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| Question | Let p, q, r and s be distinct positive integers. Let p, q be odd and r, s be even.  Consider the following statements :   1. (p – r)2(qs) is even. 2. (q – s)q2s is even. 3. (q + r)2(p + s) is odd.   Which of the statements given above are correct ? |
| Type | multiple-choice |
| Option | 1 and 2 only |
| Option | 2 and 3 only |
| Option | 1 and 3 only |
| Option | 1, 2 and 3 |
| Answer | 4 |
| Solution |  |
| Positive Marks | 2.5 |
| Negative Marks | 0.83 |

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| Question | What is the angle between the minute hand and hour hand when the clock shows 4:25 hours ? |
| Type | multiple-choice |
| Option | 12.5° |
| Option | 15° |
| Option | 17.5° |
| Option | 20° |
| Answer | 3 |
| Solution |  |
| Positive Marks | 2.5 |
| Negative Marks | 0.83 |

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| Question | Directions for the following 4 (four) items :  Read the following two passages and answer the items that follow the passages. Your answers to these items should be based on the passages only.  Passage – 1  Conventional classrooms, by emphasizing fixed duration over learning effectiveness, resign themselves to variable outcomes. The tyranny of the classroom is that every learner is subjected to the same set of lectures in the same way for the same duration. In the end, a few learners shine, some survive, and the rest are left behind. After the fixed duration, the classroom model moves on, with not a thought spared for those left behind. This is how we end up with 10 percent employability in our graduates after a decade and half of formal education. Repeating the same ineffectual script in the realm of skill education will not produce different results.  Which of the following statements best reflects/reflect the most logical and rational inference/inferences that can be made from the passage ?   1. In conventional classroom learning, the central goal is duration of learning rather than attainment of competency. 2. Conventional classrooms encourage one-size-fits-all approach and stamp out all differentiation.   Select the correct answer using the code given below. |
| Type | multiple-choice |
| Option | 1 only |
| Option | 2 only |
| Option | Both 1 and 2 |
| Option | Neither 1 nor 2 |
| Answer | 3 |
| Solution |  |
| Positive Marks | 2.5 |
| Negative Marks | 0.83 |
| Question | Passage – 1  Conventional classrooms, by emphasizing fixed duration over learning effectiveness, resign themselves to variable outcomes. The tyranny of the classroom is that every learner is subjected to the same set of lectures in the same way for the same duration. In the end, a few learners shine, some survive, and the rest are left behind. After the fixed duration, the classroom model moves on, with not a thought spared for those left behind. This is how we end up with 10 percent employability in our graduates after a decade and half of formal education. Repeating the same ineffectual script in the realm of skill education will not produce different results.  Based on the above passage, the following assumptions have been made :   1. As a large number of workers in our country are employed in unorganized sector, India does not need to change its present conventional classroom system of education. 2. Even with its present conventional classroom system of education, India produces sufficient number of skilled workers to fully realize the benefits of demographic dividend.   Which of the assumptions given above is/are valid ? |
| Type | multiple-choice |
| Option | 1 only |
| Option | 2 only |
| Option | Both 1 and 2 |
| Option | Neither 1 nor 2 |
| Answer | 4 |
| Solution | Government bonds are generally considered safer due to backing by the government, offering stability but lower yields. Corporate bonds, on the other hand, often provide higher yields but come with relatively higher risk as they depend on the issuing company's financial health. |
| Positive Marks | 2.5 |
| Negative Marks | 0.83 |

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| Question | Passage – 1  Conventional classrooms, by emphasizing fixed duration over learning effectiveness, resign themselves to variable outcomes. The tyranny of the classroom is that every learner is subjected to the same set of lectures in the same way for the same duration. In the end, a few learners shine, some survive, and the rest are left behind. After the fixed duration, the classroom model moves on, with not a thought spared for those left behind. This is how we end up with 10 percent employability in our graduates after a decade and half of formal education. Repeating the same ineffectual script in the realm of skill education will not produce different results.  Based on the above passage, the following assumptions have been made :   1. As a large number of workers in our country are employed in unorganized sector, India does not need to change its present conventional classroom system of education. 2. Even with its present conventional classroom system of education, India produces sufficient number of skilled workers to fully realize the benefits of demographic dividend.   Which of the assumptions given above is/are valid ? |
| Type | multiple-choice |
| Option | 1 only |
| Option | 2 only |
| Option | Both 1 and 2 |
| Option | Neither 1 nor 2 |
| Answer | 4 |
| Solution | Government bonds are generally considered safer due to backing by the government, offering stability but lower yields. Corporate bonds, on the other hand, often provide higher yields but come with relatively higher risk as they depend on the issuing company's financial health. |
| Positive Marks | 2.5 |
| Negative Marks | 0.83 |

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| Question | Passage – 2  When a child reaches adolescence, there is apt to be a conflict between the parents and the child, since the latter considers himself to be by now quite capable of managing his own affairs, while the former are filled with parental solicitude, which is often a disguise for love of power. Parents consider, usually, that the various moral problems which arise in adolescence are peculiarly their province. The options they express, however, are so dogmatic that the young seldom confide in them, and usually go their own way in secret.  Based on the above passage, the following assumptions have been made :   1. The adolescent does not feel comfortable with his parents because they tend to be dominating and assertive. 2. The adolescent of modern times does not have much respect for parents.   Which of the assumptions given above is/are valid ? |
| Type | multiple-choice |
| Option | 1 only |
| Option | 2 only |
| Option | Both 1 and 2 |
| Option | Neither 1 nor 2 |
| Answer | 1 |
| Solution |  |
| Positive Marks | 2.5 |
| Negative Marks | 0.83 |

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| --- | --- |
| Question | Passage – 2  When a child reaches adolescence, there is apt to be a conflict between the parents and the child, since the latter considers himself to be by now quite capable of managing his own affairs, while the former are filled with parental solicitude, which is often a disguise for love of power. Parents consider, usually, that the various moral problems which arise in adolescence are peculiarly their province. The options they express, however, are so dogmatic that the young seldom confide in them, and usually go their own way in secret.  Which one of the following statements best reflects the central idea of the above passage ? |
| Type | multiple-choice |
| Option | Parents in general may not be of much help when children are on their way to becoming adults. |
| Option | When children reach adolescence, involvement of parents in their lives is unnecessary. |
| Option | Modern-day nuclear families are not capable of bringing up children properly. |
| Option | In modern societies, adolescents tend to be stubborn, disobedient and careless. |
| Answer | 1 |
| Solution |  |
| Positive Marks | 2 |
| Negative Marks | 0.67 |

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| Question | Consider the following materials:  1. Agricultural residues  2. Corn grain  3. Wastewater treatment sludge  4. Wood mill waste  Which of the above can be used as feedstock for producing Sustainable Aviation Fuel? |
| Type | multiple-choice |
| Option | 1 and 2 only |
| Option | 3 and 4 only |
| Option | 1, 2, 3 and 4 |
| Option | 1,3 and 4 only |
| Answer | 3 |
| Solution | Sustainable Aviation Fuel is integral to the strategy adopted by the aviation industry to go net-zero by 2050. It is essentially a biofuel, and biofuels can be produced by all the above feedstocks as all of them have organic content. |
| Positive Marks | 2.5 |
| Negative Marks | 0.83 |

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| Question | What is the number of fives used in numbering a 260-page book ? |
| Type | multiple-choice |
| Option | 55 |
| Option | 56 |
| Option | 57 |
| Option | 60 |
| Answer | 2 |
| Solution |  |
| Positive Marks | 2.5 |
| Negative Marks | 0.83 |

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| Question | What is the sum of the first 28 terms in the following sequence ? 1, 1, 2, 1, 3, 2, 1, 4, 3, 2, 1, 5, 4, 3, 2, … |
| Type | multiple-choice |
| Option | 83 |
| Option | 84 |
| Option | 85 |
| Option | 86 |
| Answer | 2 |
| Solution |  |
| Positive Marks | 2.5 |
| Negative Marks | 0.83 |

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| Question | A person buys three articles P, Q and R for Rs. 3,330. If P costs 25% more than R and R costs 20% more than Q, then what is the cost of P ? |
| Type | multiple-choice |
| Option | Rs. 1,000 |
| Option | Rs. 1,200 |
| Option | Rs. 1,250 |
| Option | Rs. 1,350 |
| Answer | 4 |
| Solution |  |
| Positive Marks | 2.5 |
| Negative Marks | 0.83 |

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| Question | If the sum of the two-digit numbers AB and CD is the three-digit number 1CE, where the letters A, B, C, D, E denote distinct digits, then what is the value of A ? |
| Type | multiple-choice |
| Option | 9 |
| Option | 8 |
| Option | 7 |
| Option | Cannot be determined due to insufficient data |
| Answer | 1 |
| Solution |  |
| Positive Marks | 2.5 |
| Negative Marks | 0.83 |

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| Question | Three numbers x, y, z are selected from the set of the first seven natural numbers such that x > 2y > 3z. How many such distinct triplets (x, y, z) are possible ? |
| Type | multiple-choice |
| Option | One triplet |
| Option | Two triplets |
| Option | Three triplets |
| Option | Four triplets |
| Answer | 4 |
| Solution |  |
| Positive Marks | 2.5 |
| Negative Marks | 0.83 |

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| Question | The total cost of 4 oranges, 6 mangoes and 8 apples is equal to twice the total cost of 1 orange, 2 mangoes and 5 apples.  Consider the following statements :   1. The total cost of 3 oranges, 5 mangoes and 9 apples is equal to the total cost of 4 oranges, 6 mangoes and 8 apples. 2. The total cost of one orange and one mango is equal to the cost of one apple.   Which of the statements given above is/ are correct ? |
| Type | multiple-choice |
| Option | 1 only |
| Option | 2 only |
| Option | Both 1 and 2 |
| Option | Neither 1 nor 2 |
| Answer | 3 |
| Solution |  |
| Positive Marks | 2.5 |
| Negative Marks | 0.83 |

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| Question | Directions for the following 3 (three) items :  Read the following three passages and answer the items that follow the passages. Your answers to these items should be based on the passages only.  Passage – 1  When an international team of scientists pumped a carbon dioxide and water mix into underground basalt rocks, basic chemistry took over. The acidic mixture dissolved rocks’ calcium and magnesium and formed limestone. Basically, carbon dioxide is converted into stone, exclaimed the scientists.  Which one of the following statements best reflects the most logical, rational and practical suggestion implied by the passage ? |
| Type | multiple-choice |
| Option | It is a cheap and practical method to produce limestone at commercial level for building purposes. |
| Option | This can be used as one of the methods of carbon sequestration. |
| Option | Basalt rock can be made a good source of calcium and magnesium minerals by this method. |
| Option | Good rock-dissolving acid can be produced by mixing carbon dioxide and water. |
| Answer | 2 |
| Solution |  |
| Positive Marks | 2.2 |
| Negative Marks | 0.83 |

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| Question | Passage – 2  Geographers analyzed 175 satellite images of ocean colour, which is an indicator of phytoplankton productivity at the ocean’s surface, and found that giant icebergs are responsible for storing up to 20 percent of carbon in the Southern Ocean. The researchers discovered that melting water from giant icebergs which contains iron and other nutrients, supports hitherto unexpectedly high levels of phytoplankton growth.  Based on the above passage, the following assumptions have been made :   1. Giant icebergs have a bearing on primary productivity and food chains of the Southern Ocean. 2. Melting of giant icebergs can produce climate change effects and impact world fisheries.   Which of the assumptions given above is/are valid ? |
| Type | multiple-choice |
| Option | 1 only |
| Option | 2 only |
| Option | Both 1 and 2 |
| Option | Neither 1 nor 2 |
| Answer | 1 |
| Solution |  |
| Positive Marks | 2.5 |
| Negative Marks | 0.83 |

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| Question | Passage – 3  Evolution has endowed caterpillars that feed on corn with a unique ability, they can induce the plant to turn off its defence against insect predators. This helps caterpillars to eat more and grow faster. The agent that causes this effect is the caterpillar's faeces or frass. The find could throw new light on compounds associated with plant response to pathogens like fungi or bacteria.  Which one of the following statements best reflects the most logical, rational and practical message conveyed by the passage ? |
| Type | multiple-choice |
| Option | Farmers can use caterpillars to feed on weeds in their crop fields/ plantations. |
| Option | This finding can help in the development of clinically useful antimicrobial compounds. |
| Option | This finding can help in the development of organic, ecologically sustainable pesticides. |
| Option | Caterpillars can be genetically modified to be predators of the other plant pests. |
| Answer | 3 |
| Solution |  |
| Positive Marks | 2.5 |
| Negative Marks | 0.83 |

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| --- | --- |
| Question | 325 + 227 is divisible by |
| Type | multiple-choice |
| Option | 3 |
| Option | 7 |
| Option | 10 |
| Option | 11 |
| Answer | 3 |
| Solution |  |
| Positive Marks | 2.5 |
| Negative Marks | 0.83 |

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| Question | Let p and q be positive integers satisfying p < q and p + q = k. What is the smallest value of k that does not determine p and q uniquely ? |
| Type | multiple-choice |
| Option | 3 |
| Option | 4 |
| Option | 5 |
| Option | 6 |
| Answer | 3 |
| Solution |  |
| Positive Marks | 2 |
| Negative Marks | 0.67 |

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| --- | --- |
| Question | Consider the following statements " :  1. There are no parables in Upanishads.  2. Upanishads were composed earlier than the Puranas.  Which of the statements given above is/are correct ? |
| Type | multiple-choice |
| Option | l only |
| Option | 2 only |
| Option | Both l and 2 |
| Option | Neither 1 nor 2 |
| Answer | 2 |
| Solution |  |
| Positive Marks | 2.5 |
| Negative Marks | 0.83 |

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| Question | A person walks 100 m straight from his house, turn left and walks 100 m, again turns left and walks 300 m, then turns right and walks 100 m to reach his office. In which direction does he walk initially from his house if his office is exactly in the North-East direction ? |
| Type | multiple-choice |
| Option | North-West |
| Option | West |
| Option | South |
| Option | South-West |
| Answer | 3 |
| Solution |  |
| Positive Marks | 2.5 |
| Negative Marks | 0.83 |

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| --- | --- |
| Question | A person walks 100 m Westward, then turns left and walks 100 m. He then takes 225° turn clockwise. In which direction is he walking now ? |
| Type | multiple-choice |
| Option | South-West |
| Option | South-East |
| Option | North-West |
| Option | North-East |
| Answer | 4 |
| Solution |  |
| Positive Marks | 2.5 |
| Negative Marks | 0.83 |