the question using the following instructions:

Four oranges were added to a basket of oranges that Meera was carrying. Would Meera be able to divide her oranges evenly into a packet (or packets) of eight?

1. If 12 oranges are added instead of 4, Meera can distribute the oranges into groups of 8 without any leftovers.

2. The number of oranges Meera initially has is not divisible by 8.

- a) if the question can be answered by using statement I alone but not by using statement II alone.
b) if the question can be answered by using statement II alone but not by using statement I alone.
c) if the question can be answered by using both the statements together but not by either of the statements alone.
d) if the question cannot be answered on the basis of the two statements.

Q33. DIRECTIONS for questions 33 to 36: Each question given below is followed by two statements I and II. Answer the question using the following instructions:

The cost price and the marked price of an article are Rs.200 and Rs.300 respectively. The profit/loss percentage made in selling it was $x\%$. The discount percentage offered on it was $y\%$. Was its selling price more than Rs.250?

1. $x \geq y$

2. $x \leq y$

- a) if the question can be answered by using one of the statements alone but cannot be answered by using the other statement alone.
- b) if the question can be answered by using either of the statements alone.
- c) if the question can be answered by using both the statements together but not by either of the statements alone.
- d) if the question cannot be answered even by using both the statements together.

Q34. DIRECTIONS for questions 33 to 36: Each question given below is followed by two statements I and II. Answer the question using the following instructions:

Mr. Dhanlal has to divide his four-acre field, which is in the shape of a square, among his four sons - A, B, C and D. What fraction of the area of the field did D get?

- 1. The part of the field that each of the four sons got is in the shape of a square.
- 2. B received $\frac{1}{4}$ th of what D received, which, in turn, is $\frac{1}{5}$ th of what A and C together received.

- a) if the question can be answered by using one of the statements alone but cannot be answered by using the other statement alone.
- b) if the question can be answered by using either of the statements alone.
- c) if the question can be answered by using both the statements together but not by either of the statements alone.
- d) if the question cannot be answered even by using both the statements together.

Q35. DIRECTIONS for questions 33 to 36: Each question given below is followed by two statements I and II. Answer the question using the following instructions:

If the points scored in a basketball match are always whole numbers, did Ajay score the highest number of points for his team in the basketball match?

- 1. All the seven players who played for Ajay's team in the match scored points and Ajay scored 35 points out of a total of 74 points scored by his team.
- 2. Ajay scored 32 points in the match but his team lost to their opponents who scored a total of 60 points.

- a) if the question can be answered by using one of the statements alone but cannot be answered by using the other statement alone.
- b) if the question can be answered by using either of the statements alone.
- c) if the question can be answered by using both the statements together but not by either of the statements alone.
- d) if the question cannot be answered even by using both the statements together.

Q36. DIRECTIONS for questions 33 to 36: Each question given below is followed by two statements I and II. Answer the question using the following instructions:

If m and n are positive integers, is $m > n$?

- 1. $4m + 5n = 87$
- 2. $m^3 > 52n^2$

- a) if the question can be answered by using one of the statements alone but cannot be answered by using the other statement alone.
- b) if the question can be answered by using either of the statements alone.
- c) if the question can be answered by using both the statements together but not by either of the statements alone.
- d) if the question cannot be answered even by using both the statements together.

DIRECTIONS for questions 37 and 38: Answer the questions on the basis of the information given below.

A commodity is bought for a price C and sold at a price S , where $C > S$. The loss percent on the transaction is $L(\%)$, and each of C , S and L is a natural number less than 100.

Q37. DIRECTIONS for questions 37 and 38: Type in your answer in the input box provided below the question.

How many distinct values of L are possible?

Q38. DIRECTIONS for questions 37 and 38: Type in your answer in the input box provided below the question.

If C is less than 20, then how many ordered pairs of (C, S) are possible?

DIRECTIONS for questions 39 and 40: Answer the questions on the basis of the information given below.

Ravi wrote a program on his computer to generate and display the binary equivalents of all the first N natural numbers.

Q39. DIRECTIONS for questions 39 and 40: Type in your answer in the input box provided below the question.

If the digit '1' was displayed a total of 192 times in the output of the program, find N .

Q40. DIRECTIONS for questions 39 and 40: Type in your answer in the input box provided below the question.

A natural number P (where $P < N$) has exactly four ones in its binary equivalent. If the number of ones in the binary equivalent of $P + 1$ is X , how many values can X take?