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IPMAT 2025 OFFICIAL PAPER

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QUANTITATIVE ABILITY (SA)**Questions: 15 (+4/0)****Total Test time: 40 mins**

- If the polynomial $ax^2 + bx + 5$ leaves a remainder 3 when divided by $x - 1$, and a remainder 2 when divided by $x + 1$, then $2b - 4a$ equals _____.
- English exam and Math exam were conducted separately for a class of 120 students. The number of students who did not appear for the English exam is twice the number of students who did not appear for the Math exam. The number of students who passed the Math exam is twice the number of students who appeared but failed the English exam. If the number of students who passed the English exam is twice the number of students who appeared but failed the Math exam, then the number of students who appeared but failed the English exam is _____.
- The number of factors of $3^5 \times 5^8 \times 7^2$ that are perfect squares is _____.
- Five teams – A, B, C, D and E – each consisting of 15 members, are going on expeditions to five different locations. Each team includes members from three different skills sets: Biologists, geologists, and explorers. However, the number of members from each skill set varies by team and each member has only one speciality. The total number of biologists, geologists, and explorers are equal.
The following additional information is available.
 - Every team has at least 2 members from each of the three skills sets.
 - Team C and D have 6 biologists each, and Team A has 6 geologists.
 - Every team except A has more biologists than explorers.
 - The number of explorers in each team is distinct and decreases in the order A, B, C, D and E.
The number of biologists in team E is _____.
- Five teams—A, B, C, D, and E—each consisting of 15 members, are going on expeditions to five different locations. Each team includes members from three different skill sets: biologists, geologists, and explorers. However, the number of members from each skill set varies by team and each member has only one speciality. The total number of biologists, geologists, and explorers are equal.
The following additional information is available:
 - Every team has at least 2 members from each of the three skill sets.
 - Teams C and D have 6 biologists each, and Team A has 6 geologists.
 - Every team except A has more biologists than explorers.
 - The number of explorers in each team is distinct and decreases in the order A, B, C, D, and E.
The number of teams having more geologists than biologists is _____.

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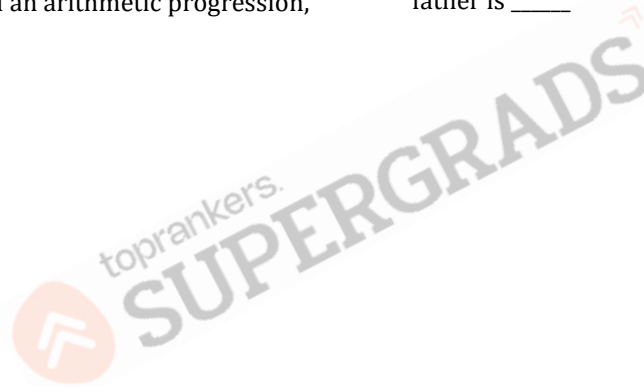
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- If $A = \begin{bmatrix} 2 & n \\ 4 & 1 \end{bmatrix}$ such that $A^3 = 27 \begin{bmatrix} 4 & q \\ p & r \end{bmatrix}$, then $p + q + r$ equals _____.
- Eight teams take part in a tournament where each team plays against every other team exactly once. In a particular year, one team got suspended after playing 3 matches, due to a disciplinary issue. The organizers decide to proceed, nonetheless, with the remaining matches. The total number of matches that were played in the tournament that year is _____.
- Arpita and Nikita, working together, can complete an assigned job in 12 days. If Arpita works initially to complete 40% of the job, and the remaining job is completed by Nikita alone, then it takes 24 days to complete the job. The possible number of days that Nikita requires to complete the entire job, working alone, is _____.

9. Five teams – A, B, C, D and E – each consisting of 15 members, are going on expeditions to five different locations. Each team includes members from three different skills sets: Biologists, geologists, and explorers. However, the number of members from each skill set varies by team and each member has only one speciality. The total number of biologists, geologists, and explorers are equal.
- The following additional information is available.
- Every team has at least 2 members from each of the three skills sets.
 - Team C and D have 6 biologists each, and Team A has 6 geologists.
 - Every team except A has more biologists than explorers.
 - The number of explorers in each team is distinct and decreases in the order A, B, C, D and E.
- The median number of biologists across five teams is _____.
10. If $\log_3 (x^2 - 1)$, $\log_3 (2x^2 + 1)$ and $\log_3 (6x^2 + 3)$ are the first three terms of an arithmetic progression,

then the sum of the next three terms of the progression is _____.

11. If m and n are two positive integers such that $7m + 11n = 200$, then the minimum possible value of $m + n$ is _____.
12. If a, b, c are three distinct natural number, all less than 100, such that $|a - b| + |b - c| = |c - a|$, then the maximum possible value of b is _____.
13. A circle of radius 13 cm touches the adjacent sides AB and BC of a square ABCD at M and N, respectively. If $AB = 18$ cm and the circle intersects the other two sides CD and DA at P and Q, respectively, then the area, in sq. cm, of triangle PMD is _____.
14. If the sum of the first 21 terms of the sequence $\ln \frac{a}{b}$, $\ln \frac{a}{b\sqrt{b}}$, $\ln \frac{a}{b^2}$, $\ln \frac{a}{b^2\sqrt{b}}$, Is $\ln \frac{a^m}{b^n}$, then the value of $m + n$ is _____.
15. Monica, who is 18 years old, is one-third the age of her father. The age at which she will be half the age of her father is _____.



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QUANTITATIVE ABILITY (MCQ)

16. Anindita invests a total of 1 lakh rupees distributed across three schemes A, B and C for a period of two years. These schemes offer an interest rate of 10%, 8% and 12% per annum, respectively, each compounded annually. If the initial investment amount in scheme A is 30000 rupees and the total interest earned from all the three schemes during the first year is 10600 rupees, then the total interest earned, in rupees, from all the three schemes for the second year is _____
- (a) 11748 (b) 10308
(c) 19708 (d) 22348
17. Let $S_1 = \{100, 105, 110, 115, \dots\}$ and $S_2 = \{100, 95, 90, 85, \dots\}$ be two series in arithmetic progression. If a_k and b_k are the k -th terms of S_1 and S_2 , respectively, then $\sum_{k=1}^{20} a_k b_k$ equals
- (a) 138250 (b) 137275
(c) 137225 (d) 135375
18. If $8x^2 - 2kx + k = 0$ is a quadratic equation in x , such that one of its roots is p times the other, and p, k are positive real numbers, then k equals
- (a) $(\sqrt{p} + \frac{1}{\sqrt{p}})^2$ (b) $2(p + \frac{1}{p})$
(c) $(p + \frac{1}{p})$ (d) $2(\sqrt{p} + \frac{1}{\sqrt{p}})^2$
19. Let $P(x)$ be a quadratic polynomial such that $\begin{vmatrix} P(0) & P(1) \\ P(1) & P(2) \end{vmatrix} = 0$. Let $P(0) = 2$ and $P(1) + P(2) + P(3) = 14$. Then $P(4)$ equals
- (a) -14 (b) 16
(c) 30 (d) -6
20. If $\log_{25}[5 \log_3(1 + \log_3(1 + 2 \log_2 x))] = \frac{1}{2}$ then x is
- (a) 4 (b) 2
(c) 8 (d) 16
21. The area of the triangle, formed by the straight lines $y = 0, 12x - 5y = 0$, and $3x + 4y = 7$, is
- (a) $\frac{28}{9}$ (b) $\frac{35}{27}$
(c) $\frac{14}{9}$ (d) $\frac{35}{54}$
22. Consider a triangle with side lengths 4 meters, 6 meters, and 9 meters. A dog runs around the triangle in such a way that the shortest distance of the dog from the triangle is exactly 1 meter. The total distance covered (in meters) by the dog in one round is
- (a) $22 - 2\pi$ (b) 22
(c) $22 + 2\pi$ (d) $19 + 2\pi$
23. Given that $1 + \frac{1}{2^2} + \frac{1}{3^2} + \frac{1}{4^2} + \dots = \frac{\pi^2}{6}$, the value of $1 + \frac{1}{3^2} + \frac{1}{5^2} + \frac{1}{7^2} + \dots$ is
- (a) $\frac{\pi^2}{6} - 1$ (b) $2\frac{\pi}{6}$
(c) $\frac{\pi^2}{8}$ (d) $\frac{\pi^2}{12}$
24. Two swimmers, Ankit and Bipul, start swimming from the opposite ends of a swimming pool at the same time. Ankit can cover the length of the pool once in 10 minutes. Bipul can cover the length of the pool once in 15 minutes. They swim back and forth for 80 minutes without stopping. The number of times they meet each other is _____
- (a) 6 (b) 8
(c) 7 (d) 5

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25. If a_1, a_2, \dots, a_8 are the roots of the equation $x^8 + x^7 + \dots + x + 1 = 0$, then the value of $a_1^{2025} + a_2^{2025} + \dots + a_8^{2025}$ is
- (a) 0 (b) 2
(c) 8 (d) 4
26. Which of the following numbers is divisible by $3^{10} + 2$?
- (a) $3^{20} + 4$ (b) $3^{20} + 8$
(c) $3^{30} + 2$ (d) $3^{30} + 8$

27. A circle touches the y -axis at $(0,4)$ and passes through the point $(-2,0)$. Then the radius of the circle is
 (a) 4 (b) 5
 (c) 7 (d) 6
28. If $y = a + b \log_e x$ then which of the following is true?
 (a) $\log_e y$ is proportional to x
 (b) $\frac{1}{y-a}$ is proportional to x^b
 (c) $y - a$ is proportional to x^b
 (d) e^y is proportional to x^b
29. Let $A(1,3)$ and $B(5,1)$ be two points. If a line with slope m intersects AB at an angle of 45° , then the possible values of m are
 (a) $5, \frac{-1}{5}$ (b) $7, \frac{1}{7}$
 (c) $3, \frac{1}{3}$ (d) $-3, \frac{1}{3}$
30. The number of integers greater than 5000 and divisible by 5 that can be formed with the digits 1, 3, 5, 7, 8, 9 where no digit is repeated is
 (a) 120 (b) 180
 (c) 276 (d) 240
31. Area of a regular octagon inscribed in a circle of radius 1 unit is
 (a) $2\sqrt{2}$ (b) $\frac{9}{2\sqrt{2}}$
 (c) $\sqrt{10}$ (d) $2 + \sqrt{2}$
32. The sum of the first 5 terms of a geometric progression is the same as the sum of the first 7 terms of the same progression. If the sum of the first 9 terms is 24, then the 4th term of the progression is
 (a) -48 (b) -24
 (c) 48 (d) 24
33. The remainder when $11^{1011} + 1011^{11}$ is divided by 9 is
 (a) 8 (b) 7
 (c) 0 (d) 9
34. The set of all values of x satisfying the inequality $\log_{\left(x+\frac{1}{x}\right)} \left[\log_2 \left(\frac{x-1}{x+2} \right) \right] > 0$ is
 (a) Null set (b) $(2,5)$
 (c) $(5, \infty)$ (d) $(-5, -2)$
35. Let $f(x) = a^2x^2 + 2bx + c$ where, $a \neq 0, b, c$ are real numbers and x is a real variable then
 (a) $f(x)$ has a maximum and a minimum 2.
 (b) $f(x)$ has no minimum and no maximum
 (c) $f(x)$ has a minimum and no maximum
 (d) $f(x)$ has a maximum and no minimum
36. A natural number n lies between 100 and 400, and the sum of its digits is 10. The probability that n is divisible by 4, is _____
 (a) $\frac{1}{4}$ (b) $\frac{7}{27}$
 (c) $\frac{1}{3}$ (d) $\frac{2}{9}$
37. In triangle ABC , $AB = AC = x$, $\angle ABC = \theta$ and the circumradius is equal to y . Then $\frac{x}{y}$ equals x
 (a) $2 \cos \theta$ (b) $2 \sin \theta$
 (c) $\sin \theta$ (d) $\cos \theta$
38. Let A and B be two finite sets such that $n(A - B), n(A \cap B), n(B - A)$ are in an arithmetic progression. Here $n(X)$ denotes the number of elements in a finite set X . If $n(A \cup B) = 18$, then $n(A) + n(B)$ is
 (a) 30 (b) 27
 (c) 36 (d) 24
39. Suppose a, b and c are three real numbers such that $\text{Max}(a, b, c) + \text{Min}(a, b, c) = 15$, and $\text{Median}(a, b, c) - \text{Mean}(a, b, c) = 2$. Then the median of a, b and c is
 (a) 11 (b) 10
 (c) 10.5 (d) 9.5
40. A and B take part in a rifle shooting match. The probability of A hitting the target is 0.4, while the probability of B hitting the target is 0.6. If A has the first shot, post which both strike alternately, then the probability that A hits the target before B hits it is
 (a) $\frac{9}{19}$ (b) $\frac{1}{2}$
 (c) $\frac{2}{3}$ (d) $\frac{10}{19}$

Directions (Q.41-Q.45): The table given below provides the details Of monthly sales (in lakhs Of rupees) and the value Of products returned by the customers (as a percentage Of sales) Of an e-commerce company for three product categories for the year 2024. Net sales (in lakhs of rupees) is defined as the difference between sales (in lakhs of rupees) and the value of products returned (in lakhs of rupees).

Month	Sales (in lakhs of rupees)			Value of products returned (as a percentage of sales)		
	Apparel	Footwear	Electronics	Apparel	Footwear	Electronics
January	262	104	289	13%	7%	2%
February	279	113	387	16%	9%	3%
March	236	121	283	20%	7%	2%
April	258	58	325	16%	8%	1%
May	249	69	359	12%	6%	4%
June	230	111	321	19%	5%	3%
July	244	119	341	17%	9%	4%
August	252	60	336	16%	6%	2%
September	288	118	355	10%	9%	5%
October	222	108	383	15%	8%	2%
November	228	93	282	14%	9%	4%
December	221	86	268	18%	10%	1%

41. By what percentage the net sales for June increased as compared to May in the Footwear category?
 (a) 18.97 percent (b) 62.58 percent (c) 60.87 percent (d) 7.21 percent
42. Among the following four months, for which month the value of the Footwear returned (in lakhs of rupees) was the highest?
 (a) September (b) July (c) June (d) March
43. Which month had highest percentage decline in monthly sales as compared to previous month for the Apparel category?
 (a) October (b) March (c) December (d) June
44. For which categories the value of the products returned (as a percentage of sales) increased for three consecutive months?
 (a) Only Electronics (b) Both Apparel and Footwear
 (c) Only Apparel (d) Only Footwear
45. Among the following four months, for which month the contribution of the Apparel category in the total monthly sales was the highest?
 (a) August (b) January
 (c) April (d) December



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VERBAL ABILITY AND READING COMPREHENSION

Passage (Q.46-Q.51): Read the following passage and choose the answer that is closest to each of the questions that are based on the passage.

Meta is recalibrating content on its social media platforms as the political tide has turned in Washington, with Mark Zuckerberg announcing last week that his company plans to fire its US fact-checkers. Fact-checking evolved in response to allegations of misinformation and is being watered down in response to accusations of censorship. Social media does not have solutions to either. Community review — introduced by Elon Musk at X and planned by Zuckerberg for Facebook and Instagram — is not a significant improvement over fact-checking. Having Washington lean on foreign governments over content moderation does not benefit free speech. Yet, that is the nature of the social media beast, designed to amplify bias.

Information and misinformation continue to jostle on social media at the mercy of user discretion. Social media now has enough control over all other forms of media to broaden its reach. It is the connective tissue for mass consumption of entertainment, and alternative platforms are reworking their engagement with social media. Technologies are shaping up to drive this advantage further through synthetic content targeted precisely at its intended audience. Meta's algorithm will now play up politics because it is the flavour of the season.

The Achilles' Heel of social media is informed choice which could turn against misinformation. Its move away from content moderation is driven by the need to be more inclusive, yet unfiltered content can push users away from social media towards legacy forms that have better moderation systems in place. Lawmakers across the world are unlikely to give social media a free run, even if Donald Trump is working on their case. Protections have already been put in place across jurisdictions over misinformation. These may be difficult to dismantle, even if the Republicans pull US-owned social media companies further to the right. Media consumption is, in essence, evidence-based judgement that mediums must adapt to. Content moderation, not free speech, is the adaptation mechanism. Musk and Zuckerberg are not exempt.

- 46.** The writer implies that
- social media can never be discarded by its users.
 - older forms of media will regain users because of their controls.

- social media's innate strength is the user's inability to fact check.
- uncensored content will always have more appeal than controlled content.


- 47.** The writer argues that social media
- has become the preferred way to access entertainment.
 - is in a difficult position because it cannot adapt to new policies.
 - remains unaffected by global debates amongst lawmakers on misinformation.
 - flourishes because it can publish any material.



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- 48.** Technologies are enabling social media to
- accept the current trends as emphasised by algorithms.
 - readjust its interaction with competitors.
 - understand that algorithms cannot control its content.
 - enlarge its sphere of influence and persuasion.
- 49.** Social media has succeeded in
- controlling other media that depend on it.
 - finding alternative means for fact-checking.
 - becoming independent of other media.
 - ignoring technology and artificial content.

50. The writer's conclusion is that information available on social media is linked to
- the policies of the governments in power.
 - the need for deregulation.
 - the global legal systems' support of free speech.
 - the individual's right to free speech.
51. The inherent downside associated with social media is that it
- creates and spreads much innate and acquired prejudice.
 - does not address the problem of the digital divide.
 - results in unremitting expansion of freedom of expression.
 - reinforces existing objectivity among the users.

Passage (Q.52- Q.57): Read the following passage and choose the answer that is closest to each of the questions that are based on the passage.

According to the French philosopher Jean Baudrillard, commodities available for consumption are not inherently negative things. Baudrillard tried to interpret consumption in modern societies by engaging with the 'cargo myth' prevalent among the indigenous Melanesian people living in the South Pacific. The Melanesians did not know what aeroplanes were. However, they saw that these winged entities descended from the air for white people and appeared to make them happy. They also noted that aeroplanes never descended for the Melanesian people.

The Melanesian natives noted that the white people had placed objects similar to the aeroplane on the ground. They concluded that these objects were attracting the aeroplanes in the air and bringing them to the ground. Through a magical process, the aeroplanes were bringing plenty to the white people and making them happy. The Melanesian people concluded that they would need to place objects that simulated the aeroplane on the ground and attract them from the air. Baudrillard believes that the cargo myth holds an important analogy for the ways in which consumers engage with objects of consumption.

According to Baudrillard, the modern consumer "sets in place a whole array of sham objects, of characteristic signs of happiness, and then waits for happiness to alight". For instance, modern consumers believe that they will get happiness if they buy the latest available version of a mobile phone or automobile. However, consumption does not usually lead to happiness. While consumers should ideally be blaming their heightened expectations for their lack of happiness, they blame the commodity instead.

They feel that they should have waited for the next version of a mobile phone or automobile before buying the one they did. The version they bought is somehow inferior and therefore cannot make them happy. Baudrillard argues that consumers have replaced 'real' happiness with 'signs' of happiness. This results in the endless deferment of the arrival of total happiness.

In Baudrillard's words, "in everyday practice, the blessings of consumption are not experienced as resulting from work or from a production process; they are experienced as a miracle". Modern consumers view consumption in the same magical way as the Melanesian people viewed the aeroplanes in the cargo myth. Television commercials also present objects of consumption as miracles. As a result, commodities appear to be distanced from the social processes which lead to their production. In effect, objects of consumption are divorced from the reality which produces them.

52. What is Baudrillard's position on consumption?
- It is an irrational process.
 - It is a positive process.
 - It is a utilitarian process.
 - It is an egalitarian process.
53. Which of the following is an argument made by Baudrillard?
- Production and consumption are magical processes.
 - Television commercials are at the heart of unhappiness experienced by consumers.
 - Melanesian people coped with the inequality of colonialism by creating myths.
 - Consumers value signs more than the real.
54. How does Baudrillard engage with the cargo myth?
- He uses it to describe the suffering of Indigenous people.
 - He uses it to show that consumers should consume more serious objects.
 - He uses it to show that consumption is a blessing.
 - He uses it as a metaphor to critique modern consumption.
55. What is Baudrillard's position on total happiness?
- It results from ethical consumption.
 - It is perpetually delayed.
 - It prioritises production over consumption.
 - It comes with patience and waiting.
56. How can consumption be made more satisfying?
- By rejecting colonialism and all other forms of economic oppression.

- (b) By banning television commercials that promise real happiness.
- (c) By recognising that commodities produce miraculous change.
- (d) By understanding the connection between production and consumption.

57. Why are consumers unhappy with commodities that they have just bought?

- (a) Because television commercials do not create enough hype about commodities.
- (b) Because they focus on improved functionality of commodities.
- (c) Because they have exaggerated expectations of commodities.
- (d) Because the Law of Diminishing Marginal Commodities comes into play.

58. Direction: Complete the following sentences by choosing the most appropriate word/phrase from the options given below.

The labourers who were fired broke into the office building and destroyed some of the machinery. Rather than finding a solution to their problems, they _____.

- (a) extenuated the circumstance
- (b) exacerbated the situation
- (c) exaggerated their hardships
- (d) extended their troubles

59. Direction: Complete the following sentences by choosing the most appropriate word/phrase from the options given below.

We hope that the government's new policies will _____ a period of economic growth.

- (a) set in (b) usher in
- (c) turn up (d) set forth

60. Direction: Complete the following sentences by choosing the most appropriate word/phrase from the options given below.

Everyone wondered how the travel vlogger could go around the world all through the year and _____.

- (a) manage his itinerary life style
- (b) manage his itinerant life style
- (c) manage his iterative life style
- (d) manage his itinerary in his life style

61. Direction: Complete the following sentences by choosing the most appropriate word/phrase from the options given below.

Deepak is an unpleasant person, but we all _____ because his sister is a close friend of ours.

- (a) put him down (b) put up with him

- (c) put him aside (d) put along with him

62. Direction: Complete the following sentences by choosing the most appropriate word/phrase from the options given below.

Without a doubt, the widespread use of renewable energy is a key solution to climate change. However, it is not a _____, as efforts in conservation are equally crucial.

- (a) silver lining (b) red herring
- (c) silver bullet (d) dead ringer

63. Direction: Complete the following sentences by choosing the most appropriate word/phrase from the options given below.

When she inherited some jewellery from a distant relative, she had no idea of its worth and decided _____.

- (a) to have it appraised (b) to get an approval
- (c) to have it appraised (d) to get it appreciated

64. Direction: Complete the following sentences by choosing the most appropriate word/phrase from the options given below.

There are so many instances of one or more deer crossing the road, or just standing in the middle of the road, or else _____; it is like the deer cannot hear the noise of the engines or see the headlights.

- (a) staggering with the road
- (b) bounding across the road
- (c) foraging beneath the road
- (d) jumping under the road

65. Direction: In each of the following sentences, the incorrect part of the sentence is underlined.

Choose an alternative from the four given options so that the sentence is rendered correct.

If the President knew that his allies would let him down so suddenly, he would have handled them with the greatest care.

- (a) If the President could know beforehand that his allies would let him down
- (b) Had the President known that his allies would let him down
- (c) Had the President knowledge that his allies would let him down
- (d) If the President knew that his allies can let him down

66. Direction: In each of the following sentences, the incorrect part of the sentence is underlined.

Choose an alternative from the four given options so that the sentence is rendered correct.

Among scientists, the discovery of the double helix structure of DNA and the genetic code it incorporates

is widely regarded to be one of the most significant scientific discovery of the twentieth century.

- (a) regarded as one of the most significant scientific discoveries
- (b) regarded like one of the most significant scientific discovery
- (c) regarded being one of the most significant scientific discoveries
- (d) regarded for being one of the most significant scientific discoveries

67. Direction: In each of the following sentences, the incorrect part of the sentence is underlined. Choose an alternative from the four given options so that the sentence is rendered correct.

Thank goodness, the damage to the car was neglectful.

- (a) was neglectable (b) was negligible
- (c) was neglecting (d) was negligent

68. Direction: In each of the following sentences, the incorrect part of the sentence is underlined. Choose an alternative from the four given options so that the sentence is rendered correct.

When I had to leave town due to office work, I had my brother to give food to my dog twice a day.

- (a) had my brother feed my dog
- (b) had my brother giving food to my dog
- (c) had my brother who fed my dog
- (d) had my brother to feed my dog

69. Direction: In each of the following sentences, the incorrect part of the sentence is underlined. Choose an alternative from the four given options so that the sentence is rendered correct.

Although the new policy aims to increase efficiency, reducing costs, and enhancing employee satisfaction, some employees feel that the changes are too abrupt and poorly communicated.

- (a) increase efficiency, reduce costs, and enhance employee satisfaction
- (b) increasing efficiency, reducing of costs, and enhancing of employee satisfaction
- (c) increase efficiency, reducing the costs and enhanced employee satisfaction
- (d) increase the efficiency, reduce the costs and enhancing employee satisfaction

70. Direction: Each of the paragraphs given below has a sentence missing which is indicated by a blank. From the choices given below each paragraph, choose the sentence that is most logically appropriate to complete the paragraph.

A report published in Lancet Diabetes and Endocrinology has called for an overhaul of our understanding of obesity. An over-reliance on using Body Mass Index [BMI] as a metric has the peculiar effect of leading to both underdiagnosis and overdiagnosis of the condition.

_____. BMI does not give accurate information about how fat is distributed in an individual's body. It frequently fails to capture the true state of health of an individual. A person's BMI may indicate they are "obese", but their organs and bodily functions may be absolutely normal. Every individual is a unique constellation — not only of genes and other biological variables, but also socio economic conditions and habits.

- (a) BMI reading can help the doctor to accurately prescribe the appropriate dosage to reduce fat
- (b) This is because BMI does not provide a reliable picture of health, nor any direct measure of fat
- (c) Further, much of the information on diabetes, obesity or BMI available on social media is misleading
- (d) Obesity is the end result of multiple factors and BMI can pinpoint the cause of the problem

71. Direction: Each of the paragraphs given below has a sentence missing which is indicated by a blank. From the choices given below each paragraph, choose the sentence that is most logically appropriate to complete the paragraph.

As globalization held sway over the world, communities, which used to live in relative isolation, sought access to the wider world, and in the process, they parted with their own language and adopted a new lingua franca. The loss of language, however, does not merely mean the loss of a mode of communication or the loss of a few thousand words.

_____. So, when a language dies, a way of thinking dies with it.

- (a) Languages exist not only for the purposes of practical communication; they convey a linguistic community's entire mindset and its culture
- (b) A potentially endangered language can sometimes appear to be thriving, or on the other hand, it can show signs of declining
- (c) A certain school of thought regrets the demise of local languages but in recent times revival movements have emerged across the world, especially in India
- (d) Since evolution and change in languages is a part of history, most of the languages spoken today would be

scarcely recognizable from what they were a few thousand or maybe even a few hundred years ago

- 72. Direction:** Each of the paragraphs given below has a sentence missing which is indicated by a blank. From the choices given below each paragraph, choose the sentence that is most logically appropriate to complete the paragraph.

An island in Japan boasts of numerous dairy farms that own nearly one million cows, and supplies 70% of the milk sold in the country. These dairy farms have now begun to use cow manure to produce hydrogen. The methane from cow manure mingles with steam in a high temperature environment to produce hydrogen, which is used to electrify the local zoo. _____.

- (a) It is a case study of a certain animal that is useful in providing energy for several other animals
- (b) The Indian government too, should replicate this, and use such technology to produce hydrogen
- (c) This is an exemplary way of creating a sustainable source of energy using innovative technology
- (d) This shows how Japan has always used technology to help animals

- 73. Direction:** Each of the paragraphs given below has a sentence missing which is indicated by a blank. From the choices given below each paragraph, choose the sentence that is most logically appropriate to complete the paragraph.

On the first day of January 2025, the Indian Meteorological Department [IMD] announced that 2024 was the hottest year on record. A study by the Council on Energy, Environment and Water shows that nearly eight out of ten Indians live in districts that are at risk of either a flood, a cyclone, or a drought. Nearly twenty three States in India are heatwave-prone. _____. In the summer of 2024, India recorded more than 44,000 cases of heatstroke and over 300 heat-related mortalities, as per the

bulletin of the Ministry of Health and Family Welfare. Water reservoirs and the energy demand that keeps India powered are impacted too. During a ten-day long heatwave in Delhi, peak power demand was 16% higher than the previous year.

- (a) However, the people of these districts are given sufficient compensation for loss of life and property
- (b) The increasing heat stress remains a major challenge, affecting public health and economic productivity
- (c) According to the Council, more than 20% of the population is not affected by climate change
- (d) The record-breaking heat of the summer of 2024 resulted in an unpredictable and delayed monsoon

- 74. Direction:** Some of the sentences below have words that are missing. Choose the best option from those given below to complete them.

The notion of personhood is _____ on something more than a particular type of genetic material within human beings: it arises only with the larger-scale structural _____ of that material, which permits capacities like _____, thought and moral agency.

- (a) premised; organisation; consciousness
- (b) interdependent; division; differentiation
- (c) built; distribution; calibration
- (d) dependent; disorganisation; deconstruction

- 75. Direction:** Some of the sentences below have words that are missing. Choose the best option from those given below to complete them.

While Curcumin, which is an _____ found in turmeric helps to reduce _____, extremely high doses of it can _____ headache and nausea.

- (a) alkali; infection; promote
- (b) ingredient; inflammation; induce
- (c) alchemy; injury; cause
- (d) enzyme; abrasion; infuse



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76. Direction: Some of the sentences below have words that are missing. Choose the best option from those given below to complete them.

Art can be _____ because it encourages individuals to express their emotions through a creative outlet, allowing them to process complex feelings, reduce stress, and _____ self-awareness.

- (a) therapeutic; enhance (b) acceptable; disturb
(c) avoidable; mitigate (d) pleasing; decrease

77. Direction: Some of the sentences below have words that are missing. Choose the best option from those given below to complete them.

Psychologists urge users to remember that social media rarely reflects the full complexity of real life. Influencers often _____ a carefully curated online persona, which can _____ unrealistic standards and occasionally _____ negative self-comparisons amongst their followers.

- (a) endorse; foster; provoke
(b) advocate; perpetuate; stimulate
(c) maintain; generate; trigger
(d) profess; inspire; release

78. Direction: Some of the sentences below have words that are missing. Choose the best option from those given below to complete them.

Since chronic stress can _____ the immune system, making individuals more susceptible to illness and _____ their overall well-being, healthcare practitioners often recommend mindfulness practices and proper sleep to _____ these negative effects.

- (a) undermine; elevate; impede
(b) compromise; impair; counter
(c) paralyze; improve; diminish
(d) endanger; preserve; decrease

79. Direction: Some of the sentences below have words that are missing. Choose the best option from those given below to complete them.

Astronauts who stayed for an _____ period of time at the International Space Station displayed a remarkable level of _____ endurance and mental _____.

- (a) extensive; dysfunctional; agility
(b) expanded; stern; acuity
(c) explicit; stoic; integrity
(d) extended; physical; resilience

Passage (Q.35 – Q.40): Read the following transcript and choose the answer that is closest to each of the questions that are based on the transcript.

Lucia Rahilly (Global Editorial Director, The McKinsey Podcast): Today we're talking about the next big arenas of competition, about the industries that will matter most in the global business landscape, which you describe as arenas of competition. What do we mean when we use this term?

Chris Bradley (Director, McKinsey Global Institute): If I go back and look at the top ten companies in 2005, they were in traditional industries such as oil and gas, retail, industrials, and pharmaceuticals. The average company was worth about \$250 billion. If I advance the clock forward to 2020, nine in ten of those companies have been replaced, and by companies that are eight times bigger than the old guards.

And this new batch of companies comes from these new arenas or competitive sectors. In fact, they're so different that we have a nickname for them. If you're a fan of Harry Potter, it's wizards versus muggles. Arena industries are wizard-ish; we found that there's a set of industries that play by very different set of economic rules and get very different results, while the rest, the muggles (even though they run the world, finance the world, and energize the world), play by a more traditional set of economic rules.

Lucia Rahilly: Could we put a finer point on what is novel or different about the lens that you applied to determine what's a wizard and what's a muggle?

Chris Bradley: Wizards are defined by growth and dynamism. We looked at where value is flowing and the places where value is moving. And where is the value flowing?

What we see is that this set of wizards, which represent about ten percent of industries, hog 45 percent of the growth in market cap. But there's another dimension or axis too, which is dynamism. That is measured by a new metric we've come up with called the "shuffle rate." How much does the bottom move to the top?

It turns out that in this set of wizard-ish industries, or arenas, the shuffle rate is much higher than it is in the traditional industry.

Lucia Rahilly: So, where are we seeing the most profit?

Chris Bradley: The economic profit, which is the profit you make minus the cost for the capital you employ is in the wizard industries. It's where R&D happens; they're two times more R&D intensive. They're big stars, the nebulae, where new business is born.

80. Which of the following best and correctly summarizes the main idea of the conversation?

- (a) The global economy is shifting back towards traditional industries, as they offer more stable returns.
- (b) Traditional industries are consistently more profitable than newer, "wizard-ish" industries.
- (c) The terms "wizard" and "muggle" are used to describe the magical elements of business success.
- (d) Newer, dynamic industries, termed "wizards," are experiencing significantly greater growth and profit compared to traditional industries.
- 81.** In the context of the conversation, the term "arenas of competition" refers to
- (a) government regulations that control business competition.
- (b) specific companies that are considered to be powerful competitors.
- (c) broad categories of industries where companies engage in competitive activities.
- (d) physical locations where businesses compete.
- 82.** "Wizard" industries are characterized by
- (a) a higher concentration of economic profit and research and development.
- (b) a reliance on traditional economic rules and practices.
- (c) a slower rate of market capitalization growth.
- (d) lower research and development spending
- 83.** In the context of the conversation, "dynamism" most closely refers to
- (a) the stability and predictability of traditional industries.
- (b) the never-changing reliance on established and unchanging business practices.
- (c) the slow, gradual growth and morphing of established companies.
- (d) the rapid and frequent changes in leadership and market position within an industry.
- 84.** "Muggles" refers to industries that
- (a) operate under traditional economic principles.
- (b) exhibit high levels of market capitalization growth.
- (c) are characterized by rapid and frequent changes.
- (d) are primarily focused on technological innovation.
- 85.** Which one of the following does "shuffle rate" not measure?
- (a) Volatility of market leadership.
- (b) Relative change within an industry.
- (c) Overall profitability of traditional industries.
- (d) Churn within the arena of competition
- 86. Direction:** The sentences given below, when properly sequenced, form a coherent paragraph. Each sentence is labelled with a number. Decide on the most logical order and enter the sequence of numbers in the space provided. Only numbers are to be entered in the space provided for the answer, and no letters, characters, or spaces should be entered. For example, a response such as 53412 is valid, and responses such as 53412. or 53 41 2 are invalid.
1. Among its major urban centres, Harappa and Mohenjo-Daro stand out as prime examples of this architectural prowess, revealing large public structures, residential areas, and sophisticated water management systems indicative of a complex societal structure.
 2. Showing remarkable sophistication for its time, this ancient culture developed meticulously planned cities, complete with advanced sanitation systems and intricate grid layouts that underscore their profound understanding of urban design and engineering.
 3. Economically, the civilization thrived on a foundation of extensive trade networks, connecting them with distant lands, alongside a robust agricultural system that sustained their large populations and facilitated surplus production.
 4. Despite its impressive achievements and longevity, the reasons behind the eventual decline of this remarkable civilization remain largely enigmatic, prompting ongoing research and speculation among historians and archaeologists.
 5. The Indus Valley Civilization, flourishing in the Bronze Age, represents one of humanity's earliest urban societies, evidenced by archaeological discoveries dating back thousands of years.
- 87. Direction:** The sentences given below, when properly sequenced, form a coherent paragraph. Each sentence is labelled with a number. Decide on the most logical order and enter the sequence of numbers in the space provided. Only numbers are to be entered in the space provided for the answer, and no letters, characters, or spaces should be entered. For example, a response such as 3412 is valid, and responses such as 3412. or 3 41 2 are invalid.
1. When we take time to notice these moments, we discover hidden beauty that sparks our creative thoughts because creativity isn't just about rare, amazing events—it's also about finding the special in the ordinary.
 2. Creativity is often seen as the ability to look at the world in a new way—to turn everyday sights, sounds, and experiences into art or ideas.

3. In fact, inspiration can come from small details of daily life: the gentle warmth of morning sunlight on a kitchen counter, the steady sound of traffic outside, or the brief smile of a stranger on a busy street. 4. Many people wrongly think that true creativity only comes from big ideas or exciting adventures.

88. Direction: The sentences given below, when properly sequenced, form a coherent paragraph. Each sentence is labelled with a number. Decide on the most logical order and enter the sequence of numbers in the space provided. Only numbers are to be entered in the space provided for the answer, and no letters, characters, or spaces should be entered. For example, a response such as 3412 is valid, and responses such as 3412. or 3 41 2 are invalid.

1. Seven of the ten worst affected countries (including India) are low- and middle income countries.
2. Between 1993 and 2022, India was the sixth worst-affected country in terms of fatalities and damage sustained from extreme weather events wrought by the climate crisis.
3. High income nations, whose economies are founded in industrial era use of fossil fuels, meanwhile, insist that growing economies, especially India and China, shoulder greater responsibility.
4. This reinforces the developing world's contention that it has had to bear a disproportionate burden of climate afflictions despite having contributed little to the crisis.

89. Direction: The sentences given below, when properly sequenced, form a coherent paragraph. Each sentence is labelled with a number. Decide on the most logical order and enter the sequence of numbers in the space provided. Only numbers are to be entered in the space provided for the answer, and no letters, characters, or spaces should be entered. For example,

a response such as 53412 is valid, and responses such as 53412. or 53 41 2 are invalid.

1. Using the wonders of Artificial Intelligence (AI), they quickly improved upon those skills to become far more dexterous.
2. Inside a robotics laboratory of the Toyota Research Institute, a group of robots is busy cooking. There is nothing special about that; robotic chefs have been around for a while.
3. Despite their extraordinary culinary capabilities, these robots are not destined for a career in catering.
4. But these robots are more proficient than most: flipping pancakes, slicing vegetables, and making pizzas with ease.
5. The difference is that instead of being laboriously programmed to carry out their tasks, the Toyota robots have been taught only a basic set of skills.

90. Direction: The sentences given below, when properly sequenced, form a coherent paragraph. Each sentence is labelled with a number. Decide on the most logical order and enter the sequence of numbers in the space provided. Only numbers are to be entered in the space provided for the answer, and no letters, characters, or spaces should be entered. For example, a response such as 3412 is valid, and responses such as 3412. or 3 41 2 are invalid.

1. In drought conditions, water often depletes in the topsoil and remains accessible only in the deeper subsoil layers.
2. A new study gives new insights into how the acid changes root growth angles to enable plants to reach out deeper subsoils in search of water.
3. Plants rely on their root systems, the primary organs for interacting with soil, to actively seek water. 4. Absciscic acid plays an important role in helping plants adapt to these challenging conditions.

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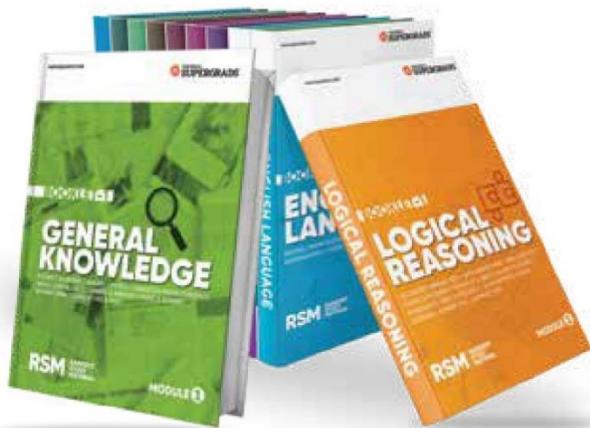
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ANSWER KEY AND EXPLANATIONS**QUANTITATIVE ABILITY (SA)**

1. **(11)** Use Remainder Theorem: For polynomial $f(x)$, remainder on division by $(x-a)$ is $f(a)$.
Let $f(1)=3$ and $f(-1)=2$;
set up equations in a and b (coefficients given in original question)

$$a + b + 5 = 3$$

$$a - b + 5 = 2$$

$$a + b = -2$$

$$a - b = -3$$

$$2a = -5$$

$$a = \frac{-5}{2}$$

$$x - 1 = 0$$

$$x = 1$$

$$x + 1 = 0$$

$$x = -1$$

$$a = -\frac{5}{2}$$

$$\frac{-5}{2} + b = -2$$

$$b = -2 + \frac{5}{2}$$

$$b = \frac{1}{2}$$

$$2b = 1$$

$$1 - (-10) = 1 + 10$$

$$= 11$$

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2. **(40)** Let number who did not appear (DNA) for Math = x . Then not appear for English = $2x$.
Let the number of students who failed in English be " y " then who passed in maths = $2y$
Let the number of students failed in maths be " z ", then who passed in English = $2z$

Total number of students in Math = 120

Pass Fail DNA

$2y$ z x

$$x + 2y + z = 120 \dots (1)$$

Total number of students in English = 120

Pass Fail DNA

$2z$ y $2x$

$$2x + y + 2z = 120 \dots (2)$$

Subtracting eq (1) and (2)

$$3y = 120$$

$$y = 40$$

3. **(30)** $N = 3^5 \times 5^8 \times 7^2$

$$5^8$$

$$3^4 \quad 5^6 \quad 7^2$$

$$3^2 \quad 5^4 \quad 7^0$$

$$3^0 \quad 5^2$$

$$5^0$$

So, there are 3 perfect squares of 3 ($3^4, 3^2, 3^0$)

Similarly, 5 perfect squares of 5^8

And, 2 perfect squares of 7^2

$$3 \times 5 \times 2 = 30$$

4. **(4)**

	Bio	GEO	Expl.	Total
A	2	6	7	15
B	7	2	6	15
C	6	4	5	15
D	6	5	4	15
E	4	8	3	15
Total	25	25	25	75

5. **(2)** Given:

- C & D → 6 Biologists each
- A → 6 Geologists
- Except A, every team has **more Biologists than Explorers**
- Explorers distinct and decreasing: $A > B > C > D > E$

Step 1: Explorers

We need 5 distinct numbers adding up to 25 —

7, 6, 5, 4, 3 works perfectly.

So,

A = 7, B = 6, C = 5, D = 4, E = 3 Explorers

Step 2: Biologists

Total = 25

C + D = 12 → remaining for A, B, E = 13

Except A, **Biologists > Explorers** →

$B \geq 7, E \geq 4$ (minimum possible values)

So $A = 2$ (remaining $13 - 11 = 2$)

Hence,

$A = 2, B = 7, C = 6, D = 6, E = 4$

Step 3: Geologists

Each team = 15 members

$\text{Geo} = 15 - (\text{Bio} + \text{Exp})$
 $\text{Geo} = 15 - (\text{Bio} + \text{Exp})$

Team	Bio	Exp	Geo
A	2	7	6
B	7	6	2
C	6	5	4
D	6	4	5
E	4	3	8

Step 4: Compare Bio & Geo

Team	Geo	Bio	More?
A	6	2	Geo
B	2	7	Bio
C	4	6	Bio
D	5	6	Bio
E	8	4	Geo

Teams with more **Geologists** than **Biologists** = **A and E**

Correct answer is 2

6. (12)

$$A^2 = \begin{bmatrix} 2 & n \\ 4 & 1 \end{bmatrix} \begin{bmatrix} 2 & n \\ 4 & 1 \end{bmatrix}$$

$$A^2 = \begin{bmatrix} 4 + 4n & 3n \\ 12 & 4n + 1 \end{bmatrix}$$

$$A^3 = \begin{bmatrix} 4 + 4n & 3n \\ 12 & 4n + 1 \end{bmatrix} \begin{bmatrix} 2 & n \\ 4 & 1 \end{bmatrix}$$

$$= \begin{bmatrix} 108 & 135 \\ 108 & 81 \end{bmatrix} = \begin{bmatrix} 108 & 27q \\ 27p & 27r \end{bmatrix}$$

$$20n + 8 = 108$$

$$n = 5$$

$$q = 5$$

$$p = 4$$

$$r = 3$$

$$= 12$$

7. (24) Total matches in round robin of 8 teams is $C(8,2)=28$. One team suspended after playing 3 matches; those 3 matches counted, remaining matches among remaining 7 teams:

$$(3) + {}^7C_2 = 3 + \frac{7 \times 6}{1 \times 2} = 24$$

OR

$${}^8C_2 - 4 = \frac{8 \times 7}{1 \times 2} = 28 - 4 = 24$$

8. (20 or 24)

Arpita = a unit /day

Nikita = n unit/day

$$\therefore \frac{1}{a} + \frac{1}{n} = \frac{1}{12} \dots (1)$$

Let total work be 1 unit

Multiply by

$$5 \times 0.4a + 0.6n = 24 \dots (2)$$

$$2a + 3n = 120$$

$$\text{From eq...}(1), a = \frac{12n}{n-12}, \text{ put in eq ... } (2)$$

$$3n + 2 \times \frac{12n}{n-12} = 120 = n^2 - 44n + 480 = 0$$

$$N = 20, 24$$

9. (6)

	Bio	GEO	Expl.	Total
A	2	6	7	15
B	7	2	6	15
C	6	4	5	15
D	6	5	4	15
E	4	8	3	15
Total	25	25	25	75



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10. (15)

$$\Rightarrow \log_3(2x^2 + 1) - \log_3(x^2 - 1) = \log_3(6x^2 + 3) - \log_3(2x^2 + 1)$$

$$\Rightarrow \log_3 \left[\frac{2x^2 + 1}{x^2 - 1} \right] = \log_3 \left[\frac{6x^2 + 3}{2x^2 + 1} \right]$$

$$\Rightarrow \log_3 \left[\frac{2x^2 + 1}{x^2 - 1} \right] = \log_3 3$$

$$\Rightarrow \frac{2x^2 + 1}{x^2 - 1} = 3$$

$$\Rightarrow 2x^2 + 1 = 3x^2 - 3$$

$$\Rightarrow x^2 = 4$$

Thus, the first three terms of the AP will be

$$\log_3(x^2 - 1) = 1,$$

$$\log_3(2x^2 + 1) = 2, \log_3(6x^2 + 3) = 3$$

$$3\log_3 3 = \log_3 3 + 2\log_3 3$$

Therefore, the next three terms of the AP will be 4, 5, and 6, and their sum will be $= 4 + 5 + 6 = 15$.

11. (20) $7m + 11n = 200$

$$m = 27 \quad n =$$

$$1 \quad 28$$

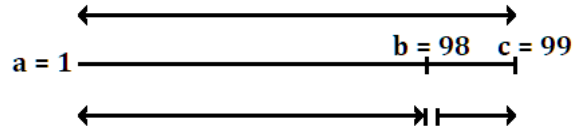
$$m = 16 \quad n =$$

$$8 \quad 24$$

$$m = 5 \quad n =$$

$$15 \quad 20$$

12. (98) $|a-b| + |b-c| = |c-a|$



1

2

3

⋮

99

$$97 + 1 = 98$$

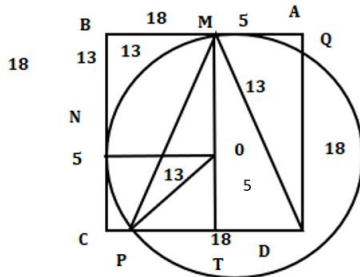
13. (153) $MT = 18$

$$TD = 5$$

$$PT = 12$$

$$\sqrt{169 - 25} = 12$$

$$\frac{1}{2} \times 17 \times 189 = 153$$



14. (147) $\frac{a}{b} \times \frac{a}{b\sqrt{b}} \times \frac{a}{b^2} \times \dots$ up to 21 terms $= \frac{a^m}{b^n}$

$$\frac{a^{21}}{b^{1+\frac{3}{2}+2+\dots \text{upto } 21 \text{ hrs}}} = \frac{a^m}{b^n}$$

$$\frac{a^{21}}{b^{126}} = \frac{a^m}{b^n}$$

$$m = 21$$

$$n = 126$$

$$= 147$$

15. (36) Let Monica age 18, father 54

$$\Rightarrow 18 + x = \frac{54+x}{2}$$

$$\Rightarrow 36 + 2x = 54 + x$$

$$\Rightarrow x = 18$$

$$\Rightarrow 18 + 18 = 36 \text{ years}$$

$$\Rightarrow \text{father's age becomes 72, Monica 36}$$

question asked age when Monica is half father's age:
Monica will be 36

16. (a) Given:

$$\text{Total investment} = ₹100000$$

$$\text{Scheme A investment} = ₹30000$$

Interest rates (compounded annually):

$$- A = 10\%$$

$$- B = 8\%$$

$$- C = 12\%$$

$$\text{Let investment in B} = x$$

$$\text{Then investment in C} = 100000 - 30000 - x = 70000 - x$$

Interest in Year 1:

$$- \text{Scheme A: } 10\% \text{ of } 30000 = 3000$$

$$- \text{Scheme B: } 8\% \text{ of } x = 0.08x$$

$$- \text{Scheme C: } 12\% \text{ of } (70000 - x) = 0.12(70000 - x)$$

$$\text{Total interest in year 1} = ₹10600$$

$$3000 + 0.08x + 0.12(70000 - x) = 10600$$

$$3000 + 0.08x + 8400 - 0.12x = 10600$$

$$(3000 + 8400) + (0.08x - 0.12x) = 10600$$

$$11400 - 0.04x = 10600$$

$$\Rightarrow 0.04x = 800$$

$$\Rightarrow x = 20000$$

So, investments:

$$- B = ₹20000$$

$$- C = ₹50000$$

Now, calculate compound interest for **second year only**:

Amount at end of 1st year = Principal + interest

$$- \text{Scheme A: } 30000 \times 1.10 = 33000 \rightarrow \text{second year}$$

$$\text{interest} = 10\% \text{ of } 33000 = 3300$$

$$- \text{Scheme B: } 20000 \times 1.08 = 21600 \rightarrow \text{second year}$$

$$\text{interest} = 8\% \text{ of } 21600 = 1728$$

$$- \text{Scheme C: } 50000 \times 1.12 = 56000 \rightarrow \text{second year}$$

$$\text{interest} = 12\% \text{ of } 56000 = 6720$$

$$\text{Total second year interest} = 3300 + 1728 + 6720 =$$

$$₹11748$$

$$\text{Answer: } 11748$$

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17. (a)

$$a_n = a + (n-1)d$$

$$a_k = 100 + (k-1) \times 5$$

$$= 100 + 5k - 5$$

$$= 5k + 95$$

$$\frac{a_k}{b_k} = 5(k+19)$$

$$\frac{b_k}{b_k} = 100 + (k-1)(-5)$$

$$= 100 - 5k + 5$$

$$= 105 - 5k$$

$$= 5(21 - k)$$

$$a_1 b_1 + a_2 b_2 + \dots + a_{20} b_{20}$$

$$a_k \times b_k = 5 \times (19 + k) \times 5 \times (21 - k)$$

$$a_k \times b_k = 25 \times (399 + 2k - k^2)$$

$$a_1 b_1 = 25 \times (399 + 2 \times 1 - 1^2)$$

$$a_2 b_2 = 25 \times (399 + 2 \times 2 - 2^2)$$

$$a_k b_k = 25 \times (399 + 2k - k^2)$$

$$S_k$$

$$= 25$$

$$\times \left[399k + 2 \times \frac{k \times (k+1)}{2} \right]$$

$$- \left(\frac{k \times (k+1) \times (2k+1)}{6} \right)$$

$$S_{20} = 25 \times \left[\frac{399 \times 20 + 2 \times 20 \times 21}{2} - \frac{20 \times 21 \times 41}{6} \right]$$

$$a = 138250$$

18. (d) Let the first root be α .

Therefore, the other root = $P\alpha$

Sum of root :

$$\alpha + p\alpha$$

$$= \alpha(1 + p)$$

$$= -\frac{b}{a} = -\frac{-2k}{8} = \frac{2k}{8} = \frac{k}{4}$$

$$\alpha(1 + p) = \frac{k}{4} \dots (1)$$

Product of roots :

$$\alpha \times p\alpha = \alpha^2 p = \frac{c}{a} = \frac{k}{8}$$

$$\Rightarrow \alpha^2 p = \frac{k}{8} \dots (2)$$

From (1) :

$$\alpha = \frac{k}{4(1+p)}$$

Substituting into (2) :

$$(\alpha)^2 \times p = \frac{k}{8}$$

$$\Rightarrow [k(1+p)]^2 \times p = \frac{k}{8}$$

$$\Rightarrow \frac{(k^2 \times p)}{16(1+p^2)} = \frac{k}{8}$$

$$\alpha + P\alpha = \frac{K}{4}$$

$$\alpha(1 + P) = \frac{K}{4}$$

$$\frac{2}{\sqrt{2}\sqrt{P}} \times (1 + P) = \sqrt{K}$$

$$\left(\sqrt{2} \times \left(\frac{1}{\sqrt{P}} + \sqrt{P} \right) \right)^2 = (\sqrt{K})^2$$

$$\alpha \times P\alpha = \frac{K}{8}$$

$$\alpha = \sqrt{\frac{K}{8P}}$$

$$K = 2 \times \left(\sqrt{P} + \frac{1}{\sqrt{P}} \right)^2$$

19. (d) $P(x) = ax^2 + bx + 2$

$$P(1) = a + b + 2$$

$$P(2) = 4a + 2b + 2$$

$$\frac{9(3)}{14} = \frac{9a+3b+2}{14a+6b+6}$$

$$8 = 14a + 6b$$

$$4 = 7a + 3b$$

$$0 = -9a + 3b$$

$$4 = -2a \Rightarrow a = -2$$

$$\left| \frac{2}{2} \times \frac{p(1)}{p(2)} \right| = 0$$

$$p(2) - p(1) = 0$$

$$3a + b = 0$$

$$\frac{3a+b}{-6+b} = b - b = 60 = 0$$

$$b = 6$$

$$p(x) = -2x^2 + 6x + 2$$

$$p(4) = -32 + 24 + 2$$

$$= -6$$

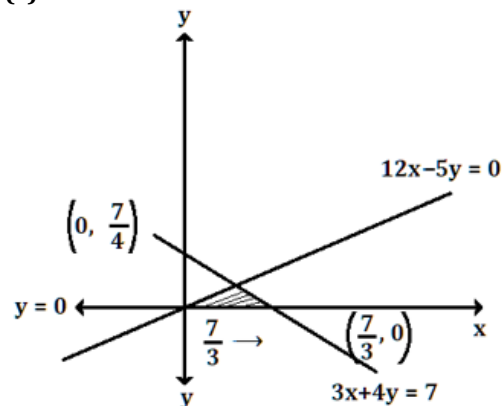
20. (d) $\log_3(1 + \log_3(1 + 2 \log_2 x)) = 1$

$$\log_3(1 + 2 \log_2 x) = 2$$

$$\log_2 x = 4$$

$$x = 2^4 = 16$$

21. (c)



$$3x + 0 = 7 \Rightarrow x = \frac{7}{3}$$

$$0 + 4y = 7 \Rightarrow y = \frac{7}{4}$$

$$12x - 5y = 0$$

$$12x + 16y = 28$$

$$\begin{array}{r} - \quad - \quad - \\ +21y = +28 \end{array}$$

$$y = \frac{4}{3}$$

$$\frac{1}{2} \times \frac{7}{3} \times \frac{4}{3}$$

$$\frac{14}{9}$$

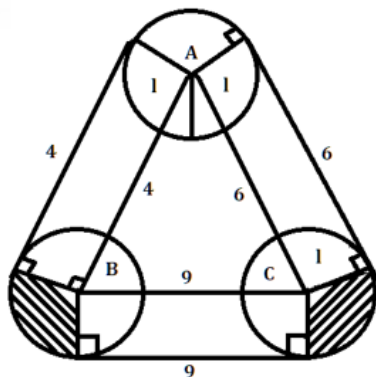
22. (d) For a convex polygon (a triangle here) the path at a fixed outward distance "d" is the original perimeter plus the circumference of a circle of radius d. Intuitively: the three straight offset segments add up to the triangle's perimeter, and the three corner arcs together sweep a full 360° (sum of exterior angles), giving an arc-length $2\pi d$.

Here $d=1$ and the triangle perimeter $= 4+6+9=19$.

So the dog's one-round distance is $19+2\pi$ meters

$$(4+6+9) + \frac{360}{360} \times 2 \times \pi \times 1$$

$$= 19+2\pi$$



23. (c)

$$\left(1 + \frac{1}{3^2} + \frac{1}{5^2} + \dots\right) + \left(\frac{1}{2^2} + \frac{1}{4^2} + \frac{1}{6^2} + \dots\right) = \frac{\pi^2}{6}$$

$$\left(1 + \frac{1}{3^2} + \frac{1}{5^2} + \dots\right) + \frac{1}{4} \times \left(1 + \frac{1}{2^2} + \frac{1}{3^2} + \dots\right) = \frac{\pi^2}{6}$$

$$\left(1 + \frac{1}{3^2} + \frac{1}{5^2} + \dots\right) = \frac{\pi^2}{6} - \frac{1}{4} \times \frac{\pi^2}{6}$$

$$= \frac{\pi^2}{6} \times \left(\frac{3}{4}\right)$$

$$= \frac{\pi^2}{8}$$

24. (c) Length of pool = 1 unit

Speed of Ankit = $\frac{1}{10}$ pool per minute

Speed of Bipul = $\frac{1}{15}$ pool per minute

$$\text{Relative speed} = \left(\frac{1}{10} + \frac{1}{15}\right) = \left(\frac{3}{30} + \frac{2}{30}\right) = \frac{5}{30} = \frac{1}{6}$$

Time to meet first time :

$$\frac{1}{\frac{1}{6}} = 6 \text{ minutes}$$

After they meet once, each reflection at ends makes their future meetings occur every

$$\text{time} = 2 \times \text{length} / (\text{relative speed})$$

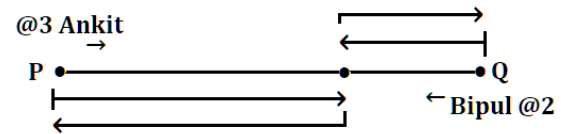
$$= \frac{2}{\frac{1}{6}} = 12 \text{ minutes}$$

So meeting times: 6, 18, 30, 42, 54, 66, 78 (minutes)
— all ≤ 80 .

$$\text{Number of meetings} = 1 + \text{floor}\left(\frac{(80-6)}{12}\right)$$

$$= 1 + 6 = 7 \text{ times}$$

@3 Ankit



25. (c) $x^8 + x^7 + \dots + x + 1 = 0$

$$\frac{(1-x)}{(1-x)} (x^8 + x^7 + x^6 + \dots + x^1 + 1) = 0$$

$$\frac{x^9 - 1}{x - 1} = 0$$

$$1 - x^9 = 0$$

$$x^9 = 1$$

$$a_1^9 = 1$$

$$a_2^9 = 1$$

$$a_3^9 = 1$$

$$\vdots$$

$$a_8^9 = 1$$

$$(a_1^9)^{225} + (a_2^9)^{225} + \dots + (a_8^9)^{225}$$

$$1 + 1 + \dots + 1 = 8$$

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26. (d) $(3^{10}) + (2)^3$

$$3^{10} = A$$

$$2 = B$$

$$A^3 + B^3 = (A + B)(A^2 + B^2 - AB)$$

So $(A + B)$ is a factor of $A^3 + B^3$

Therefore, $(3^{10} + 2)$ divides $(3^{30} + 8)$.

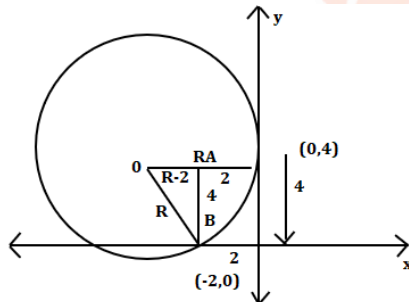
$$(A+B) = 3^{10} + 2$$

27. (b) $R^2 = (R - 2)^2 + 4^2$

$$R^2 = R^2 - 4R + 4 + 16$$

$$4R = 20$$

$$R = 5$$



28. (d) $\log_e(x)^b = y - a$

$$x^b = e^{y-a}$$

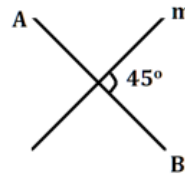
$$x^b = \frac{e^y}{e^a}$$

$$e^y = x^b \times e^a$$

$$e^y = k \times x^b$$

$$e^y \propto x^b$$

29. (d)



$$\tan \theta = \left| \frac{m_1 - m_2}{1 + m_1 m_2} \right|$$

$$1 = \left| \frac{m + \frac{1}{m}}{1 - \frac{m}{m}} \right|$$

$$1 = \left| \frac{2m+1}{2-m} \right|$$

$$\frac{2m+1}{2-m} = 1 \dots (1)$$

$$r_1 = \frac{2m+1}{2-m} - 1 = 1 \dots (2)$$

$$2m + 1 = 2 - m$$

$$3m = 1$$

$$m = \frac{1}{3}$$

$$2m + 1 = -2 + m$$

$$m = -3$$

30. (c) digits = 1, 3, 5, 7, 8, 9

Number must be:

- greater than 5000 \rightarrow 4-digit or more

- divisible by 5 \rightarrow last digit = 5

- no repeated digits

4-digit numbers

1) Thousands place $> 5 \rightarrow$ 3 choices (7,8,9)

2) Hundreds place \rightarrow 4 remaining digits

3) Tens place \rightarrow 3 remaining digits

4) Units \rightarrow fixed 5

$$4\text{-digit} = 3 \times 4 \times 3 \times 1 = 36$$

a) 5-digit numbers

1) First digit $> 5 \rightarrow$ 3 choices

2) Remaining 3 digits \rightarrow choose 3 from 4 remaining
 \rightarrow arranged = $4 \times 3 \times 2 = 24$

3) Units \rightarrow fixed 5

$$5\text{-digit} = 3 \times 24 = 72$$

b) 6-digit numbers

1) First digit $> 5 \rightarrow$ 3 choices

2) Remaining 4 digits $\rightarrow 4! = 24$ arrangements

3) Units \rightarrow fixed 5

$$6\text{-digit} = 3 \times 24 = 72$$

$$\text{Total} = 36 + 120 + 120 = 276$$

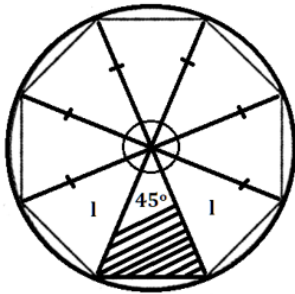
31. (a) $\frac{360^\circ}{8} = 45^\circ$

$$\left(\frac{1}{2} \times r^2 \times \sin 45^\circ \right) \times 8$$

$$\frac{1}{2} \times 1 \times \frac{1}{\sqrt{2}} \times 8$$

$$\frac{1}{\sqrt{2}} \times 2 \times 2$$

$$2\sqrt{2}$$



32. (b) $S_n = a \times \frac{(1-r^n)}{(1-r)}$, for $r \neq 1$

$$a \times \frac{1-r^5}{1-r} = a \times \frac{1-r^7}{1-r}$$

$$r^5(1-r^2) = 0$$

$$1-r^2 = 0 \rightarrow r^2 = 1 \rightarrow r = \pm 1$$

a) $r = 1 \rightarrow$ all terms equal \rightarrow sum of first 5 \neq sum of first 7 (contradiction)

b) $r = -1 \rightarrow$ possible

therefore, $r = -1$

Sum of first 9 terms :

$$S_9 = 24$$

$$S_9 = a \times \frac{1-(-1)^9}{1-(-1)} = a \times \frac{1-(-1)}{1+1} = a \times \frac{1+1}{2} = a$$

Therefore, $a = 24$

Finding 4th term :

$$T_4 = a \times r^{4-1} = a \times r^3 = 24 \times (-1)^3 = 24 \times (-1) = -24$$

33. (a) $R = \frac{11^{1011} + 1011^{11}}{9}$

$$R \left(\frac{2^{1011}}{9} \right)$$

$$R \left(\frac{(8)^{337}}{9} \right)$$

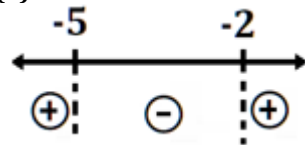
$$R(0)$$

$$R(-1)^{337}$$

$$R(-1)$$

$$-1 + 9 = 8$$

34. (a)



$$\log_{\left(x+\frac{1}{x}\right)} \left[\log_2 \left(\frac{x-1}{x+2} \right) \right] > 0$$

$$\log_2 \left(\frac{x-1}{x+2} \right) > 1$$

$$\frac{x-1}{x+2} > 2$$

$$x+2 \neq 0$$

$$x \neq -2$$

$$(-\infty, -2) \cup (2, \infty)$$

$$\frac{x-1}{x+2} - 2 > 0$$

$$\log_a^N > 0$$

$$\frac{x-1-2x-4}{(x+2)} > 0$$

$$\frac{-(x+5)}{x+2} > 0$$

$$\frac{x+5}{(x+2)} < 0$$

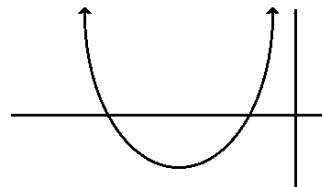
$$\frac{(x+2)(x+5)}{(x+2)^2} < 0$$

$$(x+2)(x+5) \leq 0$$

$$-5 < x < -2$$

$$(-5, -2)$$

35. (c)



a) The coefficient of $x^2 = a^2 > 0$ (since square of a real number is positive)

b) So the parabola **opens upwards**

c) Parabola opening upwards \rightarrow has **minimum** but no maximum

36. (b) Let $n = 100a + 10b + c$

where a, b, c are digits, $a = 1, 2$, or 3

Given, Sum of digits = 10

$$a + b + c = 10$$

Count total numbers

- **Case a = 1:** $b + c = 9 \rightarrow$ number of non-negative integer solutions = 10 (0-9 inclusive, $b+c=9$)

- **Case a = 2:** $b + c = 8 \rightarrow$ number of solutions = 9

- **Case a = 3:** $b + c = 7 \rightarrow$ number of solutions = 8

Total numbers = 10 + 9 + 8 = 27

Case - 1 : Possible (b,c) pairs with $b+c=9$ and $10b+c$ divisible by 4:

$b=1, c=8 \rightarrow 18$ (divisible by 4? $18/4=4.5$ no)

$b=2, c=7 \rightarrow \frac{27}{4}$ - no

$b=3, c=6 \rightarrow \frac{36}{4} = 9$

$b=4, c=5 \rightarrow 45$ - no

$b=5, c=4 \rightarrow 54$ - no

$b=6, c=3 \rightarrow 63$ - no

$b=7, c=2 \rightarrow 72$

$b=8, c=1 \rightarrow 81$ - no

$b=9, c=0 \rightarrow 90$ - no

$b=0, c=9 \rightarrow 09$ - no

Numbers: 136, 172 \rightarrow 2 numbers

Case a = 2, b+c=8:

Check (b,c) divisible by 4:

$b=0, c=8 \rightarrow 08$

$b=1, c=7 \rightarrow 17$ no

$$b=2, c=6 \rightarrow 26 \text{ no}$$

$$b=3, c=5 \rightarrow 35 \text{ no}$$

$$b=4, c=4 \rightarrow 44$$

$$b=5, c=3 \rightarrow 53 \text{ no}$$

$$b=6, c=2 \rightarrow 62 \text{ no}$$

$$b=7, c=1 \rightarrow 71 \text{ no}$$

$$b=8, c=0 \rightarrow 80$$

Numbers: 208, 244, 280 \rightarrow 3 numbers

Case a = 3, b+c=7:

Check (b,c) divisible by 4:

$$b=0, c=7 \rightarrow 07 \text{ no}$$

$$b=1, c=6 \rightarrow 16$$

$$b=2, c=5 \rightarrow 25 \text{ no}$$

$$b=3, c=4 \rightarrow 34 \text{ no}$$

$$b=4, c=3 \rightarrow 43 \text{ no}$$

$$b=5, c=2 \rightarrow 52$$

$$b=6, c=1 \rightarrow 61 \text{ no}$$

$$b=7, c=0 \rightarrow 70 \text{ no}$$

Numbers: 316, 352 \rightarrow 2 numbers

Therefore, total probability - Favorable numbers = 2
 $+ 3 + 2 = 7$

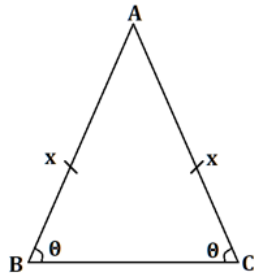
Total numbers = 27

$$\text{Probability} = \frac{7}{27}$$

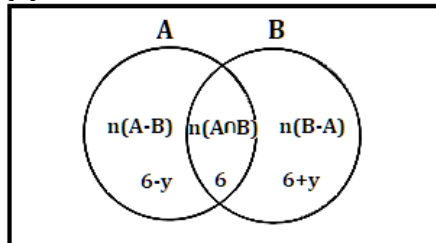
$$37. (b) \frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C} = 2R$$

$$\frac{x}{\sin \theta} = 2 \times y$$

$$\frac{x}{y} = 2 \sin \theta$$



38. (d) is the correct answer



$$3y = 18$$

$$y = 6$$

$$\therefore 12-y + 12+y = 24$$

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39. (c) So, Let $a > b > c$

$$a + c = 15$$

$$b - \frac{(a+b+c)}{3} = 2$$

$$b - \frac{(15+b)}{3} = 2$$

$$3b - 15 - b = 6$$

$$2b = 21$$

$$b = 10.5$$

40. (d) A 0.40.6

B 0.6 0.4

$$A + \bar{A}\bar{B}A + \bar{A}\bar{B}\bar{A}\bar{B}A + \dots$$

$$A(1 + \bar{A}\bar{B} + \bar{A}\bar{B}\bar{A}\bar{B} + \dots)$$

$$A \times \frac{1}{1 - \bar{A}\bar{B}}$$

$$= 0.4 \times \frac{1}{(1 - 0.6 \times 0.4)}$$

$$= \frac{40}{76}$$

$$= \frac{10}{19}$$

41. (b) Net Sales for May (Footwear)

Net Sales is defined as:

Sales-Value of Products Returned.

For May, Footwear:

- Sales: 69 lakhs of rupees.
- Products Returned: 6% of sales.
- The net sales is the remaining $100\% - 6\% = 94\%$ of the sales.

$$\text{Net Sales (May)} = 69 \times 0.94 = 64.86 \text{ lakhs of rupees}$$

Net Sales for June (Footwear)

For June, Footwear:

- Sales: 111 lakhs of rupees.
- Products Returned: 5% of sales.

- The net sales is the remaining $100\% - 5\% = 95\%$ of the sales.
Net Sales (June) = $0.95 \times 111 = 105.45$ lakhs of rupees
percentage increase from May to June -

$$\frac{\text{May Net Sales} - \text{June Net Sales}}{\text{May Net Sales}} \times 100$$

$$= \left(\frac{105.45 - 64.86}{64.86} \right) \times 100 = 62.58\%$$

Therefore, option (b) is correct.

42. (b) $\text{Value Returned} = \text{Sales} \times \frac{\text{Return Percentage}}{100}$

Month Sales (in lakhs) (in lakhs)	sales	Return Percentage	Calculation	Value Returned
January	104	7%	104×0.07	7.28
February	113	9%	113×0.09	10.17
March 121	121	7%	121×0.07	8.47
June 111	111	5%	111×0.05	5.55

Therefore, value of the Footwear returned was the highest in **February**.

43. (a) Calculations for the months that showed a decline :

Current Month	Previous Month Sales (lakhs)	Current Month Sales (lakhs)	Percentage Decline
March	279 (February)	236	-15.41%
May	258 (April)	249	-3.49%
June	249 (May)	230	-7.63%
October	288 (September)	222	-22.92%
December	228 (November)	221	-3.07%

The month that had the highest percentage decline in monthly sales compared to the previous month for the Apparel category was **October**.

44. (b) is the correct answer

1) **Apparel Category**

The return percentage for Apparel increased from January to March:

- January:** 13%
- February:** 16% (↑)
- March:** 20% (↑)

(The percentage increased for 3 consecutive months: January → February → March)

2) **Footwear Category**

The return percentage for Footwear increased from October to December:

- October:** 8%
- November:** 9% (↑)
- December:** 10% (↑)

(The percentage increased for 3 consecutive months: October → November → December).

3) **Electronics Category**

The Electronics category did not have any sequence of three consecutive months where the return percentage increased. For example, the longest continuous increase was only two months (April → May, June → July, and October → November).

Therefore, option (b) is correct.

45. (c) contribution percentage is: $\left(\frac{\text{Total Monthly Sales}}{\text{Sales Apparel Sales}} \right) \times 100$

Total Monthly Sales = Apparel Sales + Footwear Sales + Electronics Sales.

Month	Apparel Sales (A)	Footwear Sales (F)	Electronics Sales (E)	Total Sales (T=A+F+E)	Contribution Percentage (A/T × 100)
(b) January	262	104	289	262+104+289=655	262 / 655 × 100≈40.00%
(c) April	258	58	325	258+58+325=641	258 / 641 × 100≈40.25%
(a) August	252	60	336	252+60+336=648	252 / 648 × 100≈38.89%
(d) December	221	86	268	221+86+268=575	221 / 575 × 100≈38.43%

Therefore, April has the highest contribution at 40.25%.

- 46. (b)** The passage critically examines the shift in social media's content moderation policies, specifically Meta's move away from professional fact-checking. The author argues that this move, intended to be more inclusive, may backfire. A central theme is the idea that user behavior is not static; if the quality of information on social media degrades due to a lack of moderation, users may seek more reliable sources. The passage positions "informed choice" as a potential threat to social media platforms.

Correct Answer (b): This option is directly supported by the author's argument in the third paragraph: "...unfiltered content can push users away from social media towards legacy forms that have better moderation systems in place." The key verb is "implies." The author does not state this as a definitive fact but presents it as a logical and likely consequence. The term "legacy forms" is synonymous with "older forms of media," and "controls" refers to their "better moderation systems."

Incorrect Answer (a): This option contradicts the author's central implication. The entire premise of the potential user shift is that social media can be discarded, or at least used less, if it fails to meet user expectations for reliable information. The phrase "can never be discarded" is an absolute statement the passage refutes.

Incorrect Answer (c): This misrepresents the author's argument. The passage states that the user's "informed choice" is the "Achilles' Heel" of social media, meaning the user's ability to discern truth is a fatal weakness for platforms that promote misinformation. An "inability to fact-check" would be a strength for such platforms, which the author argues is being lost.

Incorrect Answer (d): The author does not make this value judgment. Instead, they suggest that for a significant audience, unfiltered content may have the

opposite effect it pushes them away. The passage does not claim uncensored content "will always have more appeal."

- 47. (a)** The passage outlines the immense power and reach of social media, positioning it not just as a content creator but as the central hub or infrastructure for modern media consumption.

Correct Answer (a): This is explicitly stated in the second paragraph: "It is the connective tissue for mass consumption of entertainment..." The phrase "connective tissue" is a powerful metaphor indicating it is the essential, fundamental channel through which entertainment is accessed and distributed.

Incorrect Answer (b): The passage argues the opposite. The entire final paragraph discusses how social media must adapt to legal and regulatory pressures ("Protections have already been put in place..."). Content moderation is itself framed as an "adaptation mechanism."

Incorrect Answer (c): This is directly contradicted by the text. The third paragraph states, "Lawmakers across the world are unlikely to give social media a free run," and mentions existing protections across jurisdictions that are "difficult to dismantle."

Incorrect Answer (d): While social media can publish a wide range of material, the author's focus is on the consequences of this (e.g., accusations of censorship, user migration, regulatory scrutiny). The passage does not present this ability as the reason for its flourishing; rather, its role as "connective tissue" is its core strength.

- 48. (d)** The passage describes a feedback loop where social media's control over distribution is being supercharged by new technologies, specifically those that create targeted synthetic content (e.g., AI-generated content, deepfakes).

Correct Answer (d): This is a direct paraphrase of the second paragraph: "Technologies are shaping up to drive this advantage further through synthetic

content targeted precisely at its intended audience." "Drive this advantage further" and "broaden its reach" (from the previous sentence) mean to "enlarge its sphere of influence and persuasion."

Incorrect Answer (a): This misinterprets the role of algorithms. The algorithm is the tool that creates and emphasizes trends (e.g., "Meta's algorithm will now play up politics"), not a passive entity that "accepts" them. The technology is active, not passive.

Incorrect Answer (b): The passage states that it is alternative platforms and other media that are "reworking their engagement with social media" because they are dependent on it. The technology is empowering social media itself, not the other way around.

Incorrect Answer (c): This is the opposite of the author's point. The entire passage discusses how algorithms do control content—by amplifying certain topics (politics) and by moving away from fact-checking. The new technologies will intensify this control, not lessen it.



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49. (a) This question focuses on the power dynamic between social media and other forms of media. The author posits that social media has achieved a position of dominance as the primary distribution channel.

Correct Answer (a): This is a clear interpretation of the statement in the second paragraph: "Social media now has enough control over all other forms of media to broaden its reach." Other media depend on social

platforms for audience access, giving social media control over them.

Incorrect Answer (b): The passage argues that the move towards "community review" is "not a significant improvement over fact-checking." It is portrayed as a weakening, not a finding, of alternative fact-checking means.

Incorrect Answer (c): The author describes a relationship of dependence, not independence. Social media's power comes from being the central hub that other media depend on, as stated in option (a).

Incorrect Answer (d): This is completely contradicted by the passage. The second paragraph ends by highlighting how social media is leveraging new technology ("synthetic content") and algorithms, not ignoring them.

50. (a) The passage opens and closes by framing social media's content policies within a political context. The author concludes that content moderation is a form of adaptation to external pressures, primarily from governments.

Correct Answer (a): The passage begins with Meta recalibrating content "as the political tide has turned in Washington." It ends by stating that "content moderation, not free speech, is the adaptation mechanism" for social media companies to navigate pressures from lawmakers and jurisdictions worldwide. This creates a direct link between the information on platforms and the policies of governing bodies.

Incorrect Answer (b): While social media companies are deregulating their own fact-checking, the author's conclusion is that this will lead to more external regulatory pressure from governments, not a general "need for deregulation."

Incorrect Answer (c): The author describes global legal systems putting protections against misinformation in place, which implies a limitation on absolute free speech, not a support of it.

Incorrect Answer (d): The passage frames the issue at a macro level (company policy, government pressure), not at the micro level of an individual user's rights. The "individual's right" is not discussed; the focus is on how platforms manage content en masse.

51. (a) The author identifies a fundamental, built-in flaw of social media platforms that goes beyond current policy debates.

Correct Answer (a): This is a direct interpretation of the key sentence in the first paragraph: "Yet, that is the nature of the social media beast, designed to

amplify bias." "Amplify bias" is synonymous with "spread... prejudice." The words "inherent" and "designed" point to this being a fundamental, innate downside of the platform's core design.

Incorrect Answer (b): The "digital divide" (the gap between those with and without access to technology) is a valid concern but is not mentioned or alluded to anywhere in the passage. It is outside the scope of the author's argument.

Incorrect Answer (c): The author would likely argue that social media results in the distortion of expression through amplification of bias and misinformation, not its "unremitting expansion." Furthermore, this is not identified as the "inherent downside."

Incorrect Answer (d): This is the direct opposite of the author's claim. The platform is designed to "amplify bias," not reinforce objectivity. The very need for fact-checking arose because social media does not reinforce objectivity.

52. (a) Baudrillard's analysis uses the "cargo myth" as an analogy to argue that modern consumption is not driven by the practical utility of objects but by a magical, symbolic belief system. He posits that consumers engage with signs and symbols of happiness rather than the objects themselves, leading to a cycle of perpetual dissatisfaction.

Explanation of Each Option:

Correct Answer (a): The entire passage describes consumption as a process based on magical thinking and false beliefs, not rational economic choice. Consumers set up "sham objects" and "characteristic signs of happiness" and perform a ritual (purchasing) expecting a "miracle" (happiness). This detachment from the reality of production and the inevitable disappointment is fundamentally irrational.

Incorrect Answer (b): The passage opens by stating commodities are "not inherently negative," but Baudrillard's entire argument is a critique of the process of consumption, which he frames as delusional and ultimately unsatisfying. He does not present it as a positive process.

Incorrect Answer (c): "Utilitarian" means based on practical utility and usefulness. Baudrillard argues

the opposite: consumption is based on "signs" and the magical promise of happiness, not on the practical use-value of the commodity.

Incorrect Answer (d): "Egalitarian" means promoting equality. The cargo myth analogy is built on a fundamental inequality (the planes descended for white people, not the Melanesians), and modern consumption is presented as a similarly unequal pursuit of unattainable signs, not a process that creates fairness.

53. (d) A core tenet of Baudrillard's theory is the concept of "simulacra" - copies without an original. He argues that in consumer society, the symbolic value of an object (the "sign" of happiness, status, etc.) has replaced its use-value or any connection to "real" happiness.

Explanation of Each Option:

Correct Answer (d): This is explicitly stated in the third paragraph: "Baudrillard argues that consumers have replaced 'real' happiness with 'signs' of happiness." The mobile phone is valued not for its function but as a sign that one is modern, successful, or happy.

Incorrect Answer (a): Baudrillard describes consumption as a magical process. He states that the "blessings of consumption" are experienced as a miracle, divorcing them from the production process, which is a social and economic reality, not a magical one.

Incorrect Answer (b): While TV commercials are mentioned as reinforcing the "miraculous" view of commodities, they are a symptom or amplifier of the system, not its "heart." The core of the problem is the consumer's own adoption of the symbolic system, as illustrated by the cargo myth which existed without TV ads.

Incorrect Answer (c): This is a plausible historical interpretation of the cargo cults, but it is not Baudrillard's argument. He is not interested in the Melanesians' psychological coping mechanisms; he is using their myth purely as an analogy to explain the behavior of the modern consumer.



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54. (d) The cargo myth is not the object of Baudrillard's study; it is a tool he uses to illuminate a different phenomenon. He draws a parallel between the Melanesians' magical thinking about airplanes and modern consumers' magical thinking about commodities.

Explanation of Each Option:

Correct Answer (d): The passage clearly states: "Baudrillard believes that the cargo myth holds an important analogy for the ways in which consumers engage with objects of consumption." An analogy is a type of metaphor used to explain a complex idea (modern consumption) through a more relatable story (the cargo myth).

Incorrect Answer (a): While the myth involves indigenous people, Baudrillard's purpose is not to document their suffering but to borrow the structure of their belief to make a point about Western consumer culture.

Incorrect Answer (b): The passage does not suggest that consumers should consume different objects. The problem is the mode of consumption (seeking signs), not the type of object. The critique would apply to "serious" objects as well if they are consumed for their signs.

Incorrect Answer (c): He uses the myth to show that consumption is perceived as a blessing or miracle, which is the core of the problem. His position is that this belief is false and leads to dissatisfaction.

55. (b) Baudrillard argues that because consumers chase the sign of happiness rather than happiness itself, satisfaction is impossible. The system is designed to always offer a new, better sign (the next model, the next product) just out of reach.

Explanation of Each Option:

Correct Answer (b): This is directly stated in the third paragraph: "This results in the endless deferment of

the arrival of total happiness." "Endless deferment" means it is perpetually delayed.

Incorrect Answer (a): The passage does not mention "ethical consumption." The problem is structural and semiotic, not ethical in the common sense of fair trade or sustainability. Even ethical consumption could be pursued for its "sign" value (as a signal of virtue).

Incorrect Answer (c): Baudrillard argues that consumers are disconnected from production, but he does not claim that prioritizing production would lead to happiness. His solution (implied in Q11) is to understand the connection, not to prioritize one over the other.

Incorrect Answer (d): "Patience and waiting" is exactly the behavior Baudrillard critiques. The consumer does wait for the next product and that is the mechanism of their perpetual dissatisfaction.

56. (d) Baudrillard identifies the "magical" disconnect between a commodity and the social processes that created it as the source of the problem. Consumers see the end product as a miracle, not as the result of labor, technology, and capital.

Explanation of Each Option:

Correct Answer (d): This is the logical conclusion from the passage's final sentences: "commodities appear to be distanced from the social processes which lead to their production. In effect, objects of consumption are divorced from the reality which produces them." Reconnecting them to this reality would demystify them and potentially break the cycle of magical expectation.

Incorrect Answer (a): This is a broader political goal, but it is not Baudrillard's argument in this passage. His critique is focused on the semiotics of consumption, which operates within both colonial and post-colonial capitalist societies.

Incorrect Answer (b): Banning commercials might reduce the hype, but it wouldn't address the underlying cultural belief system that Baudrillard describes. The cargo myth existed without commercials.

Incorrect Answer (c): Believing that commodities produce "miraculous change" is the very problem Baudrillard is critiquing. Reinforcing this belief would make consumption less satisfying, not more.

57. (c) The passage explains that consumers blame the commodity itself for their lack of happiness, rather than their own misplaced expectations. They believe the object itself should deliver happiness, a promise that no commodity can fulfill.

Explanation of Each Option:

Correct Answer (c): The third paragraph states: "While consumers should ideally be blaming their heightened expectations for their lack of happiness, they blame the commodity instead." "Heightened expectations" is synonymous with "exaggerated expectations."

Incorrect Answer (a): The passage states that TV commercials do create hype and present commodities as miracles, which is what creates the exaggerated expectations in the first place. The problem isn't a lack of hype.

Incorrect Answer (b): If consumers focused on improved functionality (a rational, utilitarian approach), they might be more satisfied. Their unhappiness stems from expecting the commodity to provide existential happiness (a magical outcome), not from judging its practical functions.

Incorrect Answer (d): The "Law of Diminishing Marginal Utility" is an economic concept where each additional unit consumed provides less satisfaction. This is not mentioned or alluded to in the passage. Baudrillard's argument is sociological: the first unit itself fails to deliver because the expectation is for magical happiness, not utility.

58. (b) Correct Answer (b): To exacerbate means to make a problem, bad situation, or negative feeling worse. The sentence describes a negative situation (being fired) to which the labourers responded with violence and destruction. This action would unquestionably make their situation worse (e.g., leading to arrests, guaranteeing they wouldn't be rehired, damaging public sympathy). Therefore, they "exacerbated the situation."

Incorrect Answer (a): To extenuate means to make an offense seem less serious by providing excuses or

reasons. The circumstance is the situation, not the offense. The labourers' actions made things worse; they did not try to justify them to make them seem less severe.

Incorrect Answer (c): To exaggerate means to represent something as being larger, greater, or more important than it actually is. The sentence describes their real, destructive actions, not an overstatement of their "hardships."

Incorrect Answer (d): To extend means to cause to last for a longer time. While their troubles might last longer, the primary result of their action is that their problems became more severe, not just longer-lasting. "Exacerbated" is a much more precise and fitting word.

59. (b) Correct Answer (b): To usher in means to cause something new to start or to mark the beginning of something, especially an important period of change. This perfectly fits the context of new policies initiating a period of economic growth.

Incorrect Answer (a): To set in means to begin and seem likely to continue (e.g., "Bad weather has set in"). It is used for processes that start and continue on their own, not for something that an agent (like a government) actively does.

Incorrect Answer (c): To turn up means to arrive or appear, or to increase the volume or intensity of something. It is too informal and vague for this formal context of policy and economic growth.

Incorrect Answer (d): To set forth means to present an idea, argument, or plan for consideration (e.g., "He set forth his proposals"). The government would "set forth" the policies, but the policies themselves would "usher in" the period of growth.

60. (b) Correct Answer (b): Itinerant (adjective) means traveling from place to place, with no fixed home. It is the precise word to describe the lifestyle of someone who is "go[ing] around the world all through the year."

Incorrect Answer (a) & (d): An itinerary (noun) is a planned route or journey, or a travel document. "Itinerary life style" and "itinerary in his life style" misuse the word. The required word is an adjective describing the lifestyle itself, not a noun for a plan.

Incorrect Answer (c): Iterative (adjective) refers to a process that involves repetition. While travel involves repetitive actions (flying, checking in), the core of the vlogger's life is constant movement and travel (itinerant), not repetition.


- 61. (b)** Correct Answer (b): To put up with someone/something means to tolerate or endure them, even though you find them unpleasant. This fits the context perfectly: they find Deepak unpleasant but tolerate him for the sake of his sister.
Incorrect Answer (a): To put (someone) down means to criticize, humiliate, or belittle them. This is the opposite of tolerating him.
Incorrect Answer (c): To put (something) aside means to save it for later or to disregard it. It is not a standard phrasal verb used for dealing with people.
Incorrect Answer (d): "Put along with him" is not a standard English phrasal verb. The correct phrase is "put up with."
- 62. (c)** Correct Answer (c): A silver bullet is a metaphor for a simple, seemingly magical solution to a very complex problem. The sentence states that renewable energy is a "key solution" but not the only one, implying that it is complex and requires additional efforts like conservation. Thus, it is not a "silver bullet."
Incorrect Answer (a): A silver lining is a positive aspect of a negative situation (e.g., "The silver lining of the lockdown was that I learned to cook"). Renewable energy is itself a positive solution, not a positive aspect within a problem.
Incorrect Answer (b): A red herring is something that misleads or distracts from the important issue. The sentence affirms that renewable energy is important, not a distraction.
Incorrect Answer (d): A dead ringer is someone who looks almost exactly like someone else. This idiom is unrelated to the context of solutions to problems.
- 63. (c)** Correct Answer (c): To appraise something means to officially assess its value or quality. If she doesn't know the jewellery's worth, the logical step is to have a professional appraise it.
Incorrect Answer (a): To apprise means to inform or tell someone. You "apprise someone of something." The structure "to have it appraised" is incorrect. She would have an expert appraise the jewellery to apprise her of its value.
Incorrect Answer (b): To get an approval means to receive permission for something. She doesn't need permission; she needs to find out the value of the jewellery she already owns.
Incorrect Answer (d): To appreciate can mean to recognize the value of something, but it does not mean to have its value officially determined. Jewellery

can appreciate (increase in value) over time, but you would have it appraised to discover its current value.

- 64. (b)** Correct Answer (b): To bound means to move with leaping strides. Deer are known for their graceful, bounding movement, especially when running. This option completes the list of common deer behaviors on roads (crossing, standing, bounding across).
Incorrect Answer (a): To stagger means to walk or move unsteadily, as if about to fall. This describes the movement of someone who is injured or drunk, not the natural movement of a healthy deer.
Incorrect Answer (c): To forage means to search widely for food. Deer forage for food near roads (in ditches, on verges), but not beneath the road, which is made of asphalt or concrete.
Incorrect Answer (d): "Jumping under the road" is illogical. Animals jump over obstacles or across gaps, not under solid surfaces like roads.
- 65. (b)** The underlined part "If the President knew that his allies would let him down" is incorrect because the main clause "he would have handled" indicates a past unreal condition, requiring the if-clause to be in the past perfect tense. The correct form should be "If the President had known" or the inverted "Had the President known."
(a) If the President could know beforehand that his allies would let him down – Incorrect, as "could know" is not past perfect and changes the meaning.
(b) Had the President known that his allies would let him down – Correct, as it uses the past perfect inverted structure, matching the third conditional.
(c) Had the President knowledge that his allies would let him down – Incorrect, as "had knowledge" is grammatically awkward and not the standard past perfect form.
(d) If the President knew that his allies can let him down – Incorrect, as "knew" is simple past and "can" should be "could" for consistency; it does not use past perfect.
- 66. (a)** The underlined part "regarded to be one of the most significant scientific discovery" has two errors: "regarded to be" should be "regarded as," and "discovery" should be plural ("discoveries") because it follows "one of the most significant."
(a) regarded as one of the most significant scientific discoveries – Correct, as it fixes both errors with the proper preposition and plural noun.

- (b) regarded like one of the most significant scientific discovery – Incorrect, as "regarded like" is wrong (should be "as") and "discovery" should be plural.
- (c) regarded being one of the most significant scientific discoveries – Incorrect, as "regarded being" is not standard; it should be "regarded as."
- (d) regarded for being one of the most significant scientific discoveries – Incorrect, as "regarded for being" is not idiomatic; "regarded as" is correct.
67. (b) The underlined word "neglectful" means careless or failing to take care, which describes a person's behavior, not the damage. The correct word should be "negligible," meaning so small or unimportant as to be not worth considering.
- (a) was neglectable – Incorrect, as "neglectable" is not a standard word.
- (b) was negligible – Correct, as it accurately describes the damage as insignificant.
- (c) was neglecting – Incorrect, as it is a verb form and not an adjective describing the damage.
- (d) was negligent – Incorrect, as it means careless, which refers to a person, not the damage.
68. (a) The underlined phrase "had my brother to give food to my dog" is incorrect because the causative structure "have someone do something" requires the bare infinitive (without "to"). The correct form is "had my brother give" or "had my brother feed."
- (a) had my brother feed my dog – Correct, as it uses the bare infinitive "feed" after "had."
- (b) had my brother giving food to my dog – Incorrect, as "giving" is not the bare infinitive; it should be "give."
- (c) had my brother who fed my dog – Incorrect, as it changes the meaning to a relative clause and loses the causative sense.
- (d) had my brother to feed my dog – Incorrect, as it incorrectly includes "to" before the verb.
69. (a) The underlined part "increase efficiency, reducing costs, and enhancing employee satisfaction" has a parallelism error. After "aims to," all verbs should be in the infinitive form for consistency: "to increase, to reduce, and to enhance" (with "to" shared).
- (a) increase efficiency, reduce costs, and enhance employee satisfaction – Correct, as all verbs are infinitives, maintaining parallelism.
- (b) increasing efficiency, reducing of costs, and enhancing of employee satisfaction – Incorrect, as it uses gerunds and awkward phrases, breaking parallelism.
- (c) increase efficiency, reducing the costs and enhanced employee satisfaction – Incorrect, as it mixes infinitive, gerund, and past participle, lacking parallelism.
- (d) increase the efficiency, reduce the costs and enhancing employee satisfaction – Incorrect, as "enhancing" is a gerund, while others are infinitives.
70. (b) The paragraph discusses the shortcomings of BMI, leading to both underdiagnosis and overdiagnosis. The blank needs to explain why BMI is unreliable, connecting the previous sentence to the following sentences that detail BMI's flaws.
- (a) BMI reading can help the doctor to accurately prescribe the appropriate dosage to reduce fat – Incorrect, as it contradicts the paragraph's critical view of BMI.
- (b) This is because BMI does not provide a reliable picture of health, nor any direct measure of fat – Correct, as it directly explains why over-reliance on BMI causes diagnostic issues, seamlessly leading into the next points.
- (c) Further, much of the information on diabetes, obesity or BMI available on social media is misleading – Incorrect, as it introduces an irrelevant topic (social media) not discussed in the paragraph.
- (d) Obesity is the end result of multiple factors and BMI can pinpoint the cause of the problem – Incorrect, as it claims BMI can pinpoint causes, which contradicts the paragraph's message.
71. (a) The paragraph emphasizes that language loss entails more than just losing words or communication; it leads to the loss of a way of thinking. The blank should bridge the idea that languages carry cultural and cognitive aspects.
- (a) Languages exist not only for the purposes of practical communication; they convey a linguistic community's entire mindset and its culture – Correct, as it explicitly states that languages convey mindset and culture, directly leading to the conclusion that a way of thinking dies with a language.
- (b) A potentially endangered language can sometimes appear to be thriving, or on the other hand, it can show signs of declining – Incorrect, as it discusses language endangerment, not what is lost when a language dies.
- (c) A certain school of thought regrets the demise of local languages but in recent times revival movements have emerged across the world, especially in India – Incorrect, as it focuses on revival movements, not on the cultural loss.

(d) Since evolution and change in languages is a part of history, most of the languages spoken today would be scarcely recognizable from what they were a few thousand or maybe even a few hundred years ago – Incorrect, as it talks about language evolution over time, not the loss of culture and thinking.



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- 72. (c)** Correct Answer: (c) This is an exemplary way of creating a sustainable source of energy using innovative technology

Explanation of Each Option:

Correct Answer (c): This option directly captures the main theme of the paragraph, which is the innovative and sustainable use of cow manure to produce hydrogen for energy. The word "exemplary" highlights the model nature of this approach, and "sustainable source of energy" aligns with the conversion of waste into useful energy. This sentence provides a fitting conclusion by summarizing the significance of the initiative.

Incorrect Answer (a): This option focuses on "a certain animal" providing energy for other animals, but the paragraph emphasizes the process and technology, not individual animals. It also narrows the scope to animals, whereas the energy production benefits the zoo and potentially broader applications, making this option overly specific and misleading.

Incorrect Answer (b): While replicating such technology could be beneficial, the paragraph is descriptive and focused on Japan's achievement, with no mention of India or recommendations for other governments. Introducing this idea shifts the focus away from the paragraph's purpose, which is to

illustrate an innovative practice, not to suggest policy actions.

Incorrect Answer (d): This option implies a historical pattern of Japan using technology to help animals, but the paragraph only describes a single current example. The primary goal is energy sustainability, not animal welfare per se, so this option overinterprets and misrepresents the content.

- 73. (b)** Correct Answer: (b) The increasing heat stress remains a major challenge, affecting public health and economic productivity

Explanation of Each Option:

Correct Answer (b): This option seamlessly bridges the initial statistics with the subsequent examples of health and economic impacts. "Heat stress" directly relates to the heatwaves mentioned, and "affecting public health and economic productivity" introduces the ideas of heatstroke, mortality, and energy demand that follow. It serves as a topic sentence for the details provided.

Incorrect Answer (a): This option discusses compensation for losses, but the paragraph does not mention any compensation mechanisms. It introduces an unrelated concept that contradicts the paragraph's focus on the risks and impacts of climate events.

Incorrect Answer (c): This option states that 20% of the population is not affected, but the paragraph emphasizes the widespread risks (80% affected). It creates a contradiction and distracts from the main message of vulnerability.

Incorrect Answer (d): While monsoon delays could be related, the paragraph does not mention the monsoon at all. It focuses on heatwaves and their immediate effects, so this option introduces an irrelevant point.

- 74. (a)** Correct Answer: (a) premised; organisation; consciousness

Explanation of Each Option:

Correct Answer (a): "Premised on" means based on, which fits the idea that personhood depends on more than genetics. "Organisation" refers to the structural arrangement of genetic material, enabling higher functions. "Consciousness" is a key capacity listed, along with thought and moral agency.

Incorrect Answer (b): "Interdependent" might imply mutual dependence, but personhood is not described as interdependent with genetics. "Division" suggests splitting, which doesn't convey the necessary structural complexity. "Differentiation" is not

typically associated with capacities like thought or moral agency.

Incorrect Answer (c): "Built on" could work, but "distribution" is vague and doesn't capture the idea of organization. "Calibration" implies adjustment or measurement, which doesn't align with the capacities mentioned.

Incorrect Answer (d): "Dependent on" is acceptable, but "disorganisation" means lack of organization, which would prevent capacities from arising. "Deconstruction" is a philosophical term that doesn't fit here; it would imply breaking down, not building up capacities.

- 75. (b)** Correct Answer: (b) ingredient; inflammation; induce

Explanation of Each Option:

Correct Answer (b): "Ingredient" accurately describes Curcumin as a component of turmeric. "Inflammation" is a well-known effect that Curcumin reduces. "Induce" means to cause, which fits the side effects of high doses.

Incorrect Answer (a): "Alkali" is incorrect because Curcumin is not an alkali; it is a compound. "Infection" is not typically reduced by Curcumin; it primarily targets inflammation. "Promote" would mean to encourage headache and nausea, which is opposite to the intended meaning.

Incorrect Answer (c): "Alchemy" refers to a medieval chemical philosophy, not a substance. "Injury" is not directly reduced by Curcumin; inflammation is more specific. "Cause" could work for side effects, but "alchemy" makes the option invalid.

Incorrect Answer (d): "Enzyme" is inaccurate because Curcumin is not an enzyme; it is a polyphenol. "Abrasion" means physical scraping, not inflammation. "Infuse" means to soak or permeate, not to cause side effects.

- 76. (a)** Correct Answer: (a) therapeutic; enhance

Explanation of Each Option:

Correct Answer (a): "Therapeutic" means having healing or beneficial effects, which aligns with emotional expression, stress reduction, and processing feelings. "Enhance" means to improve, which fits with increasing self-awareness.

Incorrect Answer (b): "Acceptable" might be true but is too neutral and doesn't capture the health benefits. "Disturb" means to disrupt, which contradicts the positive outcomes described.

Incorrect Answer (c): "Avoidable" means can be avoided, which doesn't make sense in context; art is

presented as beneficial, not avoidable. "Mitigate" means to reduce, which could work for stress, but "avoidable" ruins the option.

Incorrect Answer (d): "Pleasing" is possible but superficial; "therapeutic" is more precise for health benefits. "Decrease" self-awareness is negative, whereas the context implies a positive increase.

- 77. (c)** Correct Answer: (c) maintain; generate; trigger

Explanation of Each Option:

Correct Answer (c): "Maintain" means to uphold or keep, which fits the idea of curating a persona. "Generate" means to produce, which works for creating unrealistic standards. "Trigger" means to set off, which is appropriate for causing negative self-comparisons.

Incorrect Answer (a): "Endorse" means to support or approve, which is not as active as curating a persona. "Foster" means to promote, which could work for standards. "Provoke" is similar to trigger, but "endorse" is less fitting.

Incorrect Answer (b): "Advocate" means to publicly recommend, which doesn't fully capture the curation of a persona. "Perpetuate" means to make continue, which could work for standards. "Stimulate" means to encourage, which might work for comparisons, but "advocate" is weak for persona.

Incorrect Answer (d): "Profess" means to claim, which might work but is less common for persona. "Inspire" can be positive or negative, but it often has a positive connotation, making it less ideal for unrealistic standards. "Release" means to set free, which doesn't fit well for causing comparisons.

- 78. (b)** Correct Answer: (b) compromise; impair; counter

Explanation of Each Option:

Correct Answer (b): "Compromise" means to weaken or make vulnerable, which fits the immune system. "Impair" means to worsen or damage, which aligns with harming well-being. "Counter" means to oppose or mitigate, which is the goal of recommendations.

Incorrect Answer (a): "Undermine" is similar to compromise and could work. "Elevate" means to raise, which is opposite to impairing well-being. "Impede" means to hinder, which could work for effects, but "elevate" makes the option invalid.

Incorrect Answer (c): "Paralyze" means to immobilize, which is too extreme for the immune system. "Improve" well-being is positive, but the context requires a negative impact. "Diminish" effects could work, but "improve" contradicts.

Incorrect Answer (d): "Endanger" means to put at risk, which could work for the immune system. "Preserve" means to protect, which is positive and not fitting for harming well-being. "Decrease" effects might work, but "preserve" is wrong.

79. (d) Correct Answer: (d) extended; physical; resilience

Explanation of Each Option:

Correct Answer (d): "Extended" means prolonged, which is appropriate for long-duration space missions. "Physical endurance" is a common phrase referring to stamina. "Mental resilience" means the ability to cope with stress, which is crucial for astronauts.

Incorrect Answer (a): "Extensive" could work for time, but "dysfunctional" means not working properly, which contradicts "remarkable level." "Agility" means nimbleness, which is not the same as resilience.

Incorrect Answer (b): "Expanded" is not typically used for time; "extended" is better. "Stern" means strict or severe, which doesn't describe endurance. "Acuity" means sharpness, often mental, but it doesn't capture the idea of coping with challenges.

Incorrect Answer (c): "Explicit" means clear or stated, which doesn't fit for time. "Stoic" means enduring without complaint, which could work, but "integrity" means honesty, not mental resilience.

80. (d) Correct Answer (d): This option accurately captures the core argument presented by Chris Bradley. He highlights that since 2005, the top companies have been largely replaced by those from new "wizard" industries, which are eight times larger and account for 45% of market cap growth. These industries also exhibit higher economic profit and R&D intensity, underscoring their superior growth and profitability compared to traditional "muggle" industries.

Incorrect Answer (a): This contradicts the transcript, which emphasizes a shift away from traditional industries (e.g., oil and gas, retail) toward newer, dynamic industries. Traditional industries are not described as offering more stable returns; instead, they are being displaced.

Incorrect Answer (b): This is directly opposed to the conversation. Bradley states that economic profit is concentrated in wizard industries, not traditional ones, making them more profitable.

Incorrect Answer (c): While the terms "wizard" and "muggle" are used metaphorically, the main idea is not about magical elements but about economic

performance and industry dynamics. This option focuses on the terminology rather than the substantive analysis.



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81. (c) Correct Answer (c): Chris Bradley uses "arenas of competition" interchangeably with "competitive sectors" or "industries." He provides examples like oil and gas, retail, and industrials, indicating that these are broad industry categories where companies compete.

Incorrect Answer (a): The transcript does not mention government regulations; the focus is on industry-level economic rules and performance, not regulatory frameworks.

Incorrect Answer (b): While specific companies are discussed (e.g., top ten companies), the term "arenas" refers to the industries themselves, not individual companies.

Incorrect Answer (d): There is no reference to physical locations; "arenas" is used metaphorically to denote competitive fields or sectors.

82. (a) Correct Answer (a): Bradley explicitly states that wizard industries generate significant economic profit (profit minus capital cost) and are "two times more R&D intensive." This aligns with their dynamic and innovative nature.

Incorrect Answer (b): Wizard industries are defined by playing by "a very different set of economic rules," not traditional ones. Traditional rules are associated with "muggle" industries.

Incorrect Answer (c): Wizard industries experience higher market capitalization growth, as they "hog 45 percent of the growth in market cap," not slower growth.

Incorrect Answer (d): Lower R&D spending is characteristic of muggle industries; wizards have higher R&D intensity.

- 83. (d)** Correct Answer (d): Dynamism is measured by the "shuffle rate," which Bradley defines as "how much does the bottom move to the top?" This indicates volatility in rankings and market positions within an industry.

Incorrect Answer (a): Stability and predictability are traits of traditional (muggle) industries, not dynamic wizard industries.

Incorrect Answer (b): This describes a static environment, whereas dynamism implies change and fluidity.

Incorrect Answer (c): Slow, gradual growth is associated with muggle industries; dynamism involves rapid changes.

- 84. (a)** Correct Answer (a): Bradley states that muggles "play by a more traditional set of economic rules," even though they "run the world, finance the world, and energize the world." This emphasizes their adherence to conventional business models.

Incorrect Answer (b): High market capitalization growth is attributed to wizard industries, not muggles.

Incorrect Answer (c): Rapid changes are characteristic of wizards; muggles are more stable and less dynamic.

Incorrect Answer (d): Technological innovation is a key feature of wizard industries, not muggles.

- 85. (c)** Correct Answer (c): The shuffle rate measures changes in market position (e.g., "how much does the bottom move to the top?"), not profitability. Profitability is discussed separately through economic profit.

Incorrect Answer (a): Shuffle rate does measure volatility of market leadership, as it tracks movement between top and bottom positions.

Incorrect Answer (b): It measures relative change within an industry by assessing ranking shifts.

Incorrect Answer (d): "Churn" refers to turnover or changes in composition, which is captured by the shuffle rate within an arena of competition.

- 86. (52134)** Sentence 5 introduces the Indus Valley Civilization as an early urban society, providing a broad context and serving as a logical starting point. Sentence 2 follows by describing the civilization's sophistication in urban planning, which expands on the introduction.

Sentence 1 provides specific examples of urban centers (Harappa and Mohenjo-Daro), adding concrete details after the general description.

Sentence 3 discusses the economic aspects (trade and agriculture), which is a natural progression after covering architectural achievements.

Sentence 4 concludes with the enigmatic decline, offering a reflective end to the paragraph.

This sequence ensures a coherent flow from general to specific, covering key aspects before ending with the civilization's decline.

- 87. (2431)** Sentence 2 defines creativity, setting the topic and serving as an introductory statement.

Sentence 4 addresses a common misconception about creativity (that it only comes from big ideas), which contrasts with the definition.

Sentence 3 provides examples of inspiration from daily life, supporting the rebuttal of the misconception.

Sentence 1 concludes by emphasizing the importance of noticing ordinary moments for creativity, tying the ideas together.

This order logically moves from definition to misconception, then to evidence, and finally to a conclusion.

- 88. (2143)** Sentence 2 starts with a specific fact about India's ranking in climate-related fatalities, providing a concrete example.

Sentence 1 broadens the context to include other low- and middle-income countries, reinforcing the point about affected nations.

Sentence 4 explains the developing world's contention about bearing a disproportionate burden, which follows from the list of affected countries.

Sentence 3 introduces the stance of high-income nations, adding a contrasting perspective after establishing the developing world's plight.

This sequence builds from specific to general, then to implications, and finally to opposing views, creating a balanced argument.

- 89. (24513)** Sentence 2 introduces the scene at the Toyota lab with robots cooking, setting the context.

Sentence 4 highlights the robots' proficiency, contrasting with typical robotic chefs.

Sentence 5 explains how these robots learn (through basic skills rather than programming), elaborating on their proficiency.

Sentence 1 describes how AI enhances their skills, following the learning process.

Sentence 3 concludes by stating that the robots are not for catering, revealing their true purpose and providing a twist.

This order effectively sets up the context, details the robots' abilities, explains their technology, and ends with their real goal.

90. (3142) Sentence 3 introduces plants' root systems and their role in seeking water, establishing the topic. Sentence 1 describes drought conditions, which is a specific scenario where root systems are crucial.

Sentence 4 introduces abscisic acid as a key factor in adapting to drought, connecting directly to the previous sentence.

Sentence 2 provides details from a study on how the acid affects root growth, offering scientific insight after introducing the acid.

This sequence flows from general plant biology to specific environmental challenges, then to the adaptive mechanism, and finally to research findings.



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