CAT MOCK TEST QUESTION
Quantitative Techniques

1. If x and y are positive integers such that $(x - y)^2 = \dfrac{4xy}{x + y - 1}$, then how many pairs (x, y) are possible?

(a) infinite

(b) 0

(c) 1

(d) 2

2. If 70% of x% of y = 350% of y% of z, then which of the following is z?

(a) 5x

(b) (1/5)x

(c) 10x

(d) (1/10)x

3. Let M be the set of integers (2, 9, 16, ….. 513, 520) and N be the subset of M such that the sum of no two elements of N is 522. The maximum possible number of element N is

(a) 75

(b) 36

(c) 40

(d) 38

4. If one of the diagonal of a rhombus is (1/2) times of its side then diagonals of the rhombus are in the ratio

(a) √15 : 2

(b) 15 : 1

(c) 15 : 2

(d) √15 : 1

5. A triangle with side 5 cm, 12 cm and 13 cm is inscribed in a circle. The radius of the circle inscribed in the triangle is

(a) 4 cm

(b) 2.5 cm

(c) 2 cm

(d) 3.5 cm

6. You have a rectangular sheet of area 6300 square centimetre and you have to form a circular cylinder from this, open at both ends and is then fixed to a floor so as to store water in it. What is the maximum volume of water that can be stored, if the length of the rectangular sheet is L?

(a) $\dfrac{6300L}{\pi}$

(b) $\dfrac{2550L}{\pi}$

(c) $\dfrac{3150L}{\pi}$

(d) $\dfrac{1575L}{\pi}$

7. The difference between the simple interest received from two different sources on ₹ 4800 for 3 years is ₹ 14.4. The difference between their rates of interest is:
(a) 10
(b) 0.01
(c) 0.1
(d) 100

8. Rihan mark up his good by 50% and given a discount of 20%. Apart from this, he uses a faulty balance which reads 750 g for 1000 g. What is his next profit/loss percentage?
(a) 10% profit
(b) 10% loss
(c) 20% profit
(d) 20% loss

9. A train's journey is disrupted due to an accident on its track after it has travelled 50 km. Its speed then comes down to (5/6)th of its original and consequently it runs 54 minutes late had the accident taken place 25 km further away, it would have been late 45 minutes late. Find the original speed of the train.
(a) 30 km/hr
(b) 37.5 km/hr
(c) 33.33 km/hr
(d) 40 km/hr

10. A, B and C start from the same place and travel in the same direction at speed of 20 km/hr, 30 km/hr and 60 km/hr. B starts two hours after A. If B and C overtake A at the same instant, then how many hours after A did C start?
(a) 3.5
(b) 3
(c) 4
(d) 5

11. If Ravi travels from city P to city Q and then to P. Samir travels from city Q to city P on the same road and then back again. They meet for the first time at a distance of 60 m from P and second time at a distance of 30 m from Q. What is the ratio of speed of Ravi to that of Samir?
(a) 3 : 2
(b) 3 : 5
(c) 5 : 3

(d) 2 : 3

12. Pipes X, Y and Z can fill a tank in 20, 40 and 80 minutes respectively. Pipes Y and Z are kept open for 15 minutes then pipe Y is shut while pipe X is opened pipe Z is closed 5 minute before the tank overflows. How long does it take to fill the tank (in minute)?
(a) 22
(b) 25
(c) 23
(d) 27

13. Two container P and Q contain oil of container P was transferred to container Q. Then 50% content of container Q was transferred to P. The quantity of oil in container Q to that of container P is now 7 : 9. What was initial composition of P and Q?
(a) 4 : 9
(b) 5 : 9
(c) 9 : 5
(d) 9 : 4

14. Four students X, Y, Z and W had some money in the ratio 5 : 7 : 3 : 5. W decided to distribute a% of money that he had among the other three because of which the ratio of the amount held by X, Y, Z and Wbecame 4 : 5 : 8 : 3. What is the value of a?
(a) 50%
(b) 60%
(c) 40%
(d) 30%

15. Even after reducing the marked price of a chair by 75, a shopkeeper makes a profit of 25%. If the cost price by ₹ 380, what percentage of profit would he have made if he had sold the chair at a discount of 20%.
(a) 15.79%
(b) 25.23%
(c) 19.23%
(d) 29.79%

16. Amit and Rajni got married 15 years ago, their ages were 3 : 2. Today Amit's age is one fifths more than Rajini's age. After marriage, they had 6 children including a triplet and twins. The age of the triplets,twins and sixth child is in the ratio of 7 : 5 : 3. What is the largest possible value of the present total age of the family?
(a) 123 years
(b) 101 years
(c) 117 years
(d) 152 years

17. a, b and c are distinct natural numbers less than 45. What is the maximum possible value of $|a-b| + |b-c| + |c-a|$?

(a) 86

(b) 45

(c) 70

(d) 90

18. If $\log_{10} x^2 - \log_{10} \sqrt[4]{x} = 28\log_x 10$, then what is the value of $\sqrt{x}$?

(a) 10000

(b) 2

(c) 100

(d) 4

19. Find the range of a that satisfies equation
$||3x-6|+4| < 10$

(a) $x \in (-4, 4)$

(b) $x \in (0, 4)$

(c) $x \in (-6, 6)$

(d) $x \in (0, 4)$

20. Equation $x^2 + 13x + 30$ has roots α and β. Equation $x^2 - ax + b = 0$ has root that are $\alpha + \beta$ and 2β. What is the sum of a and b?

(a) –407

(b) –390

(c) –350

(d) –373

21. The remainder obtain $54^{203} + 23^{203}$ is divided by 77 is:

(a) 12

(b) 1

(c) 19

(d) 0

22. The perimeter of a regular hexagon PQRSTU is 72 cm. What is the area of ΔPRT?

(a) $36\sqrt{3}$ cm^2

(b) $27\sqrt{3}$ cm^2

(c) $9\sqrt{3}$ cm^2

(d) $18\sqrt{3}$ cm^2

Data Interpretation and Logical Reasoning

Directions for questions 1 to 5: Read the information below to answer the questions.

The data given below represents the batting statistics of the Zambia Women Cricket Team in a particular match. The line chart given below shows the partnerships made for the first wicket, second wicket and so on till the tenth wicket. Runs scored by these

11 batsmen as per the order in which they appeared in the batting line up are as follows: First Batsman(P) – 51; Second Batsman(Q) – 6; Third Batsman(R) – 5; Fourth Batsman(S) – 6; Fifth Batsman(T) – 34; Sixth Batsman(U) – 0; Seventh Batsman(V) – 2; Eighth Batsman(W) – 2; Ninth Batsman(X) – 4; Tenth Batsman(Y) – 2; Eleventh Batsman(Z) – 1.
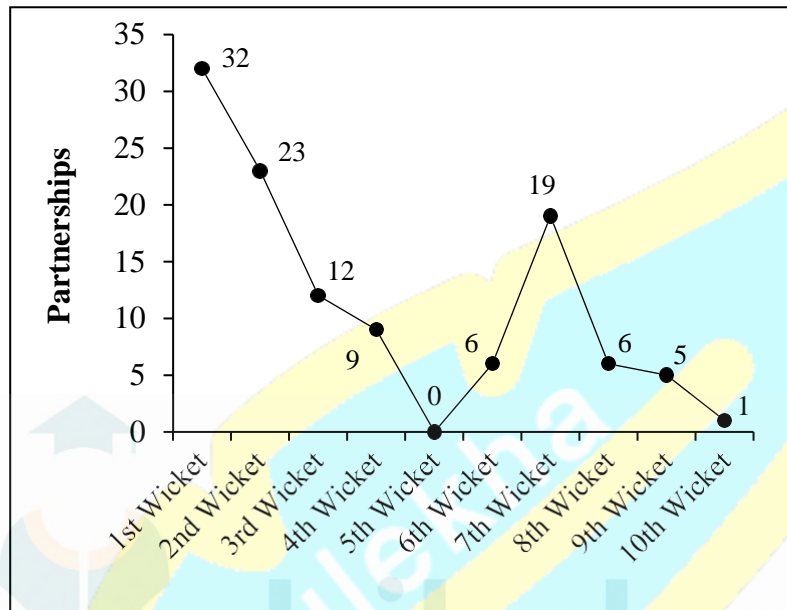
POINTS TO BE KEPT IN MIND-:
• Till the fall of the tenth wicket, at any point there will be 2 batsmen on the field. As soon as the team loses a wicket, the new batsmen will come according to the batting line up.
• While batting, number of runs scored by 2 batsmen will be considered as the partnership between them.

1. Which of the following can be the total score of the team at the dismissal of Fifth Batsman(T)?
(a) 101
(b) 113
(c) 82
(d) Either 101 or 113

2. 19 runs partnership was between which 2 batsmen?
(a) W & X
(b) V & T
(c) W & T
(d) Cannot be determined

3. Runs scored by batsman who got dismissed in 23 runs partnership are what percentage of runs scored by batsman who didn't got dismissed in 9 runs partnership?

(a) 33.33%
(b) 62.50%
(c) 160%
(d) None of these

4. Dismissals of which of the following batsmen will take place between the dismissal of R and W?
(a) V,U and X
(b) P,S and V
(c) T,S and P
(d) None of these

5. Who among the following cannot be the batsmen out as tenth wicket?
(a) X
(b) Y
(c) Z
(d) W

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

A shopkeeper ramesh bought chairs of six different colour from the market and cost price of each colour chair is different. The quantity purchased by him of these different colour of chairs is not same. The quantity he purchased of chairs of each colour is a natural number and is a odd number. He bought 19 pcs of green colour and 15 pcs of yellow colour. He bought 13 pcs of black chairs and cost price of a brown chair is not more than that of a black chair. Cost price of a green chair is less than the price of maximum 3 different colour chairs. Cost price of a brown chair is not the least. He bought a total of 96 pcs of chairs of these colours and he bought 21 pcs of the costliest chair. The cost price of a blue chair is more than that of a black chair and less than the cost price of a red chair. Cost price of a green chair is less than that of a blue chair.

6. Which of the following statement(s) can be correct?
(a) If the cost price of a brown chair is Rs. 1130, then the total amount spent by ramesh on purchasing brown colour chairs is Rs. 21470
(b) Cost price of brown chair is more than the cost price of black chair
(c) If cost price of black chair is Rs.24, then the average of cost price of black and green chair can be Rs.25
(d) Cost price of blue chair is maximum

7. Cost price of which of the following colour chair is maximum?
(a) Blue
(b) Green
(c) Red
(d) Cannot be determined

8. What is the average number of chairs bought of brown, blue and yellow colour?

9. Which of the following range of numbers shows those numbers which are less than the total number of chairs of blue and yellow colour but more than the number of chairs of red colour?
(a) 23 to 33
(b) 24 to 29
(c) 19 to 31
(d) 20 to 23

10. Which colour chair has the minimum cost price?
(a) Red
(b) Blue
(c) Yellow
(d) Cannot be determined

Direction for questions 11 to 15: Answer the questions on the basis of the information given below.
630 candidates participated in an Olympiad for 3 scholarships P, Q and R .248 candidates got at least one of the scholarships.
Following points to be noted:
P1. Candidates got only P, only Q and only R are in the ratio of 3: 4: 6 respectively.
P2. Candidates got all three scholarships are 25 percent of candidates who got only Q.
P3. Candidates got scholarship only P and R, only P and Q and only Q and R are in the ratio of 2 : 3 : 1 respectively.
P4. One third of the candidates got scholarship Q also got at least one more scholarship.

11. What is the respective ratio of candidates got Q and R both and candidates got all three scholarships?

12. Candidates got all three scholarships are what percentage of candidates got exactly 2 scholarships?
(a) 33.33%
(b) 150%
(c) 75%
(d) 66.66%

13. Candidates got exactly one scholarship are how much more than the candidates got both P and R?

14. Which of the following statement is not correct?
(a) Sum of number of candidates got only P and number of candidates got only Q and R are 52.
(b) Ratio of number candidates got P and Q both to the number of candidates got only R is 24:7.
(c) Sum of number of candidates who got at least 2 scholarships is 40.
(d) Number of candidates who got the scholarship but didn't got exactly 2 scholarships are 224.

15. How many students got exactly two scholarships?

Directions for questions 16 to 20: Answer the question on basis of the information given below:
The table below gives the current points table of top 12 teams playing in the 2011 season of France Ligue 1

Team	Played	Wins	Loss	Draw	Points
Everton	38	--	--	--	62
Aberdeen	40	--	--	--	48
Livingston	38	--	10	12	--
Norwich city	--	10	--	10	--
Watford	--	--	12	--	--
Barnsley	--	8	14	--	40
Middlesbrough	40	--	--	10	64
Fulham	--	12	--	8	--
Liverpool	40	--	14	--	70
Rangers	36	--	--	--	52
Millwall	40	14	--	8	50
Tottenham	--	14	18	--	52

The following points should be considered to get answers to the following questions:

- 3 points are awarded for a win and 1 point is awarded for a draw; while no points are awarded for a loss.
- Rangers had the same number of draws as the matches lost by Norwich city.
- Everton has won twice the number of matches that it has lost so far.
- Norwich city has played three times the matches won by Millwall.
- Aberdeen has won and lost equal number of matches.
- Fulham and Millwall have lost equal number of matches.
- Watford and Rangers played the same number of matches. While the number of matches won, lost and draw of Watford are consecutive even numbers in ascending order.

16. Which of the following teams have equal number of draws?
(a) Barnsley, Rangers, Everton.
(b) Norwich city, Tottenham, Middlesbrough
(c) Fulham, Millwall, Tottenham
(d) Watford, Fulham, Tottenham

17. Which team has the maximum wins so far in the I-League competition?
(a) Middlesbrough
(b) Liverpool
(c) Everton
(d) Cannot be determined

18. Which of the following combinations is true in terms of the total points scored by the teams till now?
(a) Everton + Aberdeen = Liverpool + Barnsley
(b) Everton + Aberdeen = Middlesbrough + Barnsley
(c) Everton + Millwall = Liverpool + Barnsley
(d) None of the above

19. Ranking is done on the basis of points; the team with most number of points is ranked 1, and so forth so on. If teams are tied on number of points, the team with most number of wins is given a higher rank. Then, which team is ranked 5th from the bottom?
(a) Rangers
(b) Tottenham
(c) Aberdeen
(d) Cannot be determined

20. Which two team have played the maximum number of matches?
(a) Liverpool and Millwall
(b) Norwich city and Tottenham
(c) Middlesbrough and Tottenham
(d) Norwich city and Aberdeen

Language Comprehension

Direction for questions 1 to 16: The passage below is accompanied by a set of questions. Choose the best answer to each question.
Passage 1

Large-scale reforestation projects such as New Zealand's One Billion Trees programme are underway in many countries to help sequester carbon from the atmosphere.
But there is an ongoing debate about whether to prioritise native or non-native plants to fight climate change. As our recent research shows, non-native plants often grow faster compared to native plants, but they also decompose faster and this helps to accelerate the release of 150% more carbon dioxide from the soil.
Our results highlight a challenging gap in our understanding of carbon cycling in newly planted or regenerating forests.
It is relatively easy to measure plant biomass (how quickly a plant grows) and to estimate how much carbon dioxide it has removed from the atmosphere. But measuring carbon release is more difficult because it involves complex interactions between the plant, plant-eating insects and soil microorganisms. This lack of an integrated carbon cycling model that includes species interactions makes predictions for carbon budgeting exceedingly difficult.
Non-native plants often accelerate carbon cycling. They usually have less dense tissues and can grow and incorporate carbon into their tissues faster than native plants. But they also decompose more readily, increasing carbon release back to the atmosphere.
Our research, recently published in the journal Science, shows that when non-native plants arrive in a new place, they establish new interactions with soil organisms. So far, research has mostly focused on how this resetting of interactions with soil microorganisms, herbivorous insects and other organisms helps exotic plants to invade a new place quickly, often overwhelming native species.
Invasive non-native plants have already become a major problem worldwide, and are changing the composition and function of entire ecosystems. But it is less clear how the interactions of invasive non-

native plants with other organisms affect carbon cycling.

We established 160 experimental plant communities, with different combinations of native and non-native plants. We collected and reared herbivorous insects and created identical mixtures which we added to half of the plots.

We also cultured soil microorganisms to create two different soils that we split across the plant communities. One soil contained microorganisms familiar to the plants and another was unfamiliar. Herbivorous insects and soil microorganisms feed on live and decaying plant tissue. Their ability to grow depends on the nutritional quality of that food. We found that non-native plants provided a better food source for herbivores compared with native plants – and that resulted in more plant-eating insects in communities dominated by non-native plants.

Similarly, exotic plants also raised the abundance of soil microorganisms involved in the rapid decomposition of plant material. This synergy of multiple organisms and interactions (fast-growing plants with less dense tissues, high herbivore abundance, and increased decomposition by soil microorganisms) means that more of the plant carbon is released back into the atmosphere.

In a practical sense, these soil treatments mimic the difference between reforestation (replanting an area) and afforestation (planting trees to create a new forest).

Reforested areas are typically replanted with native species that occurred there before, whereas afforested areas are planted with new species. Our results suggest planting non-native trees into soils with microorganisms they have never encountered may lead to a more rapid release of carbon and undermine the effort to mitigate climate change.

1. Which of the following statements confirms that non-native plants accelerate carbon cycling?
(a) Non-native plants decompose very rapidly and release carbon in the atmosphere.
(b) They have thin tissues and can't incorporate much oxygen in their leaves.
(c) Their ability to grow depends upon the fertility of the soil.
(d) They can accumulate carbon in their stems and the soil used to grow them much faster.

2. All of the following, if true, would negate the findings of the experiment reported in the passage EXCEPT:
(a) Native plants can decompose faster if provided a better environment to grow.
(b) Non- native plants can form the good source of food for the plants eating organisms.
(c) Carbon cycling is not dependent on the regenerating forests or newly planted trees.
(d) Native plants help to accelerate the release of carbon in the atmosphere.

3. In the following statement" In a practical sense, these soil treatments..." which treatment is author talking about?
(a) Soils with microorganisms familiar vs. unfamiliar to the plants
(b) Feeding of herbivorous insects on non-native plants
(c) Soils with microorganism with known culture
(d) Soil difference between afforestation and reforestation

4. Which of the following factors are NOT mentioned by the author when talking about the plant carbon released in the atmosphere?
(a) Fast-growing plants with less dense tissues

(b) High herbivore abundance

(c) Increased decomposition by soil microorganisms

(d) Genetic behaviour of plants

Passage 2

Scientists have suspected for years that bats have struck a strange armistice with some of nature's deadliest viral killers. Bats that carry infamous pathogens such as Ebola, Hendra, Marburg, and Nipah rarely if ever fall ill, or at least show obvious symptoms. Even bats that contract rabies, which is almost always lethal to animals when left untreated, can sometimes emerge from the infection unscathed. This remarkable resilience has drawn the attention of scientists eager to unravel the secrets of bats' evolutionary détente with the disease—a relationship that could someday yield novel therapies to shore up our own antiviral defences. But it's also made bats the target of loathing among those who consider them little more than stealthy pests teeming with zoonoses, or diseases that can pass from animals to humans. Since the coronavirus pandemic began, bats have been slandered on social media, targeted for capture or cullings, and even reportedly burned out of roosts—actions that imperil a group of animals vital to ecosystems around the world, researchers said.

The world's first proper bat likely evolved several tens of millions of years ago, when a lone branch on the mammalian tree converted forelimbs into wings. In the millennia since, bats have splintered into more than 1,200 species—about a fifth of Earth's modern known mammals—and expanded to every continent except Antarctica. They pollinate plants, disperse seeds, and gobble up insect pests—including bugs such as mosquitoes that themselves spread disease.

Given this staggering diversity, it's important to avoid attributing traits to bats as a whole, says Kristen Lear, a bat conservationist at the University of Georgia. Still, across species, bats seem to accomplish what many other creatures can't. Winged yet warm-blooded, they're the only mammals that fly. They age well, in some cases outliving similarly sized mammals such as mice by several decades. Several bat species are also resistant to a multitude of ailments, from cancers to infectious fevers that prove devastating to other species, including humans.

Curiously, the apparent lack of sickness in bats doesn't seem attributable to immunity to infection. Many of the viruses that have plagued humans in recent decades are found in bats too—just absent typical symptoms.

Bats are tough to study under the best of circumstances: They are both notoriously challenging to monitor in the wild and ill-suited to life in the lab. Many of the conclusion's scientists have drawn about bat biology are tentative, and it's possible that some will apply only to the select species that scientists have so far managed to snare.

Other factors beyond immunology play into bat disease dynamics as well. In combination with their longevity and far-ranging flight, the highly social lifestyles of many bats bring them into regular and close contact with one another, offering ample opportunity for infections to spread. All of these complex traits are variables that ecologists have only begun to understand.

5. According to the passage, why bats have become the target of loathing among some people?

(a) Bats have come across as lethal pets.

(b) Remarkable resilience of bats towards diseases.

(c) Bats can transmit disease or infection to humans.

(d) Their living environment is stealthy.

6. What factors prove that bats are helping us in many ways?
I. Gulping insect pests which themselves are carrier of many diseases.
II. Bats like other birds help in depositing pollen.
Which of the following statement(s) is/are true?
(a) Only I
(b) Only II
(c) Both I and II
(d) Neither I nor II

7. All of the following, IF TRUE, would weaken the author's claims EXCEPT:
(a) Bats are considered to be the primary reason for the spread of coronavirus across the world.
(b) There is no benefit in vilifying bats, perhaps humans should consider them our allies in the fight against disease.
(c) Viruses do cause illnesses in bats just not in a way that humans have yet detected
(d) Bat-borne infections are not that lethal to human society as compared to the infections spread by other insects.

8. Which of the following statements will strengthen the author's argument for the given passage?
(a) Bats need to be kept safe, especially when they still have so much to teach us.
(b) Just because a bat is flying around happily, that definitely means it's feeling totally great.
(c) Repair system in the bats protecting them from all of the symptoms of infectious disease.
(d) In many ways, bats are helping us, even though we're often not helping them.

Passage 3

On june 7, 1994, a great earthquake rumbled through Earth's mantle more than 600 kilometres beneath Bolivia. It was the largest earthquake ever recorded at such depths. The tremors were felt as far away as Toronto. No other quake in history had been felt so far from its epicentre.
The event was truly spectacular and yet paradoxical as well. Although deep earthquakes are as regular as clockwork, in theory they should be impossible. Indeed, the very existence of deep earthquakes has teased geophysicists since their discovery in 1927. In 1989 my colleagues and I began to unravel the solution to this puzzle in the laboratory. This article gives an account of that discovery, the new theory of earthquakes that have flowed from it, and recent developments in our understanding.
Most earthquakes are shallow events that occur within a few tens of kilometres of Earth's surface by the familiar processes of brittle fracture and frictional sliding—the same mechanisms by which glass breaks and tires squeal on pavement. For example, last year's devastating Indonesian earthquake was a shallow quake only 16 to 18 kilometres beneath the Indian Ocean. But almost 30 percent of all earthquakes originate much deeper, occurring at depths exceeding 70 kilometres, where the pressure reaches upwards of two gigapascals (20,000 times that of the atmosphere at sea level); nearly 8 percent happen at depths greater than 300 kilometres, where the pressure is greater than 10 gigapascals. At such high pressures, rock will flow at lower stresses than those at which it will break or slide along a preexisting fault. Earthquakes at depth then, would seem impossible.

Nevertheless, deep earthquakes do occur, exclusively in thin, planar zones that begin beneath oceanic trenches and angle down into the mantle. The theory of plate tectonics tells us that these locations mark subduction zones, where the cold uppermost layer (the lithosphere, 50 to 100 kilometres thick) sinks into the mantle. In doing so, it provides the return flow that compensates for the upwelling of new lithosphere at ocean ridges. In these zones, earthquakes show an exponential decrease in frequency from the surface to about 300 kilometres deep. Then their frequency increases again, peaking at 550 to 600 kilometres deep.

Finally, earthquakes cease entirely at approximately 680 kilometres deep because the frequency of earthquakes steadily declines down to about 300 kilometres, most geophysicists believe that events originating between 70 and 300 kilometres below the surface (termed intermediate-focus earthquakes) are produced by a mechanism simply related to brittle fracture and frictional sliding. Deep-focus earthquakes (below 300 kilometres), however, follow an entirely different pattern and therefore probably stem from a separate mechanism. For more than six decades, the details of this mechanism remained elusive.

9. What does the author mean when he said that "deep earthquakes are as regular as clockwork"?
(a) Deep earthquakes comes consistently and they are predictably regular.
(b) Theoretically it's not possible for a deep earthquake to come consistently.
(c) Regular earthquakes held no importance like the clockwork.
(d) Most of the largest earthquakes happened till date are regular.

10. Which one of the following best sums up the overall purpose of the given passage?
(a) Understanding the role of plate tectonics is really important when studying deep earthquakes.
(b) High pressure and low intensity can form a cause for the uprooting of landscape due to earthquakes.
(c) Deep earthquakes have been misunderstood and less theory is available to support its cause.
(d) There are some more facts and theories that need an attention to understand the occurrence of deep earthquakes.

11. Which of the following is responsible for the occurrence of intermediate-focus earthquakes?
(a) Ocean ridges
(b) Frictional sliding
(c) Preexisting fault
(d) Resilient fracture

12. All of the following, if true, would negate the findings of the study reported in the passage EXCEPT:
(a) The theory of plate tectonics is one of the factors which plays role in the occurrence of deep earthquakes.
(b) Earthquakes that happen at depths below 300 km experience a very high pressure.
(c) Deep earthquakes occur in thin planar zones that starts beneath ocean trenches.
(d) Deep focus earthquakes are produced through the mechanism majorly related to brittle fracture.

Passage 4

When I first heard the term "illuminated manuscript" and learned of its association with medieval monasteries, I pictured hand-lettered parchment texts actually lighted from within by a kind of

benevolent, supernatural light. I soon discovered, however, that the adjective "illuminated" in this case had nothing to do with light, nor did it always have to do with the Christian church or with medieval times. Rather, "to illuminate" simply meant "to adorn" the pages of a manuscript, usually with brilliant colours and sometimes even with precious metals or stones.

Although illuminated manuscripts reached their apogee in the Middle Ages and are best known as a product of the medieval Christian church, they actually had their origins in Egypt, nearly four thousand years ago. The first known illuminated manuscript was the *Egyptian Book of the Dead,* which contained instructions for the ceremonies for burial of the dead and the prayers to be said by those left behind. Originally, those books were commissioned by royalty, nobility, and others of high rank, but eventually even ordinary people could purchase them. Among the scenes commonly contained in the *Egyptian Book of the Dead* were the funeral cortege and the mummi cation process, as well as depictions of the deceased in the afterlife. Thanks to the dry climate in Egypt, a number of these ancient manuscripts have survived. The practice of illuminating manuscripts flourished in Europe. The Vatican Library houses two manuscripts by Virgil, and a copy of the *Iliad* by Homer resides in the Biblioteca Ambrosiana in Milan. A few Bibles and religious storybooks have survived also. Hellenistic and Roman wall painting influenced the illustrations in these texts, and as the age progressed, the artwork came to be more influenced by classical art with biblical themes. By the seventh century, the most important illuminated manuscripts were the prayer books being produced in monasteries in England and Ireland. The illustrators were greatly influenced by Celtic metalwork from previous centuries, and the works are beautiful and impressive (though they may look slightly primitive to modern eyes as the artists have made no effort to give a sense of perspective).

By the tenth and eleventh centuries, monasteries in England moved away from their Celtic influence and embraced the Carolingian style. The pictures in these manuscripts, drawn for royals and other wealthy patrons, became more interpretive, actually illustrating passages from the book, with stylized figures looking rather severely out at the reader. By the twelfth century, these English illuminators were integrating illustration and decoration into the text. Bibles made in England at this time contained entire scenes. Many of these manuscripts also presented mythical figures, like dragons or part-human, part-animal figures that did not relate directly to the text.

During the Middle Ages, the illumination of manuscripts was an important art form, and illuminations employed a variety of decorations and enhancements. Although most of the books began with an imaginary portrait of the book's author or its patron, in some the first page contained abstract designs that were reminiscent of the Oriental carpet, and thus, the first page later came to be known as the carpet page. Texts of this time usually had enlarged and embellished initial letters—sometimes shaped like animals, birds, or flowers. Some particularly important texts—religious, literary, or historical—might have full-page illustrations, which would be placed either at the appropriate point in the text or grouped together at the beginning.

13. Which one of the following best captures the main idea of the passage?
(a) Illuminated manuscripts have played an important role in the artistic and literary lives of a variety of cultures.
(b) During the middle age, illuminated scripts have reached to the highest point.
(c) With the invention of the printing press, the practice of illuminating manuscripts began to peg out.
(d) Illuminating manuscripts are of ancient origin and should be considered sacred works.

14. All of the following are accurate statements about the Egyptian Book of the Dead EXCEPT:
(a) It contained the information regarding ceremonies for burial of the dead.
(b) Dry climate of Egypt was one of the reasons for the survival of this book.
(c) It narrates the depictions of the deceased in the afterlife.
(d) It is one of the ancient religious books based on modern literature.

15. Which of the following statements correctly describes the history of illuminated scripts between the tenth and the eleventh centuries?
(a) Illumination was used more and more often to further explain the meaning of the text.
(b) It absolutely emphasised the seriousness of the text's subject matter.
(c) Illuminations during that time employed a variety of embellished initial letters.
(d) It was more often used to talk about the religious practices and it was more influenced by the classical art.

16. It can be reasonably inferred that a person who studied history of the illuminated manuscript would also learn the most about which of the following?
(a) the history of the Vatican Library
(b) advancements in biology during the same time period
(c) advancements in art during the same time period
(d) the urbanization of Europe after the Middle Ages

Direction for questions 17 to 19: The four sentences (labelled 1, 2, 3, 4) given below, when properly sequenced would yield a coherent paragraph. Decide on the proper sequence of the order of the sentences and key in the sequence of the four numbers as your answer.

17.
1. It became evident that the mosquitoes were developing an immunity to the poison and a different approach is required to combat this challenge.
2. One way of destroying the mosquitoes is by spraying and a powerful poison called DDT was developed that could be sprayed on ponds and stagnant water.
3. DDT can be sprayed by hand or spread by an aeroplane over areas that are difficult to reach.
4. For a time, DDT worked wonders in reducing the number of mosquitoes but the promise of DDT did not last long.

18.
1. An undaunted train burglary was committed the day before yesterday in a sleeper class compartment of Super Express between town-2 and town-3 at around 3 p.m.
2. The majority of the travellers were in rest and just then round four reprobates entered the compartment with fatal weapons and started to beat and loot the travellers.
3. A few travellers attempted to oppose them however without any result, two of them sustained serious wounds.
4. In the wake of drawing loads of fortitude, one of the travellers gathered courage and pulled the alarm chain.

19.

1. He has not yet attained the age of forty-five; but his numerous stories, novels, and poems have reached the unquestioned dignity of "works," and in uniform binding, they make on my library shelves a formidable and gallant display.

2. Mr. Rudyard Kipling is in the anomalous and fortunate position of having enjoyed a prodigious reputation for twenty years, and being still a young man.

3. Foreigners used to read them in their own tongues and he has also received the honour of being himself the hero of a strange French novel.

4. His popularity with the general mass of readers has been sufficient to satisfy the wildest dreams of an author's ambition; and his fame is, in a way, officially sanctioned by the receipt of honorary degrees from McGill University, from Durham, from Oxford, and from Cambridge.

Direction for questions 20 to 21: The passage given below is followed by four alternate summaries. Choose the option that best captures the essence of the passage.

20.

We have music for various mind-sets and various occasions of day, and to accomplish various objectives. I compose of Bach, I hurry to Martin Solveig, possibly you sort the reusing to Senagalese popular music or polish old fashioned silverware to Nicky Minaj's Anaconda. The impediments of one song would never characterize even a solitary life, so attempting to characterize a nation with reference to only one song is bizarrely oversimplified. Those requiring an English national anthem should surrender now: it's a trivial vain, superfluous assignment.

(a) Different moods of a person can be defined by the promiscuous selection of songs they listen to.

(b) Songs are used as National Anthems for their ability to reflect our moods and ideas. Yet it may not be possible to adopt a single song to reflect the patriotism of an entire nation.

(c) No song can catch the whole scope of feelings of a person. How is it then conceivable for a song to speak of the idea of their country to a huge number of people in England.

(d) While songs usually reflect most emotions in an individual, they usually cannot give a true picture of the patriotic spirit of a nation.

21.

The beauty, complexity and incredible diversity of orchid flowers are unrivalled in the plant world. These exotic beauties comprise the largest family of flowering plants on earth, with over 30,000 different species, and at least 200,000 hybrids. Orchids can be found in the equatorial tropics, the arctic tundra, and everywhere in between. The reason for this diversity lies in the orchid's amazing ability to adapt to its given environment. With so many different orchid varieties that thrive in so many different growing conditions, it is relatively easy to find an orchid that is well suited to the conditions that you can provide — whether it is a kitchen window or a full-size greenhouse.

(a) Horticulturists who wish to grow orchids will have greater success doing so in tropical environments rather than in cold climates.

(b) Despite the difficulty in cultivating them, orchids can flourish when grown by horticulturists who have the correct equipment.

(c) Despite the difficulty in cultivating them, orchids belong to a large family, of which some species can grow well in various locations when cared for correctly.

(d) While there are numerous types of orchids, they cannot be grown outside of homes in the tropics, though many horticulturists attempt to do so.

Direction for questions 22 to 23: Five sentences related to a topic are given below. Four of them can be put together to form a meaningful and coherent short paragraph. Identify the odd one out and key in the number of the five numbers as your answer.

22.

1. This is the means by which business colleges presently call modern finance was born.

2. It rose up out of the mathematics of possibility and statistics.

3. Along these lines, the risk is quantifiable and reasonable.

4. The principal idea: Prices are not predictable, but the numerical laws of chance can depict their fluctuations.

5. Some work bolsters the Becker proposal, and some seem to repudiate it.

Answer-5

The first four sentences talk about the approach of modern finance in business schools and the risk associated with it. Last sentence, talks about some becker theory related to workers and hence, is a misfit here.

23.

1. In contrast to the liver and kidneys, a heart transplant can't be performed with a living donor.

2. By chance, around 20% of living contributor liver transplants performed in some of the large centres in India are also on foreigners.

3. So patients with cutting edge cardiovascular breakdown from specific nations which don't have a deceased donor program have no alternative but to attempt their luck in India.

4. As these are to a great extent acted in corporate hospitals, the expenses in India are well beyond a large part of the neighbourhood population. This is the place outside nationals who are frequently ready to pay such sums to fit in.

5. It might be relevant to take note of that one of the primary heart transplants in the world was attempted in 1968 at Mumbai's King Edward Memorial Hospital by P.K. Sen.

Answer-5

The main idea of the passage is how India is also emerging in the medical facilities and supporting liver and heart transplants. Last sentence slightly deviates from the main subject.

24. There is a sentence that is missing in the paragraph below. Look at the paragraph and decide in which blank (option 1, 2, 3, or 4) the following sentence would best fit.

Sentence: China's influence seems to be everywhere

China's billions of dollars in global investments and infrastructure projects seem to be paying off politically and economically. (1)_____. Just recently, Honduras signalled it is set to cut diplomatic ties with Taiwan, having been one of the few remaining countries to recognise the island as a state. (2)_____. This switch of allegiances would be a coup for China, which sees Taiwan as part of its jurisdiction, but also a sign of diminishing US power in Latin America, since the US is a long-time supporter of Taiwan. (3)_____. Days before Chinese president Xi Jinping flew into Moscow to discuss the Ukraine war with Russia's Vladimir Putin, China had brokered a deal between Iran and Saudi Arabia. (4) _____. The high-profile deal sought to re-establish diplomatic, trade and security relations between Iran and Saudi Arabia in an effort to de-escalate tensions and bring more stability to the Middle East.

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