VARC

DIRECTIONS *for questions 1 to 6:* The passage given below is followed by a set of six questions. Choose the best answer to each question.

If one thinks of minds as stocked with ideas and concepts prior to or independently of language, then it might seem that the only function language could have is to make those ideas and concepts public. This was the view of Aristotle, who wrote that "spoken words are signs of concepts." It was also the view of the English philosopher John Locke (1632–1704), who asserted that God made human beings capable of articulate sound. This capacity, however, does not by itself constitute having a language, since articulate sounds are produced even by parrots, as Locke himself noted. In order for human beings to have language, therefore,

it was further necessary that [man] should be able to use these sounds as signs of internal conceptions, and to make them stand as marks for the ideas within his own mind; whereby they might be made known to others, and the thoughts of men's minds be conveyed from one to another.

According to this conception, words are simply vehicles for ideas, which have an independent, self-sustaining existence. To use another metaphor, although words may be the midwives of ideas, their true parents are experience and reason. Leibniz suggested the same model, writing that "languages are the best mirrors of the human mind."

It was typical of Locke to see words as devices more for veiling truth than for revealing it. In his view, words have little or no cognitive function; indeed, they interfere with the direct contact possible between the mind and the light of truth. Understanding and knowledge are private possessions, the fruit of an individual"s labour in conforming his ideas to reason and experience. Hence, listening to the words of others yields not knowledge but only opinion. The contrary view – that ideas, as the creatures of words, are public possessions and essential instruments of public knowledge – did not become common in the philosophy of language until the end of the 19th century.

Locke"s picture of the independent existence of ideas did not imply any particular answer to the question of whether language is shaped by the mind or the mind shaped by language. However, the intellectual climate of 18th-century Europe, shaped by increasing exposure to the histories and cultures of peoples outside the continent, tended to favour the second alternative over the first. Thus, the considerable differences between European and non-European languages and the difficulty initially involved in translating between them cast doubt on the existence of any universal stock of ideas, or any universal way of categorizing experience in terms of such ideas. They suggested instead that linguistic habits determine not only how people describe the world but also how they experience it and think about it.

The first linguistic theorist to affirm this priority explicitly was Wilhelm von Humboldt (1767–1835), whose approach eventually culminated in the celebrated "Sapir-Whorf hypothesis," formulated by the American linguists Edward Sapir (1884–1939) and Benjamin Lee Whorf (1897–1941) on the basis of their work on the diverse (and disappearing) indigenous languages of North America. Their conjecture, in Sapir"s words, was:

Human beings do not live in the objective world alone…but are very much at the mercy of the particular language which has become the medium of expression for their society. The worlds in which different societies live are distinct worlds, not merely the same world with different labels attached.

According to a weak interpretation of this hypothesis, language influences thought in such a way that translation and shared understanding are difficult but not impossible. Different languages are at varying "distances" from each other, and the difficulty of saying in one what can be said easily in another is the measure of the distance between them. According to its strongest interpretation, the hypothesis implies linguistic conceptual relativism, or "linguistic relativity," the idea that language so completely determines the thoughts of its users that there can be no common conceptual scheme between people speaking different languages. It also implies linguistic idealism, the idea that people cannot know anything that does not conform to the particular conceptual scheme their language determines.

Q1. What does the author imply when he says "Although words may be the midwives of ideas, their true parents are experience and reason." (para 2)?

 a) Ideas are not born to words but to experience and reasoning.
 b) Ideas are sudden whereas knowledge comes as a learned experience.
 c) Though words bring out ideas, it is an individual's maturity and rationality that establish ideas in the first place.
 d) Ideas need words to traverse without which ideas have no value and hence words are to be used as signs of internal conception.

Q2. In order for language to work as an excellent medium for the transition of ideas, what is the most important skill required by a human being, according to Locke?

 a) Good oratory skill.
 b) Sufficient knowledge about the technical aspects of the language.
 c) The ability to learn sounds and then use them to identify internal conceptions.
 d) The ability to designate specific sounds to ideas and share the knowledge with others.

Q3. Leibniz's thesis converges with Locke's views in all aspects EXCEPT?

a) Words are intermediate carriers or vehicles for ideas.
b) Words are transparent and they reflect the absolute truth of the ideas.
c) Ideas are self-sustaining and independent.
d) The only function that language has is to deliver the ideas to the public.

Q4. Which of the following can be inferred to be a strong interpretation of Edward Sapir's words quoted in the passage?

a) Human beings are not the only living things occupying the objective world and the geographical location decided the language the humans spoke in that particular part of the world.
b) Since the mind is shaped by language which determines not only how people describe the world but also how they experience it and think about it, different languages are at varying distances from each other.
c) Only people who share a language can share ideas.
d) The diversity between any two languages is so huge that the ideas generated by them are vastly different.

Q5. The last sentence of the passage can be restated as ... ?

a) Linguistic idealism suggests that people cannot understand anything outside of their language barriers as they have been raised to understand and propagate the concepts laid down by their own language.
b) Linguistic idealism implies that people do not trust non-native speakers easily and do not want to believe anything outside of their linguistic boundaries.
c) Linguistic idealism implies that people are not permitted to know anything else other than their own concepts laid out by their language.
d) Linguistic idealism suggests that people can understand only the syntax of their own language and hence are not interested in foreign languages and foreign cultures.

Q6. What is the style of the passage?

a) Critical.
b) Explanatory.
c) Scrutinizing.
d) Evaluative.

DIRECTIONS *for questions 7 to 9:* The passage given below is followed by a set of three questions. Choose the best answer to each question.

3

Ordinarily it is believed that the characteristics of group life regulate the behaviour of individuals. But this is not true because often one individual influences the group. The others become his followers sacrificing their own identity. Ignoring one's own identity is a great loss to the individual. Group life encourages the copying of somebody else; hence, it is not some regulation but a kind of suppression. Groups are made up of egoistic individuals. The interaction between the group leaders and commoners is not based on equality. The purpose of groups is to serve the egos of the few. The norms of society do not regulate the behaviour of the individual but they mould it without allowing him any freedom of choice. Growth of the individual is suppressed. ..... The concept of norms also implies social control. Norms and values control individuals for the sake of order.

It is impossible to imagine a society without norms because the behaviour of the people influences the norms in society. ... But these age-old norms created by the past generations are not useful for the present generation because they do not allow any creative or clear understanding of the situation. People who follow these norms do not want to take the risk of creating new norms because it is easy to follow the ready-made ones. People searching for ready-made norms or values are no better than the primitives, though they do so under the cover of civilization. But this type of civilization is meaningless. We do not find any civilization anywhere. It is only a pretension to claim that people are modern; they are modern only in their passions. But their minds are old, rotten and orthodox. In modern times millions of people are killed in the names of race, religion and culture. Can the present day civilization be called one at all? The people who kill others are respected as great men. We do not find such an inhuman activity among animals.

The world has become very small because of communication networks and cable TV channels. People should create values and norms according to the time and the challenges of the times. ... There should be no discrimination on the basis of caste, creed, sex and ideology. Only then people can become real human beings, who can live their lives opposing pretensions and hypocrisy. For centuries people have been following others and there has been no change in the values and norms because they are afraid of change. That is why a few individuals created the norms and others have followed them. This slavish 'following' brought in its wake egoistical tendencies in the creators of norms. If people developed their own norms and values, it would have made them self-disciplined and sensible members of a civilized society. Authentic human beings should start changing the norms and intellectuals should accept and welcome the change because it would lead to better living conditions.

Q7. The main objection to group life in society, according to the author, is

 a) It will serve to satisfy the ego of the group but it will suppress the identity of a few individuals.
 b) It will cause heartburn among the individuals whose behaviour is regulated by the group leader.
 c) It will be difficult for one person to have total control over the activities of the others.
 d) It will not serve the desired goal of an egalitarian society.

Q8. If the suggestion of the author in the passage is accepted, which of the following, if true, would seriously jeopardise the order in a society?

 a) The leaders of today, without exception, are totally corrupt.
 b) Values and norms are highly subjective.
 c) People welcome change after some hesitation.
 d) There are still remote corners in the world untouched by technological advancement.

Q9. According to the author, the present civilization does not deserve to be called a civilization because

 a) People practise cruelty towards animals.
 b) It permits people of today to follow ready made norms or values.
 c) Killing of people in the name of race, religion, culture etc is antithetical to civilization.
 d) It doesn't recognise the commendable features of the earlier civilization.

DIRECTIONS *for questions 10 to 15:* The passage given below is followed by a set of six questions. Choose the best answer to each question.

The music that accompanied industrial decline in Western industrialized nations – notably the United States and the United Kingdom – articulated two distinct responses to the foreclosure of empowerment and idealism that the counterculture of the 1960s had nurtured. Disco, with its elaborate costumes, exhibitionist focus on dance, and attendant drug culture, represented a turning away from political challenges, a refusal to deal with social problems, and a desire for momentary pleasures. Punk, on the other hand, was a howl of rage from working class youth who saw, and rejected in no uncertain terms, the hypocrisy of the social establishment and the increasing inaccessibility of economic opportunities for the socio-economically disadvantaged. Disco was stereotypically identified with African-American performers (albeit predominantly white consumers) whereas punk was typed as a British phenomenon, although, in fact, both musical constituencies could be found in any of the wealthy nations that

were starting in the 1970s to wrestle with de-industrialization, wage stagnation, and the corporate restructuring now known as outsourcing. Elements of both of these musical responses to social marginalization and injustice are synthesized in hip-hop, the most popular musical form for expression of protest worldwide in the following period.

In *BlackNoise: Rap Music and Black Culture in Contemporary America*, sociologist Tricia Rose theorizes the hip-hop universe of her youth as emerging from a post-industrial nightmare in which the ethnic poor were being crowded out of public space, and creative protest was fostered in the effort to reclaim for the people the neighbourhoods that were being torn apart to build expressways into the city for affluent suburban commuters. Into this unacknowledged war on the poor and the marginalized came the interplay of technology, economics, and culture at the origin of hip-hop, what Rose describes as a practice of appropriating cultural refuse for pleasure. Subways, street corners, abandoned parks were occupied by listeners and dancers *as* political spaces. The elements of "flow, layering, and rupture" both reflect and contest social marginalization, Rose says; in its origins, the music was both articulating and symbolizing the lived experience of people struggling to hold onto a community identity in the face of "urban development" and gentrification processes. The struggle, she insists, was not a final, futile gesture of victims of urban apocalypse, but was the formation of an alternative, communally-forged identity by producers of a conscious "take back the public spaces" movement. It was an intransigent, unapologetic assertion of the right of all human beings to take up public space, to interact with each other and with the music that informed these politicized, reclaimed spaces.

Much of the protest of injustice that is expressed musically in the early 21st century is done so through hip-hop. There is, for instance, a Hungarian rapper by the name of Dopeman who performs his discontent with the political homogenization of the country's post-communist regime. And in Haiti, there was a nationwide rap contest in June 2006, the "Concours Pwojè Lari Pwòp," in which young people submitted original raps on the topic of cleaning up the environment and the nation voted for their favorite recordings made by twelve finalists – a sort of socially conscious "Haitian Idol" program (Yéle Haiti, 2006). But the resonance that hip-hop has for youth in many different cultures should not blind us to the diversity of music – traditional and improvised – through which justice appeals speak to people. For instance, Foucaultian scholar Ladelle McWhorter opens her book *Racism and Sexual Oppression in Anglo-America* with an anecdote about attending a vigil for Matthew Shepard, the young college student in Wyoming whose 1998 death was an anti-gay hate crime, recalling that some attendees felt inspired to sing the Civil Rights-era anthem "We Shall Overcome" as an expression of their stand against homophobia. The discussions in this section should therefore be read not as a comprehensive

overview, but as a selection of examples that showcase the diversity of musical styles that are speaking justice around the world.

Q10. According to the passage, which of the following is said to have expressed views against injustice most brilliantly in the early 21st century, assuming that the performer performed anywhere in the world?

 a) A British Disco performer and an African-American Punk performer.
 b) A White American Disco performer and an African punk performer.
 c) An African Disco performer and an American punk performer.
 d) A hip-hop performer.

Q11. According to sociologist Tricia Rose, the "struggle" that was highlighted through hip-hop can be termed ...

 a) a success as it got the well-deserved recognition worldwide and helped in the promotion of the welfare of the marginalized.
 b) a partial success because though it did not completely provide justice to the poor and the marginalized, it persuaded the rich to donate money for the causes of the underprivileged.
 c) a partial success because though the poor could not actually reclaim the original identity and the public space they lost, it created a new cultural identity for the poor that enabled them to reclaim the lost spaces through community involvement.
 d) a huge failure as the movement did not help the poor to reclaim their lost identity, but the rich got away with plundering the lands owned by the poor.

Q12. Which of the following can be inferred to be true regarding some styles of music during the period 1970-2010?

 a) Though certain music was wild and created a sense of chaos within the musical world, it helped to soothe the "de-industrialization blues".
 b) Certain music supported the prevalent political ideals which served as a platform for good governance and spread them across all commoners.
 c) Certain music helped the poor oppose the government by providing ways to decry the ideals of the affluent.
 d) Certain music nurtured a way of life and provided ideals of justice and identity to the general public which made them stronger.

Q13. According to the passage, what made Hip-Hop propagators adapt cultural refuse for pleasure?

 a) People were struggling to hold on to a community identity and 'cultural refuse for pleasure' was appropriated in an effort to reclaim the lost societal ties and spaces.

b) Poor people wanted to have a musical outlet for their opposition to the development of the expressways.
c) Hip-Hop propagators wanted to decry the injustice done to the poor by the interplay of technology, economics and culture.
d) Hip-Hop propagators wanted to use culture as a means of decrying the injustice done on the poor by the forces of technology and economics.

Q14. According to the passage, which of the following is the common feature of the two different forms of music: Disco and Punk?

a) Both genres of music were highly critical of the social establishment and they did not dwell on social problems.
b) Disco and Punk were both created from a common source: Hip-Hop.
c) Both forms of music were synthesized as responses to common problems plaguing the wealthy nations such as the US and the UK in the 1970s.
d) Both constituencies opposed the government's views and supported freedom of expression.

Q15. What is the style of the passage?

a) Narrative.
b) Illustrative.
c) Analytical.
d) Argumentative.

DIRECTIONS *for questions 16 to 18:* The passage given below is followed by a set of three questions. Choose the best answer to each question.
O. J. Simpson was acquitted by a Los Angeles jury in 1994 of the murders of Nicole Brown Simpson and Ronald Goldman. When, in 2016, the LAPD took possession of a knife from a retired Police Officer, which was allegedly discovered by a construction worker in 1998 at the Rockingham property (O. J. Simpson's estate) during its demolition, it opened a pandora's box for O. J. Simpson. The question was what could happen to O. J. should DNA testing of the knife prove that it was the murder weapon used in the slayings of Nicole Simpson and Ronald Goldman, especially if O. J.'s DNA is found on it as well. However, the Fifth Amendment to the United States Constitution would bar the Los Angeles County District Attorney's Office from reopening the case on the grounds of Double Jeopardy, regardless of whether O. J. now admitted the killings, or the knife otherwise conclusively implicated him therein. Double Jeopardy is a defense which prohibits the Government from trying a criminal defendant on the same or similar charges following that Defendant's acquittal of the same or similar charges at a previous trial, regardless of whether subsequent incriminating evidence is later found. The rational behind the bar of Double Jeopardy is fairness for the

Defendant, and that finality is a paramount consideration, even more than discovering the truth in certain situations.

In Mr. Simpson's first trial, on criminal charges in the Nicole-Ronald murder case, the judge allowed the defence to skew the case at issue from one of murder to one of racist conspiracy by the police. The jury, which was mostly black, decided to acquit Mr. Simpson. In Mr. Simpson's second trial, the judge refused, from the start, to allow racist conspiracy theories to be aired in court, and so gave greater credence to bits of evidence – such as blood samples – that had been disputed in the previous trial. The jury this time contained only one black person. ... The outcome was bizarre: a man who was held to have killed two people was allowed to remain free.

Lawyers had resisted the notion of double jeopardy in the Nicole Brown Simpson and Ronald Goldman murder case. After all, they say, the first trial was criminal: the charge was murder, and Mr. Simpson stood to lose his liberty and possibly his life. The second was civil: different charges, and only money, not freedom, at stake. The objective of the second trial was to establish responsibility for the deaths and to set damages. Doubtless this makes a world of difference to lawyers, the main beneficiaries from any duplication of trials. But it is an unconvincing distinction. Mr. Simpson was indeed on trial for the same offence, though dressed up in different words. The actions under discussion (knifing, near-decapitation) were the same; the evidence produced against him (clothing, blood) was largely the same. Indeed, where was the difference, except in the labelling and the penalties?

Q16. Which of the following relates to "Double Jeopardy", as can be inferred from the passage?

a) If a person is not put on trial because the charges were dropped or were put on hold for some reason, then the charges can never be reinstated in the future.
b) If you fail to convict someone the first time, you can't do so again.
c) It prevents people from being harassed with the same criminal charges that they've been acquitted of in the past.
d) By convicting the defendant of second degree murder, a jury is deemed to have implicitly acquitted them of first degree murder.

Q17. Which of the following is an argument that lawyers put forward to raise their voices against the notion of Double Jeopardy in the O. J. Simpson case?

a) The second trial was required to carry forward the complexities of the first trial.
b) The second trial would serve as an "improvement" on the first trial.
c) When trials are held again, in a different place with a differently balanced jury, the intent is to establish justice.

d) In the first and second cases, Mr. Simpson was under trial for two differently framed offences.

Q18. Which of the following idioms or phrases would correctly describe the situation caused by a discovery of O. J. Simpson's DNA on the knife found, were the defense of Double Jeopardy to be inapplicable?

 a) Smoking gun.
 b) Travesty of justice.
 c) Cut and dried case.
 d) Logical inexactitude.

DIRECTIONS *for questions 19 to 24:* The passage given below is followed by a set of six questions. Choose the best answer to each question.

No aspect of the art world gets more media attention than art crime. Fakes and forgeries are topics of frequent and agitated discussion in the art world. For criminologists, this interest shifts to art fraud because of its fit with issues of non-authentic art. While fraud shares with the wider interests the need to demonstrate deception (an obvious aspect of a fake), a successful prosecution will require in addition that the defendant be shown to be dishonest (the deception is intentional), that there is harm as a consequence, and that the victim was actually deceived. Actual cases of art fraud are exceptionally rare, although cases of "mistaken identity" are reasonably common. The reasons for art fraud to be observed infrequently include: (1) police are less than eager to pursue issues of fraud in art; (2) the deceptive skills required of a successful art faker are actually rarely observed or achieved; and (3) the role of the victim in art fraud is complex and often renders victims either passive or non-compliant with the justice process. Many leading eighteenth-century portrait painters personally concentrated on the overall composition together with the face and perhaps hands, leaving the greater part of the canvas to be filled in by others. But when a particular composition proved especially successful or popular many leading artists were more than happy to create and sell additional versions within the studio, probably with even less personal involvement than before (though there are examples where a subsequent version, though substantially the same, may be regarded as the superior version). All these possibilities not only present significant historical and ethical problems in terms of identification and attribution, but perhaps raise important legal issues as well. It may not be easy to define exactly the boundaries between a perhaps mistaken opinion made in good faith, reckless and unsupported exaggeration of an identification or attribution (either of which might be open to legal challenge in the civil courts for compensation), and a deliberate deception which is clearly criminal.

There are many problems arising from deliberate fakes, forgeries and later copies, of which there are certainly an enormous number in circulation. While

it is not illegal to make copies or works 'in the manner of' a noted artist (providing the original work is out of copyright), creating a deliberate forgery for sale or attempting to pass off a fake or copy as an original is deception, and a criminal offence. ...

.... In art, an important sort of case arises with fakes. We are asked what difference it makes if a work is produced exactly like the genuine one. Obviously, the distinction between genuine and fake must be established with reference to factors external to the works themselves – for example, with reference to their histories. However, the serious question is whether knowledge of these differences in any way impinges upon our appreciation of a work whose structure underdetermines the difference between authenticity and trumpery, or whether it makes no difference. I think one cannot say in advance whether it makes a difference or not. Consider the possibility of duplicating persons. Suppose a man is killed in an automobile accident, but the widow is promised delivery, in say three weeks, of someone exactly like her husband in all obvious respects. Would it matter? Is she required to love, honour and obey the exact simulacrum of her husband, or what? Would the known history of this reconstituted mate make a difference or not? I am certainly unprepared to say, but the feeling is that it would make an enormous difference, and my philosophical point is that the possibility of doubles, in which the pairs are exactly alike relative to some schedule of descriptions, may reveal factors outside this set with reference to which our attitudes towards one or the other of the counterparts may differ. **The method of philosophical duplication is a powerful lever forlifting factors into consciousness which otherwise never would have been alive** – presumptions upon which our attitude towards the world has always depended though we might not have realized their crucial role since it never had been challenged. These factors will always be logically external to the thing in question.

The most striking contribution to have been made to our understanding of art by the art world itself has been the generation of objects – in every manifest regard like perfectly ordinary objects – things like bottle-racks, snow-shovels, Brillo boxes, and beds. We are: (1) to regard these "things" as artworks, and not as the sort of mere real objects from which they are indiscernible and (2) to say what difference it makes that they should be artworks and not mere real things.

Q19. According to the passage, how is a case of art fraud different from a case of mistaken identity?

 a) Art fraud raises significant historical and ethical problems whereas the latter does not.
 b) Art fraud is a criminal offence while a case of mistaken identity is not open to legal challenge in the civil courts for compensation.

c) A case of mistaken identity lacks the deception and intentionality required of art fraud.
 d) The deceptive skills required for a successful art fraud are rarely observed while the deceptive skills employed in a case of mistaken identity are commonly exposed.

Q20. Which of the following can be inferred to be a significant historical and ethical problem with reference to a work of art, as discussed in the passage?

 a) Is a work of art genuine only when the original is, entirely, the work of the artist?
 b) What happens when a subsequent version of a work of art becomes the superior version?
 c) The deceptive skills required of a successful art faker are actually rarely observed or achieved.
 d) Any work of art will be appreciated, whether genuine or not.

Q21. Based on your reading of the passage, why should buyers of a work of art consider it important to be able to distinguish between real art and fake art?

 a) The history of a fake piece of art is different from that of the genuine work of art and the history of a work of art matters a lot.
 b) A fake piece of art has no monetary value but a genuine work of art does; buying a fake or copy thinking that it is original would get us involved in the world of art crime.
 c) Even as the uneducated masses equally appreciate both the fake and genuine if they are exactly similar, it helps if one is knowledgeable about the world of art – a fake piece of art undermines the framework of the genuine.
 d) Cannot be determined from the passage.

Q22. If you were to interview the author of the passage, you would ideally draw his attention to some unanswered questions and ask him some follow-up questions to further your understanding of the passage.
Which of the following questions would NOT serve this purpose?
Identify all that apply and enter the corresponding number in the input box given below. You must enter your answer in increasing order only. For example, if you think (1) and (2) apply, then enter 12 (but not 21) in the input box.
    1.   Why is it important to be able to distinguish between real art and fake art?
    2.   How can philosophy and modern art technology answer the question about the difference between the real and the fake?
    3.   Can the utility of a real object undermine its value as an artwork?

4.   What underlying factors differentiate real things from artworks?

5.   What criteria determine our attitude towards genuine and fake objects?

Q23.   Which of the following can be understood from the passage?

1.   It is difficult to say *a priori* whether the knowledge of the differences between a genuine and fake work of art makes a difference or not but duplication camouflages the original intent of the artist.

2.   An art work is important because of its conception and its representation is mere execution.

3.   There is not much difference between the original and the duplicate in the case of art.

4.   The boldfaced part of the text implies that there might be some factors that are absent in the duplicate work of art and we can then understand the relevance /importance of those factors that were present in the original work of art.

5.   Difficulties in identification and attribution of art can lead to historical, ethical and legal problems.

6.   An object of high monetary value used rarely and an appealing object of low monetary value used regularly can be considered to be a work of art.

 a) a and d
 b) b, c and e
 c) a, d and e
 d) b, d and f

Q24.   What can be said to be the author's point of view when he speaks about the possibility of duplicating people (para 4)?

 a) Humans are not similar to art works and cannot be duplicated. The author does not approve of physical duplication of humans but he approves of philosophical duplication of humans.
 b) There are certain overlapping factors that influence and enhance the duplication of artworks and humans.
 c) The duplicate artwork belongs to a different era as the original and there are many factors which are improved upon in the duplicate. The philosophical duplication of people will be a similar step in the right direction.
 d) There are certain crucial factors that might be missed during the duplication process but these external factors are important as our attitude towards duplicates is based on these factors.

Q25. DIRECTIONS *for questions 25 to 27:* The sentences given below, when properly sequenced, form a coherent paragraph. Each sentence is

labeled with a number (1, 2, 3, 4 or 5). Decide on the proper order for the sentences and key in the correct sequence of five numbers as your answer in the input box given below the question.

1. Rio's economy, and that of the surrounding state (also called Rio de Janeiro), was also booming, thanks to the world's demand for the oil that lies off its shores.

2. When Rio de Janeiro won the right almost seven years ago to host the Olympic games in 2016, the *cidade maravilhosa* (wonderful city) seemed to deserve its nickname.

3. "Those who give us this chance will not regret it," promised Luis Inácio Lula da Silva, the president who brought the games to Brazil.

4. This was because violence, as much part of Rio's image as its beaches, had been falling for more than a decade.

5. So the organizers of the games claimed that it was an opportune time to show off a prosperous and self-confident city; if Rio could show that it can plan as well as it parties, it would bury the idea that "Brazil is not a serious country," as a Brazilian diplomat had put it in the 1960s.

Q26. DIRECTIONS *for questions 25 to 27:* The sentences given below, when properly sequenced, form a coherent paragraph. Each sentence is labeled with a number (1, 2, 3, 4 or 5). Decide on the proper order for the sentences and key in the correct sequence of five numbers as your answer in the input box given below the question.

1. In medicine, it has been particularly potent, enlivening the sense of professional duty that doctors and institutions feel towards their patients with a distinctively Korean sense of warmth and human connection.

2. In Korea, jeong is a consideration in professional spheres as well as in personal life and it has particular resonance in service industries such as health care, hospitality and education.

3. One of the most subtle and powerful ideas in Korean culture is jeong.

4. Where Western thought often sees something like love as a feeling that occurs within a person, jeong exists just as much between people, permeating space and relationships with care and a sense of duty.

5. This multi-faceted concept includes feelings of sympathy, reciprocity and human attachment – but it's more than the sum of its parts.

Q27. DIRECTIONS *for questions 25 to 27:* The sentences given below, when properly sequenced, form a coherent paragraph. Each sentence is labeled with a number (1, 2, 3, 4 or 5). Decide on the proper order for the

sentences and key in the correct sequence of five numbers as your answer in the input box given below the question.

     1.   Imagine a contract that gets data from elsewhere and then takes action – an agricultural-insurance policy, say, that retrieves weather data and pays out automatically if there has been no rainfall.

     2.   To avoid such confusion, trusted parties, known as oracles, could supply the data to a blockchain, but that would undermine the goal of agreements free of human caprice.

     3.   It is controlled collectively by many of its users, so they all have to keep identical copies of the contract and there is as yet no way around this: which duplicate of the contract should try to fetch the data?

     4.   Simple as that sounds in theory, the nature of the blockchain, a special peer-to-peer database that provides a secure, public and trusted record of transactions, again gets in the way.

     5.   There are other reasons why smart contracts, which are pieces of software representing a business arrangement and which execute themselves automatically without any human intervention, may never become as pervasive as their fans hope.

Q28. **DIRECTIONS** *for questions 28 to 30:* In the question, the word in capitals is used in **six** different ways. Identify the option(s) in which the usage of the word is INCORRECT or INAPPROPRIATE and enter the number corresponding to the sentence(s) (in which the usage is INCORRECT or INAPPROPRIATE) in the input box provided below each question. [Note: Enter your answer in increasing order only. For example, if you think that sentences (1) and (3) are incorrect, then enter 13 (but not 31) in the input box].

AIR

     1.   I agree that he is a genius, but why does he have to constantly air his superior knowledge?

     2.   We aired off all the mattresses for Christmas cleaning.

     3.   A change of air ought to do you good.

     4.   The proposal to build a museum in the city is still on the air.

     5.   She can play some lovely Irish air on the piano.

     6.   To help clear the air, John will meet with all society members to decide how the money collected for repair work in the building was spent.

Q29. **DIRECTIONS** *for questions 28 to 30:* In the question, the word in capitals is used in **six** different ways. Identify the option(s) in which the usage of the word is INCORRECT or INAPPROPRIATE and enter the number corresponding to the sentence(s) (in which the usage is INCORRECT or

INAPPROPRIATE) in the input box provided below each question. [Note: Enter your answer in increasing order only. For example, if you think that sentences (1) and (3) are incorrect, then enter 13 (but not 31) in the input box].

REVISED

1. I have revised my opinion of him ever since he apologized.
2. A revised edition of the textbook is available in all retail outlets.
3. Hollywood's "Gone with the wind" is now being revised by Bollywood.
4. In the wake of the recent strikes, the ruling party has revised its petrol pricing policy and has also revised the Motor Vehicle Act Bill 2017.
5. He revised his geography lessons three times before the final exams.
6. Casualty figures on account of the cyclone in Tamil Nadu were downward revised.

Q30. DIRECTIONS *for questions 28 to 30:* In the question, the word in capitals is used in **six** different ways. Identify the option(s) in which the usage of the word is INCORRECT or INAPPROPRIATE and enter the number corresponding to the sentence(s) (in which the usage is INCORRECT or INAPPROPRIATE) in the input box provided below each question. [Note: Enter your answer in increasing order only. For example, if you think that sentences (1) and (3) are incorrect, then enter 13 (but not 31) in the input box].

ARC

1. The moon in eclipse formed arc of silver light.
2. She skated a graceful arc on the ice, ending in a figure eight and then sent the silver ball arcing out over the ice.
3. His compass drew a tentative arc on the white sheet.
4. The ballerinas stood side by side, their hands arcing in together embodied the dome of the cathedral.
5. The projectile arced gracefully into the night sky.
6. Modern welding generators are designed to deliver voltage high enough to strike an arc.

Q31. DIRECTIONS *for questions 31 and 32:* Five sentences related to a topic are given below. Four of them can be put together to form a meaningful and coherent short paragraph. Identify the odd one out. Choose its number as your answer and key it in.

1.   None of the Spratly Islands in the south of the sea, claimed and occupied by several countries including China, can be defined as islands that can sustain human life, they ruled.

2.   The ruling by the Permanent Court of Arbitration in The Hague, in response to a case brought by the Philippines, is firm, clear and everything that China did not want it to be.

3.   Moreover, China's island-building had caused "severe harm" to the habitats of endangered species, and Chinese officials had turned a blind eye to Chinese poaching of them.

4.   The judges said that the UN Convention on the Law of the Sea (UNCLOS) should determine how the waters of the South China Sea are divided among countries, not China's ill-explained "nine-dash line" which implies the sea is Chinese.

5.   This means no country can assert an Exclusive Economic Zone (EEZ) extending upto 200 nautical miles around them.

Q32. DIRECTIONS *for questions 31 and 32:* Five sentences related to a topic are given below. Four of them can be put together to form a meaningful and coherent short paragraph. Identify the odd one out. Choose its number as your answer and key it in.

1.   The urban man may have a core group of people with whom his interactions are sustained over long periods of time, but he also interacts with hundreds, perhaps thousands of people whom he may see only once or twice and who then vanish into anonymity.

2.   The villager's ties with other people no doubt included some transient relationships, but most of the people he knew were the same throughout his life.

3.   Sociologists like Louis Wirth have referred to the transitory nature of human ties in urban society: The decline in the average duration of human relationships is a likely corollary of the increase in the number of such relationships.

4.   To prefer a society in which the individual has holistic relationships with a few rather than modular relationships with many, is to wish for a return to the imprisonment of the past where individuals may have been more tightly bound by social conventions, political norms and religious restrictions.

5.   The average urban individual today probably comes into contact with more people in a week than the feudal villager did in a year, perhaps even a lifetime.

Q33. DIRECTIONS *for question 33:* Given below is a paragraph with three blanks. For each blank choose one numbered word /phrase /sentence from the corresponding column of choices that will best complete the text. Key in the appropriate numbers of the words /phrases /sentences for each blank, in the correct sequential order, in the input box given below the question. For example, if you think that the word /phrase /sentence labelled (1), (5) and (9) can complete the text correctly, then enter 159 as your answer in the input box. (Note: Only one word /phrase /sentence in each column can fill the respective blank correctly).

In the _____(i)_____ days before Britain kicked itself out of the European Union, a charming campaign called "Hug-a-Brit" was waged in Brussels. Designed to convince wavering British voters that they were wanted in Europe, it was only after the referendum that the idea _____(ii)_____. Since that difficult day Brits in Brussels have been love-bombed by their European counterparts. Colleagues from countries with long histories of bloody tyranny have showered sympathy upon British friends for their country's self-inflicted wound. Thoughtful Romanians stand ready to adopt British "Remainians". _____(iii) _____

Blank (i)	Blank (ii)	Blank (iii)
(1) edifying	(4) took hold	(7) However, while Britain's citizens may be the subject of pity abroad, feeling enchanted with the "Hug-a-Brit" campaign, its government has become a target for contempt.
(2) salubrious	(5) was dissembled	(8) When Jean-Claude Juncker, president of the European Commission, slams David Cameron, Britain's departing prime minister, for reaping the fruits of years of Euroscepticism, his words find a ready audience across Europe.
(3) prelapsarian	(6) was conjured away	(9) Everyone feels the pain of Britons in Brussels. But the sympathy won't last.

Q34. DIRECTIONS *for questions 34:* The sentence given below has a single word missing and is followed by six numbered choices. Select the two answer choices that, when used to complete the sentence, fit the meaning of the sentence as a whole and produce completed sentences that are alike / equivalent in context and meaning. Enter the numbers alongside the two correct answers choices, in ascending order, in the input box given below the question.

The cherished axiom of Jane Austen's unwordliness is closely tied to a sense of her polite remove from the _____ of history: Austen, in her fidelity to the local, the surface, the detail, was oblivious to large-scale struggles, to wars and mass movements of all kinds.

    1.   prerogatives

2. contingencies
3. politicization
4. congeries
5. fortuitousness
6. contraventions

DILR

DIRECTIONS *for questions 1 to 4:* Answer these questions on the basis of the information given below.

Hari is the operations manager in a factory that manufactures toys. During a certain month, he experimented with five different processes – Process I through Process V – for manufacturing toys in his factory. The table below provides, for each of the five processes, partial information about the manufacturing cost incurred per unit manufactured using that process, the number of units manufactured during that month using that process and the total manufacturing cost incurred using that process. Each row in the table represents the information for one process, not necessarily in any order.

Manufacturing Cost per unit (in Rs./unit)	Number of units	Total Manufacturing Cost (in Rs.)
39		
	16500	6,60,000
21	19000	
		7,65,000
25		3,75,000

The following information is known about the units manufactured during the month using the five processes:

1. Considering all the units manufactured during the month, the average cost of manufacturing one unit was Rs.31.80

2. The number of units manufactured using Process III was 2000 more than the number of units manufactured using Process IV, the cost per unit for which was the second lowest.

3. The cost per unit was the third highest for Process V and the total cost for Process III was not greater than Rs.7,50,000.

4. The cost per unit for Process II was less than that for Process V, while the cost per unit for Process III was at least Rs.35.

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

How many units were manufactured during the month using Process III?

Q2. DIRECTIONS *for question 2:* Select the correct alternative from the given choices.

The total manufacturing cost during the month was the highest for

a) Process I
b) Process V
c) Process II
d) Process III

Q3. DIRECTIONS *for question 3:* Type in your answer in the input box provided below the question.

What is the total number of units manufactured during the given month using all the five processes?

Q4. DIRECTIONS *for question 4:* Select the correct alternative from the given choices.

If the total number of units that Hari manufactured in the next month is the same as that in the given month and he manufactured all the units using the process for which the cost per unit is the lowest, what will be the total cost of manufacturing for the next month?

a) Rs.18,90,000
b) Rs.19,11,000
c) Rs.17,57,500
d) Rs.17,10,000

DIRECTIONS *for questions 5 to 8:* Answer these questions on the basis of the information given below.

Each of six persons, A through F, participated in a talent show, which had two stages – Music and Dance. At the end of the show, each person was ranked in each of the two stages from 1 to 6, such that a numerically lower rank is considered better than a numerically higher rank.

Further, it is also known that

    1.   for any person, the sum of the ranks of that person in the two stages is an odd number.
    2.   B was ranked worse than C in Music.

3.   the difference in the rank of A in Music and the rank of D in Dance is 2.

4.   C, who was ranked third in Dance, was ranked better than at least three persons in Music.

5.   D, who was ranked worse than at least three persons in Music, was ranked worse than E in Dance.

6.   F was ranked fourth in Music and was ranked worse than D in Dance.

Q5.   DIRECTIONS *for questions 5 to 8:* Select the correct alternative from the given choices.
How many persons were ranked worse than E in Dance?

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

Q6.   DIRECTIONS *for questions 5 to 8:* Select the correct alternative from the given choices.
What is the rank of B in Music?

a) **2**
b) 3
c) **5**
d) **6**

Q7.   DIRECTIONS *for questions 5 to 8:* Select the correct alternative from the given choices.
How many persons were ranked better than D in both Music and Dance?

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

Q8.   DIRECTIONS *for questions 5 to 8:* Select the correct alternative from the given choices.
Who has the same rank in Music as A has in Dance?

a) **B**

b) E
c) **F**
d) **D**

DIRECTIONS *for questions 9 to 12:* Answer these questions on the basis of the information given below.

Three kingdoms – Artirea, Barnucopia and Chilert – were ruled by three kings, Arkan, Binum and Charwe, respectively. Each of the three kings established a spy network in his kingdom. The spy network in any kingdom was headed by the king and each king appointed three Chief Spies under him; under each Chief Spy, there were four Spies. No Spy reports to more than one Chief Spy and no Chief Spy reports to more than one king. Further, the three kings were allies and any message that any Spy found out can be shared with all persons in all the spy networks in the three kingdoms, if necessary.

However, as there were no other forms of connectivity, any two persons in the spy network can communicate using only pigeons, which would carry letters in the form of small scrolls of paper. Each person in the spy network, including the king, had exactly two pigeons. However, not everyone can send a letter to everyone else using the pigeons that they have.

The persons in the spy network can only send letters in the following manner:

   1.   (Any Spy can send a letter to another Spy who reports to the same Chief Spy or to his Chief Spy.

   2.   (Any Chief Spy can send a letter to another Chief Spy in the same kingdom, or to any Spy under him, or to his king.

   3.   (Any king can send a letter to any of the other kings or to any Chief Spy in his kingdom.

   4.   (Each pigeon can deliver exactly one letter, to only one recipient, and can be used only once.

   5.   (It takes exactly one day (i.e., 24 hours) for any pigeon to deliver a letter, irrespective of its destination.

Q9.   DIRECTIONS *for question 9:* Select the correct alternative from the given choices.

At the beginning of a particular day, a spy in Chilert found out that an enemy kingdom was about to attack all the three kingdoms. Which is the earliest day (including the first day) on which all the persons in the spy networks in the three kingdoms will have this information?

a) **8**
b) **7**
c) **9**
d) **10**

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

At the beginning of a particular day, a spy in Barnucopia discovered that Ratan, a notorious robber, was planning to plunder the royal treasury of each of the three kingdoms. If all the persons in all the spy networks had this information in the minimum possible number of days, what is the maximum number of persons in all the spy networks of all the kingdoms who would not have used any pigeon for communicating this information?

Q11. **DIRECTIONS** *for questions 11 and 12:* Select the correct alternative from the given choices.

At the beginning of a particular day, a spy in Chilert found out that an enemy kingdom was destroying a nearby dam that feeds all three kingdoms. If exactly three spies under each Chief Spy in each kingdom did not have any pigeons for sending any letter, what is the minimum number persons in all the spy networks to whom this information cannot be communicated?

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

Q12. **DIRECTIONS** *for questions 11 and 12:* Select the correct alternative from the given choices.

At the beginning of a particular day, a spy in Aritrea found out that some poachers were killing all the tigers in the jungles of the three kingdoms. Across the spy networks of all the three kingdoms, if only one pigeon was sent on any day, which is the earliest day (including the first day) on which all the persons in all the spy networks of all the three kingdoms will have this information?

a) **47**
b) **48**
c) **49**
d) **50**

DIRECTIONS *for questions 13 to 16:* Answer these questions on the basis of the information given below.

Bobby participated in a game show in which he was provided with the following information:

"Three persons, Pip, Trip and Kip, will stand in front of you, in a line, from left to right, not necessarily in the same order. Each person will be wearing a dress of a different colour among Red, Blue and Green. One of them is a truth teller, who always tells the truth, another is a liar, who always lies and another person is an alternator, who always alternates between telling the truth and a lie, in any order.

During the game, starting from the left, each of the three persons will make exactly one statement, after which, starting again from the left, each person will make his second statement and so on. Further, none of the three persons refer to themselves in the first person, i.e., refer to themselves as 'I' or 'me'"

After giving these instructions, Bobby was blindfolded and he heard the following nine statements from the three persons in the same order as they are given below:

1. Pip is to the left of Trip.
2. The person to the left of Pip is wearing a Blue dress.
3. The liar is to the immediate right of the truth teller.
4. Trip is wearing a Green dress.
5. Kip is not standing to the right of the person wearing a Green dress.
6. Trip is not wearing a Blue dress.
7. Trip is to the right of Kip.
8. The person wearing a Red dress is the liar.
9. The person standing in the middle is a liar.

Q13.   DIRECTIONS *for questions 13 to 16:* Select the correct alternative from the given choices.
Which of the following statements was made by the liar?

 a) Statement (vii)
 b) Statement (v)
 c) Statement (vi)
 d) None of the above

Q14.   DIRECTIONS *for questions 13 to 16:* Select the correct alternative from the given choices.
Who is standing at the extreme left?

 a) Truth teller
 b) Alternator
 c) Liar
 d) Cannot be determined

Q15.   DIRECTIONS *for questions 13 to 16:* Select the correct alternative from the given choices.

What is the colour of the dress that the liar is wearing?

a) Green
b) Blue
c) **Red**
d) Cannot be determined

Q16.   DIRECTIONS *for questions 13 to 16:* Select the correct alternative from the given choices.
If, immediately after the nine statements were made, Bobby asked Pip, "What is the colour of the dress that Kip is wearing?", what would have been Pip's reply?

a) **Red**
b) Blue
c) Green
d) Cannot be determined

DIRECTIONS *for questions 17 to 20:* Answer these questions on the basis of the information given below.
Three families comprising exactly ten persons, A through J, lived as tenants in a house at different points of time such that all the persons of exactly one family lived in the house at any given time. Each family comprised a husband, a wife and at most two children. No two persons from different families were related to each other. The following information is known about the persons who lived in the house:

1.   B, who was the wife of D, lived in the house after H, a male, lived in the house.
2.   When I lived in the house, there were four persons living in the house in total.
3.   F, who was the only child of G, lived in the house after A, who was not the father of C, lived in the house.
4.   C, who was the daughter of I, lived in the house before H, who did not have a son, lived in the house.
5.   J and E were of the same gender and J lived in the house after E, who lived along with his/her parents, lived in the house.
6.   At least one person had a brother.

Q17.   DIRECTIONS *for questions 17 to 20:* Select the correct alternative from the given choices.
Who among the following is the son of A?

a) **C**
b) **E**
c) **J**

d) A does not have a son.

Q18. **DIRECTIONS** *for questions 17 to 20:* Select the correct alternative from the given choices.
Who is the mother of J?

a) **D**
b) **A**
c) **E**
d) None of the above

Q19. **DIRECTIONS** *for questions 17 to 20:* Select the correct alternative from the given choices.
Who among the following is a male who lived in the house before D did?

a) **A**
b) **E**
c) **F**
d) More than one of the above

Q20. **DIRECTIONS** *for questions 17 to 20:* Select the correct alternative from the given choices.
Who among the following is a female who lived the house with her parents?

a) **F**
b) **J**
c) **A**
d) None of the above

DIRECTIONS *for questions 21 to 24:* Answer these questions on the basis of the information given below.
Ten persons, A through J, participated in a running race with a staggered start, i.e., at the start of the race, the ten racers stood one behind the other, in their respective lanes, not necessarily in the same order as mentioned above. The race ended when the first person crossed the finish line, which happened exactly 80 seconds after the race started. The race was timed

using a timer, which displayed only minutes and seconds and the timer was set to zero at the start of the race. The following table provides the name of the person who was in the lead during different intervals of time (in mm:ss), as recorded by the timer, after the start of the race:

Duration (in mm:ss)	Person
00:00 to 00:12	A
00:12 to 00:15	D
00:15 to 00:20	B
00:20 to 00:35	H
00:35 to 00:49	F
00:49 to 00:52	I
00:52 to 01:01	C
01:01 to 01:14	G
01:14 to 01:20	E

Further, it is known that for any two racers, X and Y, if X overtook Y at some point during the race, Y did not overtake X in the race. When overtaking, the two runners were in the same position (i.e., neck-and-neck) for a negligible amount of time. Assume that no one dropped out of the race in the middle of the race.

Q21. **DIRECTIONS** *for questions 21 to 23:* Select the correct alternative from the given choices.
What is the maximum possible time for which G was in the second position during the race?

a) 6 seconds
b) 9 seconds
c) 12 seconds
d) 15 seconds

Q22. **DIRECTIONS** *for questions 21 to 23:* Select the correct alternative from the given choices.
If J was in the second position at the end of the race, what is the minimum number of runners standing in front of him at the beginning of the race?

a) **9**
b) **8**

c) **7**
d) **6**

Q23. DIRECTIONS *for questions 21 to 23:* Select the correct alternative from the given choices.
If, during the race, J spent a total of 14 seconds in the second place, how many of the following options can represent the number of runners in front of him at the beginning of the race?
I.6   II.5   III.4   IV.3   V.2

a) **3**
b) **4**
c) **1**
d) **2**

Q24. DIRECTIONS *for question 24:* Type in your answer in the input box provided below the question.
What is the maximum possible time (in seconds) that J could have been in the third position in the race?

DIRECTIONS *for questions 25 to 28:* Answer these questions on the basis of the information given below.
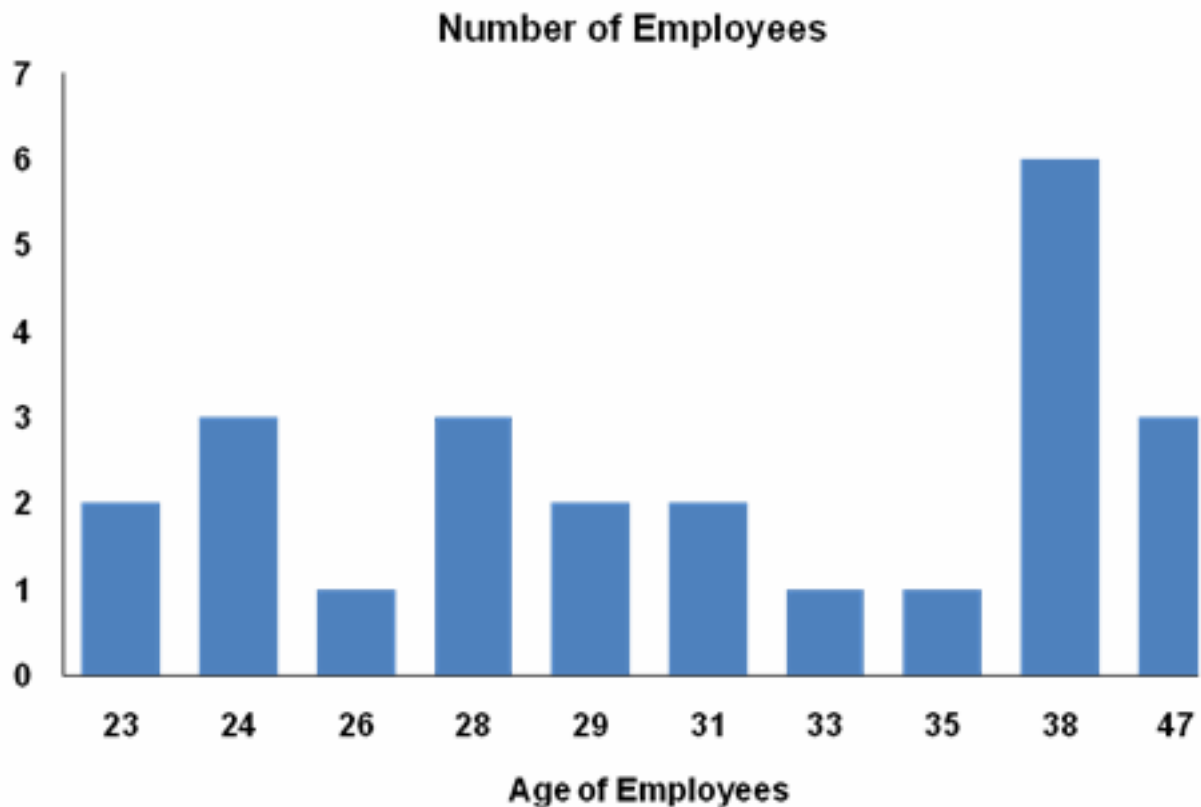Piyush, the Managing Director of a company, is very particular about having a large number of young employees in his company. He recruits employees in his company based on the following rules:

     1.   If at the beginning of any year, the number of employees in his company whose age (in completed years) is at most 30 is less than 10, he hires three new employees whose age (in completed years) is 25. These new employees will join the company at the beginning of the same year.

     2.   If at the beginning of any year, the number of employees whose age (in completed years) is more than 30 and at most 40 is less than 10, he hires two new employees whose age (in completed years) is 33. These new employees will join the company at the beginning of the same year.

He does not hire any new employees otherwise and any employee whose age (in completed years) is greater than 50 at the beginning of any year will retire at the beginning of that year. No employee leaves the company in any other manner.

The chart below gives the number of employees in the company by their age (in completed years) at the beginning of 2010. Any age not mentioned in the chart implies that there are no employees of that age in the company.

Number of Employees

Q25. DIRECTIONS *for questions 25 to 28:* Select the correct alternative from the given choices.
How many employees did Piyush hire from 2010 to 2016?

 a) **11**
 b) **9**
 c) **8**
 d) **6**

Q26. DIRECTIONS *for questions 25 to 28:* Select the correct alternative from the given choices.
What is the highest number of employees in the company in any year between 2010 and 2016?

 a) **32**
 b) **29**
 c) **27**
 d) **24**

Q27. DIRECTIONS *for questions 25 to 28:* Select the correct alternative from the given choices.

In which of the following years was the average of the ages (in completed years) of the employees in the company the least?

 a) 2011
 b) 2012
 c) 2013
 d) 2014

Q28. DIRECTIONS *for questions 25 to 28:* Select the correct alternative from the given choices.

From 2010 to 2016, at the beginning of how many years was the number of employees whose age (in completed years) was less than 30 greater than the number of employees whose age (in completed years) was more than 35?

 a) **4**
 b) **1**
 c) **2**
 d) **3**

DIRECTIONS *for questions 29 to 32:* Answer these questions on the basis of the information given below.

Five people – Dinesh, Lalit, Mani, Raghu and Tarak – wrote a test, which comprised five sections – QA, LR, DI, VA and RC. The score obtained by any student in any section can only be 5, 10 or 15 marks.

Further, it is also known that

      1.   in each section, each of the three possible scores was obtained by at least one student and the total score obtained by each student across the five sections is distinct.

      2.   in each section, the score of Tarak was the same as that of exactly one other student and the score of Lalit was the same as that of exactly one other student. However, in none of the sections was the score of Tarak the same as that of Lalit.

      3.   Raghu obtained the highest score among the five students in each of LR and RC, while Mani scored more than Dinesh in QA.

      4.   the sum of the scores obtained by the five students in each section are 45, 50, 50, 45 and 55 marks, in no particular order.

      5.   each student obtained 15 marks in at least one section and no student obtained the same marks as Raghu in any section.

      6.   the total score obtained by Tarak is 35.

      7.   both Tarak and Dinesh scored 15 marks in the VA section, while Mani scored 15 marks in exactly two sections.

Q29.   DIRECTIONS *for questions 29 and 30:* Select the correct alternative from the given choices.
Among the five students, who obtained the highest total score across the five sections?

 a) Raghu
 b) Dinesh
 c) Lalit
 d) Mani

Q30.   DIRECTIONS *for questions 29 and 30:* Select the correct alternative from the given choices.
In which section was the sum of the scores obtained by the five students the highest?

 a) **LR**
 b) **DI**
 c) **RC**
 d) **VA**

Q31.   DIRECTIONS *for questions 31 and 32:* Type in your answer in the input box provided below the question.
What is the total score obtained by Mani across all the five sections?

Q32.   DIRECTIONS *for questions 31 and 32:* Type in your answer in the input box provided below the question.
What is the difference between the highest total score of any student and the lowest total score of any student across the five sections?

QA

Q1. DIRECTIONS *for question 1:* Type in your answer in the input box provided below the question.
A series of numbers $x0, x1, x2, x3$ ….. is defined such that $x0 = 1$ and $xn + 1 + 12n = 5xn + 3$. If $x200 = 5k + m$, where m and k are natural numbers, find the least possible value of the sum $(m + k)$.

Q2. DIRECTIONS *for questions 2 to 11:* Select the correct alternative from the given choices.

A person works on all the days of each month except on the 1st, 3rd and 5th (if any) Saturdays and Sundays of the month. On how many days does the person work in the month of October of a certain year, if 1st January of that year is a Friday?

a) 21
b) **25**
c) **26**
d) Cannot be determined

Q3. DIRECTIONS *for questions 2 to 11:* Select the correct alternative from the given choices.

A sequence of terms, $a1, a2, a3, …….. ai$, is generated as follows. The first term ($a1$) is chosen as 1. To obtain every subsequent term a coin is tossed. If a heads (H) appears, the next term is obtained by adding 2 to the previous term. If a tails (T) appears, only 1 is added to the previous term to obtain the next term. For example, the sequence corresponding to HTH is 1, 3, 4, 6. If $a11 = 15$, what is the maximum number of consecutive tails that could have appeared up to that term?

a) 6
b) **9**
c) **7**
d) None of the above

Q4. DIRECTIONS *for questions 2 to 11:* Select the correct alternative from the given choices.

The cost of nine erasers, seven sharpeners and five pencils is Rs.38. The cost of four erasers, three sharpeners and two pencils is Rs.16. Find the cost of two pencils and three sharpeners, if the cost of each of the items, in rupees, is a natural number and the cost of no two items is the same.

a) Rs.12
b) Rs.14
c) Rs.8
d) Rs.7

Q5. DIRECTIONS *for questions 2 to 11:* Select the correct alternative from the given choices.

How many five-digit numbers divisible by 3 can be formed using the digits 0, 1, 2, 3, 4 and 5, without repeating any digit?

a) **120**

b) **156**
c) **196**
d) **216**

Q6. DIRECTIONS *for questions 2 to 11:* Select the correct alternative from the given choices.
If $f(x) = f(x^2 - x + 1)$ and $f(2) = 5$, then find $f(7)$.

a) 5
b) **10**
c) **–5**
d) Cannot be determined

Q7. DIRECTIONS *for questions 2 to 11:* Select the correct alternative from the given choices.
If (cosec A + cot A) (cosec B + cot B) (cosec C + cot C) = (cosec A – cot A) (cosec B – cot B) (cosec C – cot C), then the value of each side of the above equation can be

a) 0 or 1.
b) –1 or +1.
c) 0 or 1 or –1.
d) only 1.

Q8. DIRECTIONS *for questions 2 to 11:* Select the correct alternative from the given choices.
Bob goes to a fair and buys tokens of four different denominations, i.e., Rs.3, Rs.5, Rs.7 and Rs.15. In how many ways can he exchange exactly eight of these tokens for Rs.85?

a) **3**
b) **1**
c) **2**
d) None of the above

Q9. DIRECTIONS *for questions 2 to 11:* Select the correct alternative from the given choices.
Consider the expansion $(2 + x + x^3)^5 = a_0 + a_1 x + a_2 x^2 + \ldots\ldots + a_{15} x^{15}$. What is the value of $a_0 + a_2 + a_4 + \ldots\ldots + a_{14}$?

a) 1024
b) **512**
c) **256**
d) **128**

Q10. DIRECTIONS *for questions 2 to 11:* Select the correct alternative from the given choices.

Pradip was preparing for CAT and enrolled for the MOCK CAT series of a tutorial which offered 23 MOCK CATS for practice, to be conducted across the country. On account of his hectic work schedule, he decided to skip a few papers and appear for exactly 9 out of the 23 papers. Further, in order to have his preparation evenly spaced, he decided against writing any two consecutive papers but did not want to miss the last MOCK CAT which would be held two weeks before CAT. Find the total number of ways in which Pradip can write the MOCK CATS.

a) 3003
b) 1716
c) 5005
d) None of these

Q11. DIRECTIONS *for questions 2 to 11:* Select the correct alternative from the given choices.

A box contains two red balls, eight green balls and ten blue balls. Find the minimum number of balls to be drawn from the box to ensure that at least four balls of the same colour are obtained.

a) **8**
b) **10**
c) 9
d) **11**

DIRECTIONS *for questions 12 and 13:* Answer the questions on the basis of the information given below.

A natural number, M, when represented in the number system to the base n is denoted by $f_n(M)$.

Q12.
DIRECTIONS *for questions 12 and 13:* Select the correct alternative from the given choices. If $f_8(M) = 333$………..upto 300 digits, then find $f_4(M)$.

a) 33…………….upto 450 digits
b) 1212…………upto 450 digits
c) 123123……… upto 300 digits
d) 123123………upto 450 digits

Q13.
DIRECTIONS *for questions 12 and 13:* Select the correct alternative from the given choices. If $f_8(M) = 444$………..upto 200 digits, then find $f_4(2M + 1)$.

a) 120120 . . . . upto 301 digits
b) 201201 . . . . upto 300 digits
c) 102102 . . . . upto 301 digits
d) 210210 . . . . upto 299 digits

Q14. **DIRECTIONS** *for question 14:* Type in your answer in the input box provided below the question.

Three identical cubical dice – D1, D2 and D3 – each of which is numbered with a distinct number among 1, 2, 4, 5, 6 and 8 on each of its six faces, are rolled simultaneously. Every time a die is rolled, the top face that turns up is referred to as the unfavourable face, while all the remaining faces of the die are referred to as favourable faces. Also, a function F(D) is defined for each die that is rolled, such that F(D) = sum of the numbers on all the favourable faces of the die. If S = F(D1) + F(D2) + F(D3), then how many distinct values can S assume?

Q15. **DIRECTIONS** *for question 15:* Select the correct alternative from the given choices.

If three regular, unbiased dice are thrown, what is the probability that either a '2' or a '3' turns up on at least one of the dice?

a) $\dfrac{7}{27}$

b) $\dfrac{19}{27}$

c) $\dfrac{64}{216}$

d) $\dfrac{37}{54}$

Q16. **DIRECTIONS** *for question 16:* Type in your answer in the input box provided below the question.

An ATM of a bank contains only notes (i.e., bills) of the denominations Rs. 500 and Rs.100. On a particular day, all the withdrawals (in Rs.) are found to be successive multiples of Rs.100, starting from Rs.100. The ATM always dispenses the money in the minimum possible number of bills. If on that day, the number of Rs.500 bills dispensed equals the number of Rs.100 bills dispensed, then the total number of bills dispensed by the ATM on that day were at most

Q17. DIRECTIONS *for question 17:* Select the correct alternative from the given choices.

If the circumradius and the inradius of a rightangled triangle are 25 cm and 6 cm respectively, find the area of the triangle.

a) 168 sq.cm.
b) 336 sq.cm.
c) 294 sq.cm.
d) Cannot be determined

DIRECTIONS *for questions 18 and 19:* Answer the questions on the basis of the information given below.

The following five functions of x are defined for any real value of x.

$f(x) = 1 - h(x)$
$g(x) = 1 - k(x)$
$h(x) = f(x) + 1$
$j(x) = g(x) + 1$
$k(x) = j(x) + 1$

Q18. DIRECTIONS *for questions 18 and 19:* Type in your answer in the input box provided below the question.

If $\dfrac{[g(f(k(x))) + j(k(g(x))) + k(g(j(x)))]}{[g(x) + j(x) + k(x)][g(x) \cdot j(x) \cdot k(x)]} = \dfrac{m}{n}$, where m and n are integers,

with the fraction $\dfrac{m}{n}$ being expressed in its lowest form (i.e., $|m|$ and $|n|$ are co-primes) and n is non-negative, find $(m + n)$.

Enter your answer as '1001', if you think that the required value is *not defined* OR as '1111', if you think that the answer *cannot be determined* with the information given.
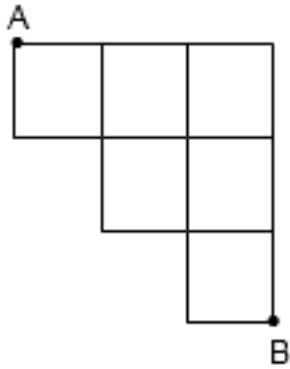
Q19. DIRECTIONS *for questions 18 and 19:* Type in your answer in the input box provided below the question.

Find the value of $\dfrac{h(f(x)) + f(h(x))}{h(f(x) + h(x))}$.

Enter your answer as '1001', if you think that the required value is *not defined* OR as '1111', if you think that the answer *cannot be determined* with the information given.
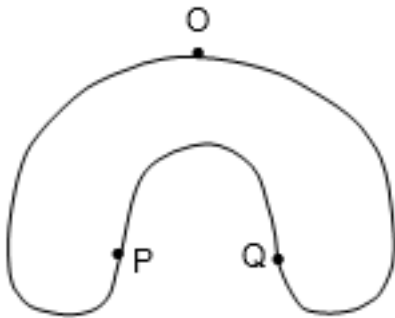
Q20. DIRECTIONS *for question 20:* Type in your answer in the input box provided below the question.

In how many ways can one go from point A to point B in the following figure, if movement is allowed only along the edges, travelling the least distance possible in each case?

Q21. DIRECTIONS *for question 21:* Type in your answer in the input box provided below the question.

Two cyclists, Arjun and Bhim, started towards O from P and Q respectively, along the path shown below, in opposite directions. They met for the first time at 9:00 a.m, at O. At this moment, they reversed their directions but maintained their respective initial speeds and met for the second time at 10:30 a.m., following which Arjun reached O for the second time 75 minutes after Bhim reached O for the second time. If Arjun's speed is k times that of Bhim, find the value of $24k$.

Q22. DIRECTIONS *for question 22:* Select the correct alternative from the given choices.

Ben was using the following algorithm
Step 1:Read p, q. Set $r = 0$, $s = 0$
Step 2:If $p > q$, then $r = p$, $p = q$, $q = r$
Step 3:$q = q - p$, $s = s + 1$
Step 4:If $p > q$, print s. Stop.
Step 5:Go to step 3.
If p and q are positive integers, what does Ben's algorithm give?

a) HCF of p and q.
b) Remainder after dividing the larger of the two by the smaller.
c) Quotient after dividing the larger of the two by the smaller.
d) None of the above.

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

The average of the numbers of a set P, comprising 20 numbers, is 20. There are 20 numbers in another set Q = {a_i : i = 1, 2, 3, ….20}. Now, all the 20 numbers, starting from a_1 to a_{20}, in that order, are shifted from the set Q to the set P, one after the other. During the process of shifting, it was observed that when the number a_i was shifted from set Q to set P, the average of the numbers of set P increased by b_i, where $b_{i+1} - b_i = 1$, for $1 \le i \le 19$. If $b_1 = 2$, what is the average of the original 20 numbers of set Q?

Q24. **DIRECTIONS** *for questions 24 and 25:* Select the correct alternative from the given choices.

A convex pentagon ABCDE is inscribed in a circle. If the angles subtended by the sides AB, BC, CD and DE at the centre are 50°, 80°, 60° and 70° respectively, what is the measure of the smallest interior angle of the pentagon?

a) 115°
b) 100°
c) **95°**
d) **90°**

Q25. **DIRECTIONS** *for questions 24 and 25:* Select the correct alternative from the given choices.

Five friends P, Q, R, S, T attended a party. If no two of them arrived at the same time and P arrived before Q, who, in turn, arrived before R, in how many different ways could they have arrived at the party?

a) **14**
b) **18**
c) 20
d) **16**

DIRECTIONS *for questions 26 and 27:* Answer the questions on the basis of the information given below.

Two real numbers x and y satisfy the equations $x^3y^2 = 864$ and $\dfrac{x}{y}^{\left(x+y^4\right)} = 66$.

Q26.
DIRECTIONS *for questions 26 and 27:* Select the correct alternative from the given choices. How many ordered pairs (*x*, *y*) exist?

a) **2**
b) **3**
c) **4**
d) **1**

Q27.
DIRECTIONS *for questions 26 and 27:* Select the correct alternative from the given choices. Which among the following is definitely an integer?

a) *x2y4*

b) $\dfrac{x^3}{y^5}$

c) *x4y5*
d) More than one of the above

Q28. DIRECTIONS *for questions 28 and 29:* Select the correct alternative from the given choices.
The compound interest accrued on a certain sum, borrowed at an interest rate of r% p.a., compounded annually, for a period of two years, would be equal to the simple interest accrued on 8.5 times the sum, borrowed at half the rate of interest, for a period of 6 months. Find r.

a) 12.5
b) 18.75
c) **20**
d) **25**

Q29. DIRECTIONS *for questions 28 and 29:* Select the correct alternative from the given choices.
A cylinder is carved out of a sphere, such that the diameter of the cylinder is equal to the radius of the sphere. The remaining part of the sphere is considered to be wasted. The percentage of material wasted is (approximately) at least
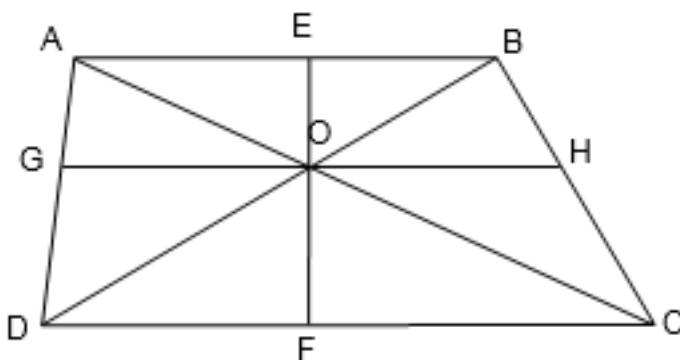
a) 62.5%.
b) 67.5%.
c) 75%.

d) 82.5%.

Q30. DIRECTIONS *for questions 30 to 33:* Type in your answer in the input box provided below the question.
In the upper-class lounge at the city railway station there are 43 chairs in a row, all of them initially unoccupied. From time to time, a passenger enters the lounge and sits in one of the unoccupied chairs and if either of the neighbouring chairs is occupied at that moment, one of the neighbours gets up immediately and leaves. What is the maximum number of chairs that can be occupied at any given time?

Q31. DIRECTIONS *for questions 30 to 33:* Type in your answer in the input box provided below the question.

In the above figure, ABCD is a quadrilateral with the diagonals AC and BD intersecting at the point O. Two lines EF and GH are drawn passing through O, with E, H, F and G taken on AB, BC, CD and AD respectively. If the area of the quadrilateral ABCD is 108 sq.cm, what is the sum of the areas (in sq. cm.) of the all the triangles that can be observed in the figure?

Q32. DIRECTIONS *for questions 30 to 33:* Type in your answer in the input box provided below the question.
How many three-digit numbers exist such that their cubes end with 44?

Q33. DIRECTIONS *for questions 30 to 33:* Type in your answer in the input box provided below the question.
Three cars started from the same point at the same time in three different directions. The first two cars move in a straight line in opposite directions. It is noticed that after two hours, all the cars are at the same distance from the starting point. If the distance between the two cars which travelled in opposite directions is 170 km, how far (in km) from the second car is the third car, given that the distance between the first and the third cars is 136 km?

Enter your answer as '–1' if you think that the
answer *cannot be determined* with the given information.

Q34. DIRECTIONS *for question 34:* Select the correct alternative from the given choices.
A company introduces a scheme to control the rate of work (i.e., work done per unit time) of its employees. According to this scheme, a standard rate of work is specified. If an employee works at a lower rate than this, he would receive 8% of the standard rate of pay (in Rs../hr) less for every 5% (of the standard rate of work) drop in his rate of work. Ashok, an employee of that company completed a job in exactly three hours. If he would have taken 25% less time had he worked at the standard rate of work, and the standard rate of pay is Rs.6/hr, how much was he actually paid for the job?

a) Rs.8.40
b) Rs.12.24
c) Rs.10.80
d) Rs.9.00