
QUESTION OF THE DAY

Book 1



TABLE OF CONTENTS

Question of the Day #01: (16-Jun-08).....	1
Question of the Day #02: (17-Jun-08).....	1
Question of the Day #03: (18-Jun-08).....	2
Question of the Day #04: (19-Jun-08).....	2
Question of the Day #05: (20-Jun-08).....	3
Question of the Day #06: (21-Jun-08).....	3
Question of the Day #07: (22-Jun-08).....	4
Question of the Day #08: (23-Jun-08).....	4
Question of the Day #09: (24-Jun-08).....	5
Question of the Day #10: (25-Jun-08).....	5
Question of the Day #11: (26-Jun-08).....	6
Question of the Day #12: (27-Jun-08).....	7
Question of the Day #13: (28-Jun-08).....	8
Question of the Day #14: (29-Jun-08).....	8
Question of the Day #15: (30-Jun-08).....	9
Question of the Day #16: (01-Jul-08).....	10
Question of the Day #17: (02-Jul-08).....	10
Question of the Day #18: (03-Jul-08).....	11
Question of the Day #19: (04-Jul-08).....	12
Question of the Day #20: (05-Jul-08).....	12
Question of the Day #21: (06-Jul-08).....	13
Question of the Day #22: (07-Jul-08).....	13
Question of the Day #23: (08-Jul-08).....	14
Question of the Day #24: (09-Jul-08).....	14
Question of the Day #25: (10-Jul-08).....	15
Question of the Day #26: (11-Jul-08).....	16
Question of the Day #27: (12-Jul-08).....	16
Question of the Day #28: (13-Jul-08).....	17
Question of the Day #29: (14-Jul-08).....	17
Question of the Day #30: (15-Jul-08).....	18
Question of the Day #31: (16-Jul-08).....	18
Question of the Day #32: (17-Jul-08).....	19
Question of the Day #33: (18-Jul-08).....	19
Question of the Day #34: (19-Jul-08).....	20
Question of the Day #35: (20-Jul-08).....	20

Question of the Day #36: (21-Jul-08).....	21
Question of the Day #37: (22-Jul-08).....	21
Question of the Day #38: (23-Jul-08).....	22
Question of the Day #39: (24-Jul-08).....	22
Question of the Day #40: (25-Jul-08).....	23
Question of the Day #41: (26-Jul-08).....	23
Question of the Day #42: (27-Jul-08).....	24
Question of the Day #43: (28-Jul-08).....	24
Question of the Day #44: (29-Jul-08).....	25
Question of the Day #45: (30-Jul-08).....	25
Question of the Day #46: (01-Aug-08)	26
Question of the Day #47: (02-Aug-08)	26
Question of the Day #48: (03-Aug-08)	27
Question of the Day #49: (04-Aug-08)	27
Question of the Day #50: (05-Aug-08)	28

SOLUTIONS

Solution #01: (16-Jun-08)	30
Solution #02: (17-Jun-08)	30
Solution #03: (18-Jun-08)	31
Solution #04: (19-Jun-08)	31
Solution #05: (20-Jun-08)	32
Solution #06: (21-Jun-08)	32
Solution #07: (22-Jun-08)	33
Solution #08: (23-Jun-08)	33
Solution #09: (24-Jun-08)	34
Solution #10: (25-Jun-08)	34
Solution #11: (26-Jun-08)	35
Solution #12: (27-Jun-08)	35
Solution #13: (28-Jun-08)	36
Solution #14: (29-Jun-08)	36
Solution #15: (30-Jun-08)	37
Solution #16: (01-Jul-08)	38
Solution #17: (02-Jul-08)	39
Solution #18: (03-Jul-08)	39
Solution #19: (04-Jul-08)	40
Solution #20: (05-Jul-08)	40

Solution #21: (06-Jul-08)	41
Solution #22: (07-Jul-08)	42
Solution #23: (08-Jul-08)	43
Solution #24: (09-Jul-08)	44
Solution #25: (10-Jul-08)	44
Solution #26: (11-Jul-08)	45
Solution #27: (12-Jul-08)	46
Solution #28: (13-Jul-08)	47
Solution #29: (14-Jul-08)	48
Solution #30: (15-Jul-08)	48
Solution #31: (16-Jul-08)	49
Solution #32: (17-Jul-08)	49
Solution #33: (18-Jul-08)	50
Solution #34: (19-Jul-08)	50
Solution #35: (20-Jul-08)	51
Solution #36: (21-Jul-08)	52
Solution #37: (22-Jul-08)	52
Solution #38: (23-Jul-08)	53
Solution #39: (24-Jul-08)	53
Solution #40: (25-Jul-08)	54
Solution #41: (26-Jul-08)	54
Solution #42: (27-Jul-08)	55
Solution #43: (28-Jul-08)	55
Solution #44: (29-Jul-08)	56
Solution #45: (30-Jul-08)	56
Solution #46: (01-Aug-08)	57
Solution #47: (02-Aug-08)	57
Solution #48: (03-Aug-08)	58
Solution #49: (04-Aug-08)	58
Solution #50: (05-Aug-08)	59
About TestFunda.com.....	60

PREFACE

For the past couple of years, CAT and other MBA entrance exams have shown a trend towards questions testing a student's ability to apply Mathematical Principles and Analytical Reasoning to solve problems. The unpredictable nature of CAT has ensured that most students are never fully prepared to ace the exam. This is because students limit their preparation to just the learning and practice of core concepts of Mathematics, Verbal Ability and Data Interpretation & Logical Reasoning.

This book is a compilation of the questions with a difficulty level typically on par with CAT. Every single question is original and unique, created by our dedicated team of subject matter experts. The questions are designed to give our readers greater exposure to the types of questions that appear in CAT. The detailed solutions in this book may also provide alternate strategies and shortcuts to solve problems. This book will give students that extra edge and confidence needed to be ready for any surprise that CAT might throw their way.

This book is the 1st in a series of books on the 'Question of the Day' featured on the TestFunda site. We are sure that our readers will benefit greatly from these books.

Question of the Day #01: (16-Jun-08)

Choose the option that has the correct classification of the labelled statements given below as facts (F), inferences (I) and judgments (J).

- A. The recommendations by the Telecom Regulatory Authority of India (TRAI) on the third phase of the FM radio roll-out are welcome.
- B. According to its proposals, it allows news and current affairs on FM radio, district-level FM radio licenses and more than one channel per broadcaster in a district.
- C. The TRAI recommendations couldn't have come sooner.
- D. Radio is the most accessible form of entertainment and is one of the fastest growing sectors in the media and entertainment industry.
- E. The TRAI recommendations reflect some of the proposals made by FICCI last year.

OPTIONS

- 1) IFJIF
- 2) JFIJJ
- 3) JFJII
- 4) IJFJI
- 5) JIIJI

Question of the Day #02: (17-Jun-08)

Dr. Numerez is reading the newspaper in his living room when the doorbell rings. He opens it to find a salesman trying to sell him a new product. Dr. Numerez is not interested, but when the salesman insists, he tells him, "You can go to my brother. He might be interested in buying this. His house is in this very block, and its number is composite, but relatively prime to the number of my house. You can ask me just one more question, which I should be able to answer with a 'yes' or 'no', and then leave." The salesman knows that Dr. Numerez's house is number 10 in the block, which has houses numbered 1 to 26.

Assuming that Dr. Numerez will answer him correctly, which of the following questions should the salesman ask to uniquely determine the number of his brother's house?

OPTIONS

- 1) Is the number a perfect square?
- 2) Does the number have exactly 4 distinct divisors?
- 3) Does the number have exactly 3 distinct divisors?
- 4) Is the number lesser than the number of your house?
- 5) Any of these

Question of the Day #03: (18-Jun-08)

The last sentence has been deleted from the paragraph given below. From among the given options, choose the one that completes the paragraph in the most appropriate manner.

Persons do not become a society by living in physical proximity, any more than a man ceases to be socially influenced by being so many feet or miles removed from others. A book or a letter may institute a more intimate association between human beings separated thousands of miles from each other than exists between dwellers under the same roof. Individuals do not even compose a social group because they all work for a common end. The parts of a machine work with a maximum of cooperativeness for a common result, but they do not form a community. If, however, they were all cognizant of the common end and all interested in it so that they regulated their specific activity in view of it, then they would form a community. But this would involve communication. Each would have to know what the other was about and would have to have some way of keeping the other informed as to his own purpose and progress— thereby communicating overall progress.

_____.

OPTIONS

- 1) Consensus demands communication.
- 2) There is a compelling reason to believe that within even the most social group there are many relations which are not as yet social.
- 3) Individuals use one another so as to get desired results, without reference to the emotional and intellectual disposition and consent of those used.
- 4) Not only is social life identical with communication, but all Communication, and hence all genuine social life, is educative.
- 5) Society is thus made or marred by effective communication.

Question of the Day #04: (19-Jun-08)

$$\text{If } x^2 + \frac{1}{x^2} = n^2 + \frac{p}{q}$$

Where, n is the smallest odd prime number, p and q are integers and $p < q$, then how many integer values can x take?

OPTIONS

- 1) 0
- 2) 1
- 3) 2
- 4) 3
- 5) 4

Question of the Day #05: (20-Jun-08)

- A. All these players neither come from a cricket hub
- B. nor from a very strong background
- C. or backing (barring Yuvraj) and they know,
- D. like thousands of aspiring cricketers in India,
- E. rare ones get a second chance.

OPTIONS

- 1) A, B, and D only
- 2) A, B, and E only
- 3) B, C, and D only
- 4) B, C, and E only
- 5) D and E only

Question of the Day #06 (21-Jun-08)

For any two natural numbers x and y , if $x^2 + y^2$ is divisible by 21, what are the remainders given by x and y respectively on division by 21?

OPTIONS

- 1) 3, 4
- 2) 2, 5
- 3) 0, 0
- 4) 1, 6
- 5) None of these

Question of the Day #07: (22-Jun-08)

One of the sentences has been removed from the paragraph given below. From among the given options, choose the one that most appropriately fits in the blank.

Yet, well I ken the banks where amaranths blow,
Have traced the fount whence streams of nectar flow.

With lips un-brightened, wreathless brow, I stroll:
And would you learn the spells that drowse my soul?

OPTIONS

- 1) Bloom, O ye amaranths! Bloom for whom ye may. For me ye wither not! Glide, rich streams away!
- 2) Bloom, O ye amaranths! Wither for whom ye may. For me ye wither not! Glide, rich streams away!
- 3) Bloom, O ye amaranths! Bloom for whom ye may. For me ye bloom not! Glide, rich streams away!
- 4) Bloom, O ye amaranths! Wither for whom ye may. For me ye bloom not! Glide, rich streams away!
- 5) Bloom, O ye amaranths! Bloom for whom ye may. For me ye neither wither nor bloom! Glide, rich streams away!

Question of the Day #08: (23-Jun-08)

An eight digit number is the largest possible number such that the number formed by the four leftmost digits is twice the number formed by the four rightmost digits. Which of the following is not a prime factor of this eight digit number?

OPTIONS

- 1) 3
- 2) 59
- 3) 113
- 4) 4999
- 5) 6667

Question of the Day #09: (24-Jun-08)

Answer the question based on the information given below.

The Sophists descend from Parmenides and Zeno of Elea; Gorgias was the disciple of the latter. By dint of thinking that all is semblance save the Supreme Being, who alone is real, it is very easy to arrive at belief in all being semblance, including that Being; or at least what is almost tantamount, that all is semblance, inclusive of any idea we can possibly conceive of the Supreme Being. To believe nothing, and to demonstrate that there is no reason to believe in anything, is the cardinal principle of all the Sophists.

Which of the following is analogous to the line of reasoning presented in the passage?

OPTIONS

- 1) There is only one law in the world– there are no laws.
- 2) If you are not a part of the solution, you are a part of the problem.
- 3) It takes two to tango and three to arrive at a deduction.
- 4) Accept nothing at face value unless it is proven to be true.
- 5) Question everything, even if you have understood all there is to be understand.

Question of the Day #10: (25-Jun-08)

If $n = 1 + x$, where x is the product of 4 consecutive natural numbers, then n is:

- I. an odd number.
- II. an even number.
- III. a prime number.
- IV. a perfect square.

OPTIONS

- 1) II only
- 2) III and IV only
- 3) I and IV only
- 4) I only
- 5) None of these

Question of the Day # 11: (26-Jun-08)

Answer the question based on the information given below.

Plato, like Xenophon, was a pupil of Socrates, but Xenophon only wanted to be the clerk of Socrates; and Plato, as an enthusiastic disciple, was at the same time very faithful and very unfaithful to Socrates. He was a faithful disciple to Socrates in never failing to place morality in the foremost rank of all philosophical considerations; in that he never varied. He was an unfaithful disciple to Socrates in that, imaginative and an admirable poet, he bore back philosophy from earth to heaven; he did not forbid himself - quite the contrary - to pile up great systems about all things and to envelop the universe in his vast and daring conceptions. He invincibly established morality, the science of virtue, as the final goal of human knowledge, in his brilliant and charming Socratic Dialogues; he formed great systems in all the works in which he introduces himself as speaking in his own name. He was very learned, and acquainted with everything that had been written by all the philosophers before Socrates, particularly Heraclitus, Pythagoras, Parmenides, and Anaxagoras. He reconsidered all their teaching and he himself brought to consideration, a force and a wealth of mind which appeared to have had no parallel in the world.

It is clear from the passage that:

OPTIONS

- 1) Plato provided to the world what generations after him would follow.
- 2) Plato's mind has been proven to be unparalleled in the history of the universe.
- 3) Plato followed the teachings of Socrates and also provided a new meaning.
- 4) Plato remained unchallenged during his times.
- 5) Plato has proved what Socrates couldn't do in his lifetime.

Question of the Day # 12: (27-Jun-08)

A standard chessboard has 64 squares, arranged in 8 rows and 8 columns. In chess, a knight is allowed to move two squares horizontally and one vertically or two squares vertically and one horizontally. A piece is said to be 'captured' if an enemy piece lands on the square it is occupying with a valid move. A valid move by a white piece followed by a valid move by a black piece together count as one 'move'. A valid move by a single piece is called a 'turn'.

If on a chessboard, there is no other piece on the chessboard and a white knight and a black knight are placed at diagonally opposite corners of the chessboard (the white knight is supposed to move first) what is the minimum number of moves in which one knight can 'capture' the other, and which knight will be captured?

OPTIONS

- 1) Black can capture White in 2 moves
- 2) White can capture Black in 3 moves
- 3) Black can capture White in 3 moves
- 4) White can capture Black in 4 moves
- 5) Black can capture White in 4 moves

Question of the Day # 13: (28-Jun-08)

The correct word from the set of two highlighted words in each of the sentences given below will form a pattern. Choose the correct pattern from among the given options.

- I. The **climatic(A)/climactic(B)** moment of the mystery revealed the murderer to be the character least suspected by all.
- II. He was criticized for his **contemptuous(A)/contemptible(B)** behavior in the class.
- III. In order to not get noticed, he kept a **discreet(A)/discrete(B)** distance while following her.
- IV. His **childlike(A)/childish(B)** pranks did not go down well with his classmates.
- V. The **dining(A)/dinning(B)** room was already full of guests when I entered.

OPTIONS

- 1) BABAB
- 2) ABBAA
- 3) BBAAB
- 4) BBABA
- 5) ABABA

Question of the Day # 14: (29-Jun-08)

If $n > 53$, what is the remainder when

$$\frac{\left(\frac{2n!}{n!^2}\right)}{(n+1)} ?$$

OPTIONS

- 1) 0
- 2) 1
- 3) 2
- 4) $(n - 2)$
- 5) $(n - 1)$

Question of the Day # 15: (30-Jun-08)

This question consists of a paragraph in which the first and last sentences are fixed and the sentences in between are jumbled. Choose from among the options the most logical order of the intermediate sentences.

- I. We cross the threshold of one, and are accosted by a female who, speaking in musical accents, invites us to sit down.
 - A. We are welcome in her humble cabin; but her dark, languishing eyes, so full of intensity, watch us with irresistible suspicion.
 - B. She has none of Africa's blood in her veins; no! Her features are beautifully olive, and the intonation of her voice discovers a different origin.
 - C. How reserved she seems, and yet how quickly she moves her graceful figure when she places her right hand upon her finely-arched forehead, parts the heavy folds of glossy hair that hang carelessly over her brown shoulders, and with a half-suppressed smile answers our salutation.
 - D. Her figure is tall and well-formed; she has delicately-formed hands and feet, long, tapering fingers, well-rounded limbs, and an oval face, shaded with melancholy.
- II. They are the symbols of her inward soul; they speak through that melancholy pervading her countenance.

OPTIONS

- 1) BDCA
- 2) ACDB
- 3) ABDC
- 4) BCAD
- 5) ADBC

Question of the Day # 16: (01-Jul-08)

There are 30 cards. Each card has a single number written on it, such that all the integers from 1 to 30 are represented in the cards. Two cards (which have numbers a and b written on them) are arbitrarily chosen, and are removed from the pack. The above two cards are replaced with a single card, on which the number $(ab + a + b)$ is written. This constitutes one operation. After 29 such operations, what will be the number written on the sole surviving card?

OPTIONS

- 1) $31! - 1$
- 2) 15×31
- 3) $30! - 1$
- 4) $31! + (15 \times 31)$
- 5) $30! + (15 \times 31) - 1$

Question of the Day # 17: (02-Jul-08)

The question below consists of a set of labelled sentences. These sentences, when properly sequenced, form a coherent paragraph. Choose the most logical order of sentences from among the options.

- A. It drifted northward through the state, then turned back to the south and re-entered the Gulf of Mexico.
- B. The first storm of the season, Allison lasted unusually long for a June storm, remaining tropical or subtropical for 15 days.
- C. Allison was the first storm since Tropical Storm Frances in 1998 to strike the upper Texas coastline.
- D. The storm continued to the east- northeast, making landfall on Louisiana and then moving across the southeast United States and Mid- Atlantic.
- E. The storm developed from a tropical wave in the northern Gulf of Mexico on June 4, and struck the northern Texas coast shortly thereafter.

OPTIONS

- 1) CEADB
- 2) BEADC
- 3) BEDAC
- 4) CEBAD
- 5) BCEDA

Question of the Day # 18: (03-Jul-08)

Rahul is part of a 14 member cricket squad, which consists of the captain (who is also a batsman), a wicketkeeper, six other batsmen, and six bowlers. Rahul is a batsman but not the captain. For the next match, a 11- member team needs to be chosen from this squad, and the captain and the wicketkeeper are sure to play.

The team should have at least five batsmen (including the captain but not including the wicketkeeper) and at least four bowlers. What is the probability that Rahul will play the next match, assuming that all possible team combinations are equally likely?

OPTIONS

- 1) $\frac{3}{4}$
- 2) $\frac{2}{3}$
- 3) $\frac{5}{12}$
- 4) $\frac{10}{13}$
- 5) None of these

Question of the Day # 19: (04-Jul-08)

Answer the question based on the information given below.

Introduction of cheap small cars in the Indian market is going to result in a major traffic crisis, especially in overcrowded metros. The problem of lack of parking space is bound to become even more acute. Already the growing two wheeler and premium car markets are pushing the infrastructure to its limit. The introduction of more small cars is just going to increase the difficulties faced by the common man in day to day life.

Which of the following options, if true, will most weaken the above argument?

OPTIONS

- 1) Small cars occupy lesser parking space and are easier to maneuver in traffic.
- 2) Bigger cars are less fuel efficient and contribute more to air pollution.
- 3) The government is going to enact a law that big and premium cars will be charged additional road tax.
- 4) The public transport system is not good enough to provide viable and effective means of transport for the common man.
- 5) The introduction of small cars is projected to reduce the two wheeler market by 80% and medium sized car market by 50%.

Question of the Day # 20: (05-Jul-08)

Anil and Sunil are playing a game of table tennis. Anil is currently on 18 points and Sunil is on 19 points. In table tennis, a player wins if he reaches 21 points and the other player has at least 2 points less than him. If both players reach 20 points, then the game continues till there is a difference of 2 points between the two players.

The probability of Anil winning a point against Sunil is $\frac{2}{3}$. Find the probability that Anil wins the game by scoring not more than four more points.

OPTIONS

- 1) $\frac{8}{27}$
- 2) $\frac{40}{81}$
- 3) $\frac{16}{81}$
- 4) $\frac{88}{243}$
- 5) None of these

Question of the Day #21: (06-Jul-08)

The last sentence has been deleted from the paragraph given below. From amongst the given options, choose the one that completes the paragraph in the most appropriate manner.

It is true that the driving force behind corporate responsibility is 'enlightened self interest'. What must be also acknowledged is that it is the enlightened self-interest for governments and NGOs to work in partnership with business. The private sector provides the know-how, capital and infrastructure from which countries and communities can grow economically and fund social development. _____.

OPTIONS

- 1) And it can provide to society goods and services, profitably and responsibly.
- 2) And corporate social responsibility is adequately represented by voluntary philanthropy.
- 3) And corporate responsibility is not about pretending to solve the problems of the world—especially governments and NGOs.
- 4) And it can provide expertise to support the goals of governments and NGOs.
- 5) And it would be wrong to assume that Small and Medium sized Enterprises are not engaged in corporate social responsibility.

Question of the Day #22: (07-Jul-08)

Two painters, A and B are under contract to paint a certain wall every day. Their rate of painting is constant and never varies, even from day to day. On day 1, they notice that they can paint the wall together in 'x' minutes. The next day, A does not turn up and B works alone. B notices that he takes 5 minutes more than they had taken the previous day to paint the wall. On day 3, B does not turn up. A calculates the time he took to paint the wall alone and tells B that he had taken 40 minutes more than B had taken on day 2. What is the value of x?

OPTIONS

- 1) 15
- 2) 25
- 3) 35
- 4) 45
- 5) 55

Question of the Day #23: (08-Jul-08)

The labelled sentences given below, when properly sequenced, form a coherent paragraph. Choose the most logical order of sentences from amongst the given options to construct a coherent paragraph.

- A. And ants and bees which have not been fecundated are quite capable of laying eggs out of which develops perfect, well-formed descendants.
- B. In the case of the higher animals, vertebrates and man, such reproduction is an impossibility.
- C. This last process is called parthenogenesis.
- D. A tree, for instance, may be grown from a graft which has been cut off and planted in the ground.
- E. It is a process, however, which if carried on through several generations, ends in deterioration and degeneracy.

OPTIONS

- 1) DAECB
- 2) CEDAB
- 3) DACEB
- 4) CEBAD
- 5) DEBCA

Question of the Day #24: (09-Jul-08)

Consider the following series: $-12, -7, -2, \dots$. How many successive terms of this series should be taken, starting from -12 , so that the sum is 123?

OPTIONS

- 1) 9
- 2) 10
- 3) 11
- 4) 12
- 5) None of these

Question of the Day #25: (10-Jul-08)

From among the five alternative summaries, choose the option that best captures the essence of the text given below.

Nanotechnology refers broadly to a field of applied science and technology whose unifying theme is the control of matter on the atomic and molecular scale, normally 1 to 100 nanometers, and the fabrication of devices with critical dimensions that lie within that size range. It is a highly multidisciplinary field, drawing from fields such as applied physics, materials science, interface and colloid science, device physics, supramolecular chemistry (which refers to the area of chemistry that focuses on the noncovalent bonding interactions of molecules), self-replicating machines and robotics, chemical engineering, mechanical engineering, biological engineering, and electrical engineering. Much speculation exists as to what may result from these lines of research. Nanotechnology can be seen as an extension of existing sciences into the nanoscale, or as a recasting of existing sciences using a newer, more modern term.

OPTIONS

- 1) Nanotechnology is a highly multidisciplinary technology for the control of matter at the atomic or molecular scale and the fabrication of devices at that scale. In future, existing science may extend to nanoscale.
- 2) Nanotechnology, whose theme is the control of matter at the atomic or molecular scale and the fabrication of devices at that scale, draws from various fields from applied physics to electrical engineering. The future of nanotechnology is rife with speculation.
- 3) Nanotechnology whose theme is the control of matter at the atomic or molecular scale and the manufacture of devices at that scale, draws from various fields. In future, nanotechnology may impact all other sciences.
- 4) Nanotechnology is a highly multidisciplinary technology for the control of matter at the atomic or molecular scale and the fabrication of devices at that scale. In future, existing sciences may use a more modern term.
- 5) Nanotechnology whose aim is the control of matter at the atomic or molecular scale and the production of devices at that scale, draws from various fields. The future of nanotechnology is uncertain but it may impact all other sciences.

Question of the Day #26: (11-Jul-08)

$$\text{If } \frac{\log x}{(b-c)} = \frac{\log y}{(c-a)} = \frac{\log z}{(a-b)}$$

Then which of the following expression is incorrect?

OPTIONS

- 1) $xyz = 1$
- 2) $x^a y^b z^c = 1$
- 3) $x^{(b+c)} \times y^{(c+a)} \times z^{(a+b)} = 1$
- 4) $x^{(b+c-a)} \times y^{(c+a-b)} \times z^{(a+b-c)} = 1$
- 5) $x^{(a+b-c)} \times y^{(b+c-a)} \times z^{(c+a-b)} = 1$

Question of the Day #27: (12-Jul-08)

From among the five alternative summaries, choose the option that best captures the essence of the text given below.

The fierce conflict which had been waged in the United States of America for four long years between the North and the South was terminated by the subjugation of the latter in the spring of 1865, and the tattered battle flags of the Confederate forces were furled forever. Over a million of men, veteran soldiers of both armies, were still in the field when the Civil War ended, and when these mighty forces were disbanded, hundreds of thousands of trained warriors were thrown upon their own resources, without occupation or employment.

OPTIONS

- 1) When the US civil war came to an end, many soldiers were left unemployed as they had been trained only as warriors and lacked other skills.
- 2) In the civil war which raged for four years in USA, both the parties suffered heavy losses even after the war ended.
- 3) After the four year long civil battle of America ended, it unleashed the problem of unemployment of millions of army veterans.
- 4) After the Confederates won the American Civil War in 1865, the war veterans were given their own resources to find better occupation.
- 5) The victorious South and the defeated North had little to be happy about as they both faced a serious issue of unemployment of their army veterans after the war.

Question of the Day #28: (13-Jul-08)

An insect is at the bottom of a tree that is 12 metres tall. It takes 3 minutes 20 seconds to crawl around the base of the trunk once. After this, the insect starts to crawl up the trunk of the tree in a regular spiral. It makes 4 rounds of the tree and reaches the top of the tree at a point directly above the point from which it started. If the speed of the insect is 2 cm/s, what is the time it takes to reach the top of the tree from the moment it starts walking up in a spiral?

(Assume that the trunk of the tree is a right circular cylinder.)

OPTIONS

- 1) 13 min 20 s
- 2) 16 min 40 s
- 3) 17 min 20 s
- 4) 18 min
- 5) 19 min 40 s

Question of the Day #29: (14-Jul-08)

Choose the option that has the most appropriate set of words for each of the blanks in the paragraph given below.

After the bulb has been _____ with mercury, it is placed in a beaker of water and is heated by a Bunsen burner. As the water becomes warmer, the level of mercury in the tube steadily rises until the water boils, when the level _____. A scratch is made on the tube to _____ the point to which the mercury rises when the bulb is placed in boiling water. The tube is _____ from the boiling water, and after cooling for a few minutes, it is placed in a vessel containing finely chopped ice.

OPTIONS

- 1) filled, stays stationary, indicate, then melted
- 2) full, remains stationary, indicate, then melted
- 3) filled, stays there, state, then removed
- 4) full, stays stationary, state, then taken
- 5) filled, remains stationary, indicate, then removed

Question of the Day #30: (15-Jul-08)

If $a^2 - b^2 = 2010$, then what is the number of possible solutions (a, b) such that a and b are natural numbers?

OPTIONS

- 1) 0
- 2) 1
- 3) 2
- 4) 12
- 5) 14

Question of the Day #31: (16-Jul-08)

I have a field on which I have to arrange plant pots such that there are 7 rows of pots, where each row is of equal length and has three pots equidistantly placed in it. Placing more than three pots in a single line does not count as two different rows. What is the least number of pots with which my task can be accomplished?

OPTIONS

- 1) 14
- 2) 17
- 3) 18
- 4) 20
- 5) 21

Question of the Day #32: (17-Jul-08)

The question below consists of a set of labelled sentences. These sentences, when properly sequenced, form a coherent paragraph. Choose the most logical order of sentences from among the options.

- A. The struggle culminates in the great battle of Kurukshetra, in which the Pandavas are ultimately victorious.
- B. As a result, both Duryodhan and Yudhisthir claim to be the first in line to inherit the throne.
- C. The two collateral branches of the family that participate in the struggle are the Kaurava and the Pandava.
- D. Although the Kaurava is the senior branch of the family, Duryodhana, the eldest Kaurava, is younger than Yudhisthir, the eldest Pandava.
- E. The core story of the work is that of a dynastic struggle for the throne of Hastinapura, the kingdom ruled by the Kuru clan.
- F. The battle produces complex conflicts of kinship and friendship, instances of family loyalty and duty taking precedence over what is right, as well as the converse.

OPTIONS

- 1) FCEADB
- 2) FECDBA
- 3) CEDBAF
- 4) ECADBF
- 5) ECDBAF

Question of the Day #33: (18-Jul-08)

In a country called Septophobasia, the number 7 was once banned from use. Due to this, the counting system (which was the decimal system) had to be revamped. To this end, officials began writing all the allowed numbers in order, obviously skipping all those which featured the digit '7' anywhere in them. What was the 59056th number to be written?

OPTIONS

- 1) 100008
- 2) 334114
- 3) 200000
- 4) 87436
- 5) 99056

Question of the Day #34: (19-Jul-08)

Answer the question based on the information given below.

Student graduating from engineering colleges today are completely unprepared to work in the corporate world. The curriculum is quite outdated and has no relevance to the technologies and processes in practical use. Most of the faculties also require refresher courses to improve the quality of teaching and keep up with modern technology rather than just stick to the text books. The infrastructure in most colleges must also improve drastically to bridge the gap between engineering colleges and the industry.

Which of the following options, if true, is most likely to weaken the above argument?

OPTIONS

- 1) The requirements of the industry are far too advanced for the colleges to consider meeting them.
- 2) The investment required for improving the infrastructure and revising the curriculum is too high for it to be a feasible exercise.
- 3) Students are more interested in pursuing management education after engineering than working in the industry.
- 4) The university has designed the engineering curriculum in discussion with various associations and representatives from the industry.
- 5) Alumni in various companies have suggested that giving student first hand experience with a summer internship program will greatly improve their quality.

Question of the Day #35: (20-Jul-08)

X is a number of more than 4 digits. The digits of X increase from left to right (thus, each digit is greater than the digit immediately to the left of it). What can be said about the sum of digits of the number $9X$?

OPTIONS

- 1) Can only be 9
- 2) Can be 3 or 9
- 3) Can be 3, 6 or 9
- 4) Can be 9 or 18
- 5) Can be 0 or 9

Question of the Day #36: (21-Jul-08)

The last sentence has been deleted from the paragraph given below. From amongst the given options, choose the one that completes the paragraph in the most appropriate manner.

It is true that the driving force behind corporate responsibility is 'enlightened self interest'. What must be also acknowledged is that it is the enlightened self-interest for governments and NGOs to work in partnership with business. The private sector provides the know-how, capital and infrastructure from which countries and communities can grow economically and fund social development. _____.

OPTIONS

- 1) And it can provide to society goods and services, profitably and responsibly.
- 2) And corporate social responsibility is adequately represented by voluntary philanthropy.
- 3) And corporate responsibility is not about pretending to solve the problems of the world—especially governments and NGOs.
- 4) And it can provide expertise to support the goals of governments and NGOs.
- 5) And it would be wrong to assume that Small and Medium sized Enterprises are not engaged in corporate social responsibility.

Question of the Day #37: (22-Jul-08)

Let x and y be positive integers such that $(x - y)$ and $(x + y)$ are prime. Then which of the following statements is/are true?

- I. $x^2 + y^2$ cannot be prime.
- II. $x^2 + y^2$ cannot be even.
- III. $x^2 - y^2$ may be even or odd.

OPTIONS

- 1) I only
- 2) II only
- 3) III only
- 4) I and III only
- 5) I and II only

Question of the Day #38: (23-Jul-08)

The last sentence has been deleted from the paragraph given below. From among the given options, choose the one that completes the paragraph in the most appropriate manner.

Undoubtedly, the thought of living in, or forming a utopian society has flashed through nearly every person's mind. The dream of forming and maintaining a utopian society was immortalized in two novels dealing with the same basic ideas, 1984 by George Orwell and Brave New World by Aldous Huxley. Both of these novels deal with the lives of main characters that inadvertently become subversives in a totalitarian government. These two books differ greatly however, with the manner in which the government controls the population and the strictness of the measures taken to maintain this stability. _____.

OPTIONS

- 1) Yet, Brave New World is comparable to 1984 as both are views of a totalitarian government which attempts to provide its citizens with a utopian society.
- 2) Although the novels are comparable, Brave New World could be perceived as a positive utopia and 1984 as a negative one.
- 3) However, there is one great similarity: both make one thankful for having been born into a freethinking society where a person can be truly free.
- 4) Finally, 1984 shares with the reader a view of the future horrors that may be yet to come, and Brave New World portrays an acceptable society with undesirable hidden traits.
- 5) Our present society may not be truly perfect, but as these two novels show, it could be worse.

Question of the Day #39: (24-Jul-08)

Given that $\log 3 = 0.477$, $\log 7 = 0.845$, $\log 2 = 0.301$. Find the number of digits in y if $y = 252^{10}$

OPTIONS

- 1) 12
- 2) 25
- 3) 24
- 4) 30
- 5) Cannot be determined

Question of the Day #40: (25-Jul-08)

The labeled sentences given below, when properly sequenced, form a coherent paragraph. Choose the most logical order of sentences from among the given options to construct a coherent paragraph.

- A. One of its greatest misfortunes arises from this circumstance; for the subjects on which it is conversant are so difficult, and require such unremitting devotion of time, that few who have not spent years in their study can judge of the relative knowledge of those who pursue them.
- B. This remark applies with peculiar force to all the more difficult applications of mathematics; and the fact is calculated to check the energies of those who only look to reputation in England.
- C. It follows, therefore, that the public, and even that men of sound sense and discernment, can scarcely find means to distinguish between the possessors of knowledge, in the present day, merely elementary, and those whose acquirements are of the highest order.
- D. It is therefore, on that ground alone, deprived of many of the advantages which attach to professions.
- E. The pursuit of science does not, in England, constitute a distinct profession, as it does in many other countries.

OPTIONS

- 1) BCADE
- 2) EDACB
- 3) ACBED
- 4) BCEAD
- 5) ADEBC

Question of the Day #41: (26-Jul-08)

Abhay took a novel to read from a bookseller and found that a page was missing. He went back to the bookseller and informed him about it, and also told him that the sum of the remaining pages is 10,000. Which of the following can be one of the page numbers missing from the novel?

OPTIONS

- 1) 5
- 2) 11
- 3) 77
- 4) 153
- 5) Option 1 or 3

Question of the Day #42: (27-Jul-08)

The labeled sentences given below, when properly sequenced, form a coherent paragraph. Choose the most logical order of sentences from among the given options to construct a coherent paragraph.

- A. Early on in the movie, it is shown that his mother tried to encourage him to go outside by placing gifts in the form of comic books on a park bench opposite their house.
- B. He lives his life searching for a reason for his own existence.
- C. Elijah Price is born with Type I osteogenesis imperfecta, a rare disease in which the bones lack collagen of sufficient quality and/or quantity, and break very easily.
- D. Drawing on what he reads in those comic books, Price theorizes that if he is at one extreme end of the spectrum, then perhaps there is somebody at the other end, someone with greater than usual strengths.
- E. He is even born with broken bones, as shown in the first scene of the movie, and later receives the nickname "Mr. Glass" due to his fragility.

OPTIONS

- 1) CEABD
- 2) CEBAD
- 3) CADBE
- 4) CABED
- 5) CBADE

Question of the Day #43: (28-Jul-08)

$\log_{12769} 115$, $\log_{1191} 14100$, $\log_{109} 11892$. Arrange the following in descending order:

OPTIONS

- 1) $\log_{119} 14100 > \log_{109} 11892 > \log_{12769} 115$
- 2) $\log_{12769} 115 > \log_{109} 11892 > \log_{119} 14100$
- 3) $\log_{119} 14100 > \log_{12769} 115 > \log_{109} 11892$
- 4) $\log_{109} 11892 > \log_{12769} 115 > \log_{119} 14100$
- 5) $\log_{109} 11892 > \log_{119} 14100 > \log_{12769} 115$

Question of the Day #44: (29-Jul-08)

The last sentence has been deleted from the paragraph given below. From among the given options, choose the one that completes the paragraph in the most appropriate manner.

The political experience of the last two centuries has proved that free government and party government are almost convertible terms. It is still as true as when Burke wrote his famous defense of party, in his Thoughts on the Cause of the Present Discontents, that, for the realization of political freedom, the organization of the electorate into regular and permanent parties is necessary. Parliamentary government has attained its highest success only in those countries where political power is held alternately by two great national parties. As soon as factional interests become predominant; as soon as the stability of government depends upon the artificial grouping of minor conflicting interests; as soon as the nation lacks the tonic effect of the mutual criticisms of great organizations, _____.

OPTIONS

- 1) the efficiency is somehow the most affected.
- 2) there remains no difference between a free government and a parliamentary one.
- 3) free government fails.
- 4) the highest form of a free government comes within reach.
- 5) the highest form of free government becomes unattainable.

Question of the Day #45: (30-Jul-08)

The statement below has a part missing. Choose the best option from the options given below to complete the statement to make up the missing part.

The basic goal of sociological research is to understand the social world in its many forms. Quantitative methods and qualitative methods are two main types of sociological research methods. Sociologists often use quantitative methods - such as social statistics or network analysis - to investigate the structure of a social process or describe patterns in social relationships. _____. Sociologists also use applied research methods such as evaluation research and assessment.

OPTIONS

- 1) Sociologists often use mathematical tools to arrive at a conclusion in studying social processes.
- 2) Sociologists often use risk measurement data to arrive at a quantitative figure.
- 3) Sociologists often use literary and historical texts to arrive at an inference on social processes.
- 4) Sociologists also often use qualitative methods - such as focused interviews, group discussions and ethnographic methods - to investigate social processes.

Question of the Day #46: (01-Aug-08)

The correct word from the set of two highlighted words in each of the sentences given below will form a pattern. Choose the correct pattern from among the given options.

- I. He was in a **dilemma(A)/quandary(B)** because of the number of options that the company offered.
- II. John Keats, dying, expected his poetry to be forgotten, as the **epitaph(A)/epigraph(B)** he wrote for his tombstone reads: "Here lies one whose name was writ in water.
- III. We are advancing the date of the trip in order to **ensure(A)/insure(B)** that we enjoy good weather.
- IV. The management found it **expedient(A)/expeditious(B)** to blame the laborers for its own failure.
- V. The candidates were not informed that the selection process also included an **extemporaneous(A)/impromptu(B)** speech of three minutes on a surprise topic.

OPTIONS

- 1) BBAAA
- 2) BABAB
- 3) AABBB
- 4) BAAAB
- 5) BBAAB

Question of the Day #47: (02-Aug-08)

Let $C(n)$ be defined as the smallest positive integer that can be written as the sum of two cubes (of positive or negative integers) in n different ways. For example, $C(2) = A^3 + B^3 = X^3 + Y^3$, where A, B, X, Y are integers. $30 < C(2) < 100$, $|ABXY| =$

OPTIONS

- 1) 360
- 2) 180
- 3) 120
- 4) 240
- 5) 420

Question of the Day #48: (03-Aug-08)

Select the option that indicates the grammatically correct and appropriate sentences from the set of labeled sentences given below.

- A. Business opportunities in an emerging market offers increasing rewards
- B. if you get it right and disaster if one gets it wrong.
- C. Using real examples to illustrate the points it makes,
- D. this book is aimed at both managers who are involved in entering emerging markets for the first time, but those
- E. who are all ready operating in them.

OPTIONS

- 1) A only
- 2) E only
- 3) B, C, D, and E only
- 4) C only
- 5) A, B, D, and E only

Question of the Day #49: (04-Aug-08)

Let $X = (\sqrt{3} + \sqrt{5})^{222}$. If X is written in decimal form, what will be the first digit after the decimal point?

OPTIONS

- 1) 5
- 2) 6
- 3) 7
- 4) 8
- 5) 9

Question of the Day #50: (05-Aug-08)

Choose the option that has the most appropriate set of words for each of the blanks in the paragraph given below.

The _____ of the ancients had few if any bounds, and even Athens in the _____ of her intellectual glory accepted the fabulous tales of gods and half-gods. Today we read and wonder. But the child, who in his brief lifetime must live over in part at least the history of the whole race, _____ in the myths and legends which made his ancestors admire or tremble. They are naturally not so real to him as they were to his _____; yet they open up a rich and gorgeous _____, without excursions into which every child must grow up the poorer in mind and spirit.

OPTIONS

- 1) imagination, peak, reminisces, ancestors, world
- 2) feelings, peak, reminisces, ancestors, world
- 3) imagination, height, delights, forefathers, wonderland
- 4) feelings, height, delights, ancestors, world
- 5) imagination, heights, ponders, forefathers, wonderland

SOLUTIONS

Solution #01: (16-Jun-08)

Option A states 'are welcome' which is personal opinion, hence it is a judgment.

Option B states 'amongst its proposals ...' making this statement a fact.

In Option C, 'could not have come sooner' is an opinion, hence it is a judgment.

In Option D, the words 'most accessible' and 'fastest growing' are verifiable through facts, hence this statement is an inference as these are conclusions that are based on reliable information.

In option E, the words, 'reflect some of the proposals ...' can be verified by comparing the proposals of both years, hence is an inference. Thus, the correct pattern should be JFJII.

Hence, the correct answer is option 3.

Solution #02: (17-Jun-08)

Dr. Numerez has already told him that the number is composite, but relatively prime to his house number.

Looking for such numbers from 1 to 26, we find only two: 9 and 21.

(These two numbers can be found out faster by using the knowledge that none of the even or prime numbers would satisfy the conditions stated by Dr. Numerez.)

9 is a perfect square while 21 is not.

9 has 3 distinct divisors while 21 has 4.

9 is lesser than 10 while 21 is more.

∴ Any of the given questions will help the salesman uniquely determine the answer.

Hence, option 5.

Solution #03: (18-Jun-08)

Option 1 sums up the entire discussion and completes the passage. It is a fitting conclusion to the arguments mentioned in the passage.

Option 2 brings in the idea of 'compelling reason' but the passage does not build up a case for it.

Option 3 is logically disconnected with inclusion of a lot of new ideas.

Option 5 brings in a new idea of society being 'marred' which is not connected to the passage, neither can it be concluded.

Option 4 brings in the idea of 'educative' and has the same issues as option 5.
Hence, the correct answer is option 1.

Solution #04: (19-Jun-08)

n is the smallest odd prime number that is 3.

$$\therefore x^2 + \left(\frac{1}{x}\right)^2 = 9 + \frac{p}{q}$$

$$\Rightarrow x^2 + \left(\frac{1}{x}\right)^2 \text{ is between } 9 \text{ and } 10 \text{ (since } p < q)$$

If x has to take integer values, the only way it is possible is if $x^2 = 9$.

$$\therefore x = 3 \text{ or } -3$$

$\Rightarrow x$ can take 2 integer values.

Hence, option 3.

Solution #05: (20-Jun-08)

Part A is incorrect because 'neither' should not be placed before the verb 'come' to maintain parallelism. For example, 'comes neither from x nor from y' – and not neither 'comes from x nor y'.

There is no error in part B.

Part C is correct with the 'or' because background or backing is introduced by 'nor'. For example, Neither the hatred nor the very strong words or expressions.

Part D is incorrect because formal English does not accept 'like' used as a conjunction. 'As' should be used – 'as do thousands of aspiring cricketers in India'.

There is no error in E.

Hence, the correct answer is option 4.

Solution #06: (21-Jun-08)

Note that if x gives a remainder of r on division by any number, then x^2 will give a remainder of r^2 . In this case, if $x^2 + y^2$ is divisible by 21, that means it is divisible by 3 as well as by 7.

Now, all natural numbers, on division by 3, give a remainder of 0, 1 or 2. Therefore, their squares, give a remainder of 0 or 1 (since a remainder of 4 is further divisible by 3, giving a remainder of 1).

Therefore, the sum of two squares will give a remainder of 0 ($0 + 0$), 1 ($0 + 1$ or $1 + 0$) or 2 ($1 + 1$). In other words, when the sum of two squares gives a remainder of 0 on division by 3, the only way this can happen is if both the squares themselves are divisible by 3, and therefore, both the original numbers are divisible by 3.

Similarly, all natural numbers, on division by 7, give a remainder of 0, 1, 2, 3, 4, 5 or 6. Therefore, their squares give a remainder of 0, 1, 2 or 4 (prove this). Now, note that the only way the sum of two squares can give a remainder of 0 on division by 7 is if both squares are themselves divisible by 7, and so, both the original numbers are divisible by 7.

Thus, if $x^2 + y^2$ is divisible by 21, both x and y will be divisible by 21.

Hence, option 3.

Note: Elimination of options may be tried, but it will not help in choosing between options 3 and 5.

Solution #07: (22-Jun-08)

The correct option is 3. The prose has a positive connotation throughout. As a result only option 3 logically fits into the prose. The word 'wither' in all other options distorts the positivity of the text. Even in option 3, the second part of the option - 'For me ye bloom not!' is a continuation of the first part that suggests that the amaranths should bloom for whomever they want, not because the author wants them to.

In option 5, the poetic language is distorted because of the usage of 'neither... nor'.

Hence, the correct answer is option 3.

Solution #08: (23-Jun-08)

The eight digit number satisfying the given condition is 99984999 (9998 is twice as large as 4999).

Now, the biggest hint for finding factors of this number is in the question itself.

$$\therefore 9998 = 4999 \times 2$$

Multiplying both the sides by 10000, we get,

$$99980000 = 4999 \times 20000$$

Adding 4999 to both the sides, we get,

$$99984999 = 4999 \times 20000 + 4999$$

$$\therefore 99984999 = 4999 \times 20001$$

It is easy to see that 20001 is divisible by 3, so we divide it by 3 to find that $20001 = 6667 \times 3$

Now, instead of trying to determine rigorously whether 4999 and 6667 are prime or not, we take a hint from option 2 and option 3, and see that $59 \times 113 = 6667$

$$\therefore 6667 \text{ is not prime.}$$

Hence, option 5.

Solution #09: (24-Jun-08)

Option 1 is similar to the last line of the passage. The last line of the passage is a paradox similar to option 1.

Option 5 is a very close one but it changes the meaning completely, in that it talks of questioning aspects whereas the passage speaks of negating them completely, without accepting or understanding them. The analogy also is not tightly communicated.

Option 4 speaks of ultimate acceptance if proven true whereas the passage speaks of denying it completely, unconditionally.

Options 2 and 3 are frivolous. They do not communicate anything with respect to the passage.

Hence, the correct answer is option 1.

Solution #10: (25-Jun-08)

In 4 consecutive natural numbers, there will be at least two even numbers.

$\therefore x$ is even and $x + 1$ is odd.

\therefore Statement I is true and statement II is false.

To decide whether n is prime or not, just try the first four natural numbers, which give a product of 24, and therefore, $n = 25$

Therefore, n is not prime, but it could be a perfect square.

To prove convincingly that n is a perfect square, try the product of any 4 consecutive natural numbers, say $(y - 1)$, y , $(y + 1)$ and $(y + 2)$.

$$\therefore n = (y - 1) \times y \times (y + 1) \times (y + 2)$$

$$\therefore n = y^4 + 2y^3 - y^2 - 2y + 1$$

$$\therefore n = (y^2 + y - 1) \times (y^2 + y + 1)$$

$\therefore n$ is a perfect square.

Hence, option 3.

Solution #11: (26-Jun-08)

Option 3 is clear from the statement he was faithful as well as unfaithful. Examine very closely, that the option just states he provided a new meaning and stops short of stating 'Socrates' teachings.

Option 1 states 'would follow' but the passage does not speak of 'following his ideas'. 'Force of mind unparalleled in the world' would imply option 1 but the question stem asks us about clarity and not implication. It is a probable answer and would be our second best choice.

Option 5 cannot be deduced as there is no indication that Plato was not able to prove something.

Option 4 can be eliminated as the passage suggests he was 'invincible' not 'unchallenged'. This means that Plato could have been challenged but would have won.

Option 2 uses the word 'proven' whereas the passage states 'appear'.

Hence, the correct answer is option 3.

Solution #12: (27-Jun-08)

Using standard chess notation, let us number the rows from 1 to 8 (top to bottom) and name the columns from a to h (left to right).

Then, suppose the white knight is on a_1 , and the black knight is on h_8 .

In two turns, the white knight can reach d_4 and the black knight can reach e_5 .

In the next (third) turn, the white knight may move to c_6 or f_3 , where the black knight can capture it.

Hence, option 3.

Solution #13: (28-Jun-08)

Climactic is the adjective form of the word 'climax'. Climatic is the adjective of Climate. Hence, the correct answer is B.

Contemptible means deserving contempt while contemptuous means feeling contempt. Hence, the correct answer is B.

Discreet means unnoticeable whereas discrete means distinct. Hence, the correct answer is A.

Childlike implies positive qualities of a child—for example, childlike innocence. Childish means immature.

Hence, the correct answer is B.

It is a dining room and the word 'dinning' means a loud and confusing noise. Hence, the correct answer is A.

Therefore, the pattern should be BBABA.

Hence, the correct answer is option 4.

Solution #14: (29-Jun-08)

$$\text{Consider } \frac{n}{(n+1)} \times \frac{2n!}{n!^2}$$

$$= \frac{2n!}{(n-1)! \times (n+1)!}$$

$$= {}^{2n}C_{n-1}$$

This has to be an integer, since it is a binomial coefficient, or the number of ways of selecting $(n-1)$ objects out of $2n$ objects.

Now, n and $(n+1)$ cannot have any factor in common for $n > 1$.

Since the binomial coefficient is an integer, this means $(n+1)$ completely divides the dividend $(2n!/n!^2)$.

$$\therefore \frac{\left(\frac{2n!}{n!^2}\right)}{(n+1)} \text{ will give a remainder of } 0$$

Note: This is true for all $n > 1$, and not merely $n > 53$. The answer is 0.

Hence, option 1.

Solution #15: (30-Jun-08)

Pair IA is very tempting but none of the options with IA as a pair have a good conclusion with statement II, which has 'melancholy pervading her countenance'.

'They' in statement II needs to be preceded by a plural subject spoken of in the previous statement. We can eliminate all the options except 1 as the last statement in each one of them does not connect with statement II.

Secondly, 'countenance' means facial expression. Hence statement II cannot follow D. Eliminate option 4.

In the other 3 options which begin with statement A, the idea of 'irresistible suspicion' is lost as none of the statements following A have a hint or continuation of that idea. It can best be described as the idea before II. This helps us eliminate options 2, 3 and 5.

Hence, the correct answer is option 1.

Solution #16: (01-Jul-08)

Since the choice of numbers at each step is arbitrary, the final number must obviously be the same regardless of the order in which we choose the numbers.

Let us choose the numbers in ascending order, i.e. we will first choose 1 and 2, and then choose the result (of 1 and 2) with 3, and so on till card 30.

For the first step, consider picking 1 and 2. The new card we get will be $(1 \times 2) + 1 + 2 = 5$. We notice that $5 = 3! - 1$.

If we then pick 3 and use $a = 5, b = 3$, we get $(3 \times 5) + 3 + 5 = 23 = 4! - 1$. Thus, a trend emerges. If we take the first n cards and operate till one card is left, it seems that we might get $(n + 1)! - 1$ as the final card.

To prove this:

Assume that the card left from the previous step (the result of reducing n cards to 1 card) is $[(n + 1)! - 1]$. We perform the operation on this card with $(n + 1)^{\text{th}}$ card.

If our hypothesis is right, we have operated on $(n + 1)$ cards totally. The number written on the new card should be $[(n + 2)! - 1]$.

The operation on $[(n + 1)! - 1]$ and $(n + 1)$ gives:

$$(n + 1)[(n + 1)! - 1] + (n + 1) + [(n + 1)! - 1]$$

$$= (n + 1)! [n + 1 + 1] - (n + 1) + (n + 1) - 1$$

$$= [(n + 1)! (n + 2) - 1] = (n + 2)! - 1$$

Therefore, our hypothesis has been proved (by induction).

After operating on 30 cards, we will therefore get $(31! - 1)$ as the last number.

Hence, option 1.

Solution #17: (02-Jul-08)

B is definitely the first sentence of the paragraph because it introduces the storm by using its name.

There is a definite link between EA – E talks about the storm ‘development’ and A uses ‘the state’ that is a reference to Texas mentioned in E. D can follow EA and C can be a suitable last sentence of the paragraph as it gives a general fact about the history of storms in Texas.

Hence, the correct answer is option 2.

Solution #18: (03-Jul-08)

There are only two cases here: the final team consists of five batsmen and five bowlers, or six batsmen and four bowlers (plus the wicketkeeper in both cases).

Since the captain is definitely in, this amounts to choosing either four batsmen and five bowlers out of six each, or five batsmen and four bowlers out of six each.

Since Rahul is a batsman, we shall consider only the selection of batsmen.

In the first case, there are ${}^6C_4 = 15$ ways of choosing four batsmen out of six. If Rahul is selected, the other three batsmen can be selected out of five in ${}^5C_3 = 10$ ways

∴ There are 10 ways out of 15 in which Rahul is selected.

∴ The probability of Rahul getting selected = $10/15 = 2/3$

In the second case, there are 6C_5 i.e., 6 ways of choosing five batsmen out of six. If Rahul is selected, the other four batsmen can be chosen out of five in ${}^5C_4 = 5$ ways

∴ The probability of Rahul getting selected in this case is $5/6$. Since each of these two cases (team combinations) is equally likely, the total probability = $[(1/2) \times (2/3)] + [(1/2) \times (5/6)] = 9/12 = 3/4$

Hence, option 1.

Alternatively,

Since both the team combinations are equally likely, each of the remaining 12 players in the squad has an equal chance of being selected in the remaining 9 spots in the team.

∴ The probability for each player is equal, and is $9/12 = 3/4$

Hence, option 1.

Solution #19: (04-Jul-08)

The main focus of the author's argument is that the introduction of small cars will put additional strain on the existing infrastructure and increase the problems caused. However, if the introduction of small cars can result in reduction of the other causes of these problems then they will be beneficial.

The advantages of small cars cannot be taken into account independently as they will still be an addition to the existing situation. Hence, option 1 is eliminated.

Even if big cars create bigger problems, the author's assertion that small cars will add the problems will still hold. Hence, option 2 is eliminated.

Option 3 does not have any effect on the author's argument as it talks of a policy change which does not solve the issue of the infrastructure being strained. Hence, it is eliminated.

Option 4 does not have any effect on the author's argument as it talks of a parallel problem. Hence, it is eliminated.

Hence, the correct answer is option 5.

Solution #20: (05-Jul-08)

Anil can either win the game by scoring three consecutive points. The probability for this case = $(2/3) \times (2/3) \times (2/3) = 8/27$, or if he scores 4 points and Sunil scores one point in one of the following order:

Sunil, Anil, Anil, Anil, Anil

OR

Anil, Sunil, Anil, Anil, Anil

OR

Anil, Anil, Sunil, Anil, Anil

The probability for each of these cases is $(1/3) \times (2/3)^4 = 16/243$

Therefore, the total probability = $(8/27) + (16/243) + (16/243) + (16/243) = 40/81$

Hence, option 2.

Solution #21: (06-Jul-08)

The thrust of the paragraph is about why 'it is enlightened self-interest for governments and NGOs to work in partnership with business'. Option 4 will conclude the paragraph by reinforcing this argument.

Options 2, 3 and 5 bring in issues that make sweeping generalizations about corporate social responsibility (which is not even mentioned in the main paragraph).

Option 1 is completely detached from the main paragraph. The penultimate sentence of the paragraph talks about 'know-how, capital & infrastructure'. The last sentence (as per option 1) refers to these things when it says that they can provide to society, goods and services when, in fact, this role has to be played by governments and NGOs. These things can only help them do their duties more effectively (as mentioned in option 4).

Hence, the correct answer is option 4.

Solution #22: (07-Jul-08)

B alone takes $(x + 5)$ minutes to paint the wall.

\Rightarrow he paints $\frac{1}{x+5}$ of the wall in 1 minute.

A alone takes $(x + 5 + 40) = (x + 45)$ minutes to paint the wall.

\Rightarrow he paints $\frac{1}{(x+45)}$ of the wall in 1 minute.

So, in 1 minute, A and B combined will paint $\left(\frac{1}{x+5} + \frac{1}{x+45}\right)$ of the wall.

However, we also know that A and B together paint the wall in x minutes.

\Rightarrow in 1 minute, they paint $\frac{1}{x}$ of the wall.

$$\therefore \left(\frac{1}{x+5} + \frac{1}{x+45}\right) = \frac{1}{x}$$

$$\Rightarrow \frac{2x+50}{(x+5)(x+45)} = \frac{1}{x}$$

$$\Rightarrow x(2x+50) = (x+5)(x+45)$$

$$\Rightarrow 2x^2 + 50x = x^2 + 50x + (45 \times 5)$$

$$\Rightarrow x^2 = 45 \times 5$$

$$\Rightarrow x^2 = 25 \times 9$$

$$\therefore x = 5 \times 3$$

$$\therefore x = 15$$

Hence, option 1.

Solution #23: (08-Jul-08)

Statement C with 'last process' would ideally be connected with a preceding statement E 'ends in deterioration & degeneracy'. But none of the options have EC together. Hence we need to look at it differently.

Statement C 'with last process' should be preceded by a statement which explains a process rather than a fact. Statement B just mentions impossibility of such reproduction. It does not in any way indicate a process. Hence statement B cannot precede statement C. By this line of reasoning we can eliminate options 1 and 5 where BC go together.

In option 2, CE flows perfectly well. Statement E concludes with 'ends in deterioration and degeneracy'. It means the next statement needs to talk about degeneration or take the idea further with some example of degeneration. If the next statement wants to introduce an opposite idea (of growth) it needs to connect with words like yet, but, inspite of, despite etc. Statement D mentions 'a tree, for instance, grows....' Statement A following D also talks of perfect growth in ants. There is a complete contradiction to the ideas presented here as compared to those in statements C and E. Without the use of connecting words like 'yet, but...', the statements are disconnected. Hence eliminate option 2.

In option 4, CEB flows well. But statement A is disconnected to the idea presented in statement B. It appears as if a completely new idea is presented (or an opposite idea without the use of words yet, but). The same flaw continues in statement D. Hence the ideas in CEB and AD are disconnected. We can eliminate option 4 for lack of continuity.

Let's evaluate option 3. There are no abrupt jumps anywhere. It ends with 'what it can't be for higher animals'.

Hence, the correct answer is option 3.

Solution #24: (09-Jul-08)

The given series is in arithmetic progression (A.P.).

The sum of first n terms of an A.P. is given by

$$S_n = \frac{n[2a + (n-1)d]}{2}$$

Where a is the first term and d is the common difference.

Here, $a = -12$, $d = 5$. Putting these values in the above equation we get a quadratic equation in n , whose solutions come out to be fractions.

\therefore There is no exact number of terms of the given series which adds up to 123.

Hence, option 5.

Solution #25: (10-Jul-08)

Option 5 is incorrect as it states that 'The future of nanotechnology is uncertain' which is not true - "what may result from these lines of research" is different from the future being uncertain.

Option 1 is biased in the second sentence, so is option 4.

Option 2 states 'rife with speculation' which is completely irrelevant to the paragraph and has not been mentioned.

Thus, by elimination, option 3 is the best way to summarize the given passage. It remains neutral by using the word 'may impact' in the second sentence, as suggested by the paragraph.

Hence, the correct answer is option 3.

Solution #26: (11-Jul-08)

For equal ratios,

$$\frac{i}{j} = \frac{k}{l} = \frac{m}{n} \dots = \frac{i+k+m+\dots}{j+l+n+\dots}$$

∴ Adding two of the given three terms, we get

$$\frac{(\log x + \log y)}{(b-a)} = \frac{\log z}{(a-b)} = -\frac{\log z}{(b-a)} = \frac{\log\left(\frac{1}{z}\right)}{(b-a)}$$

$$\Rightarrow xyz = 1$$

Now, consider the expression in option 4. Since $(a-b) \log y = (c-a) \log z$

$$\Rightarrow y^{(a-b)} = z^{(c-a)}$$

$$\Rightarrow y^{(a-b)} \times z^{(a-c)} = 1$$

$$\Rightarrow y^{2(a-b)} \times z^{2(a-c)} = \frac{x^{(b+c-a)} \times y^{(c+a-b)} \times z^{(a+b-c)}}{xyz^{(b+c-a)}} = 1$$

∴ Option 4 is also true.

Similarly, options 2 and 3 can also be proved.

However, option 5 must be wrong as it does not follow the cyclic order of x, y, z and a, b, c .

Hence, option 5.

Solution #27: (12-Jul-08)

Options 4 and 5 declare that the South won the battle which cannot be deduced from the passage. Hence, these options can be safely eliminated.

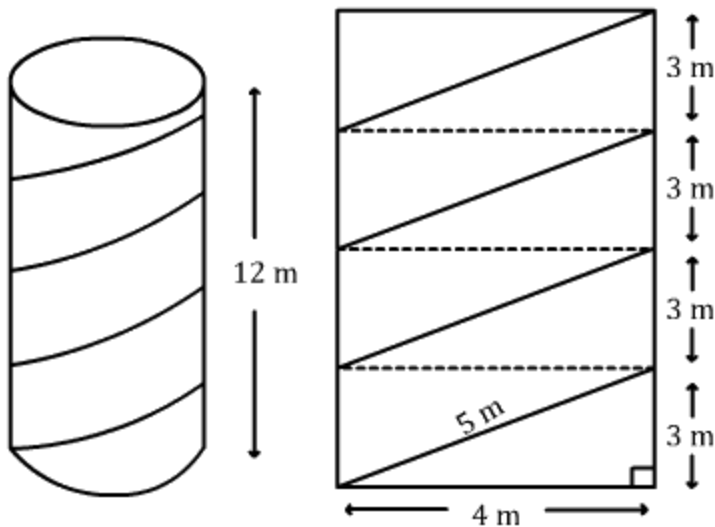
Option 2 distorts the meaning of the paragraph as it does not talk about the unemployment issue that is the central theme of the paragraph.

Option 1 assumes that the soldiers were not skilled in anything other than fighting. This is an incorrect assumption which makes this option incorrect.

Option 3 talks about the unemployment that emerged as a consequence of the conflict. This best summarizes the given text.

Hence, the correct answer is option 3.

Solution #28: (13-Jul-08)



First, we find the circumference of the base of the tree, $C = 200 \text{ s} \times 2 \text{ cm/s} = 4 \text{ m}$

Now, we 'open up' this circumference into a rectangle of length 4 m and height 12 m which is represented by the image in the right.

Since the insect makes 4 rounds of the tree, we put 4 rectangles horizontally next to each other to get a big rectangle of height 12 m and length 4 m.

The insect moves in a spiral path to reach the top of the tree. Now that we have a large rectangle representing the total trip of the insect, we can see that the path travelled by the insect is equal to the sum of the diagonals of the four rectangles.

The length of a diagonal = $\sqrt{(3^2 + 4^2)} = 5 \text{ m}$

\therefore The total distance covered by the insect = $4 \times 5 = 20 \text{ m} = 2000 \text{ cm}$

Now, the time taken to cover that distance = $(2000 \text{ cm}) / (2 \text{ cm/s}) = 1000 \text{ s} = 16 \text{ min } 40 \text{ s}$.

Hence, option 2.

Solution #29: (14-Jul-08)

Blank 1 should have 'filled', as 'full' is incorrect usage. For 'full' to be appropriate, the sentence should have been—After the bulb is full... This eliminates options 2 & 4.

'State' does not fit in the context provided in blank 3. This eliminates option 3.

The tube cannot be 'melted' 'from the boiling water'. This eliminates option 1.

Hence, the correct answer option is 5.

Solution #30: (15-Jul-08)

It is easier to see through this problem if $a^2 - b^2$ is written as $(a + b)(a - b)$.

Now, a and b can be either even or odd. If both are even or both are odd, then $(a + b)$ and $(a - b)$ are both even, in which case their product would be divisible by 4.

If one of them is even and the other is odd, then $(a + b)$ and $(a - b)$ are both odd, in which case their product would be odd.

2010 is neither odd, nor divisible by 4.

∴ The answer is 0.

Hence, option 1.

Solution #31: (16-Jul-08)

I arrange the pots in the form of a regular heptagon (seven sided figure).

To do this, I put a pot at each vertex, making seven pots. I then add one pot between every two pots already placed, using seven more.

Each side of the heptagon then becomes a row of three pots, and the task is accomplished.

∴ The total number of pots used = $7 + 7 = 14$

Hence, option 1.

Solution #32: (17-Jul-08)

The most prominent link in all six sentences is DB - D describes a situation and B talks about the implication of that situation. B starts with 'As a result' which is a direct connect to the preceding statement D.

EC is another link as E talks about a struggle and C gives more information about that struggle. A has to come after DB since it talks about the side that finally won the struggle whereas DB delves into the reason for the struggle. Finally, F is a conclusion statement that will not fit in any other place except the last.

Thus, the order established so far is EC-DB-A-F or DB-EC-A-F. The latter is not one of the options given.

Hence, the correct answer is option 5.

Solution #33: (18-Jul-08)

A quick way to do this problem is to consider the first 10 numbers. Only 9 of them will be written in Septophobasia (since 7 will be left out).

∴ The 9th number to be written will be 10.

Now, consider the first 100 numbers. 10 numbers with 7 in the units place will be left out, as will 10 numbers with 7 in the tens place. But one number has 7 in both the units and tens places (77).

∴ 19 numbers will be left out, and the 81st number will be 100.

Looking at the trends, we can see that the (9ⁿ)th number to be written will be (10ⁿ). 59049 (9⁵) is the closest power of 9 to 59056, so the 59049th number to be written will be 100,000.

Counting forward from there, the 59056th number to be written is 100,008.

Hence, option 1.

Alternatively,

Since the Septophobasians have only 9 digits to choose from after banning 7, therefore their 9th number will be 10, (9²)th number will be 10², (9ⁿ)th number will be 10ⁿ, and so on.

Solution #34: (19-Jul-08)

The author's primary argument is that the curriculum in engineering courses is outdated and hence the students graduating out of engineering colleges are unprepared for working in the corporate world. Option 4 however states that the curriculum has been designed with the participation of the industry. Hence 4 is the most suitable answer.

Option 1 is eliminated because the level of industry requirements being high does not contradict the author's argument that the curriculum is outdated, the teachers need refresher courses and the infrastructure is not up to the mark.

The author makes no argument about the feasibility of improving infrastructure or revising the curriculum. Hence 2 is eliminated.

Option 3 refers to the students' inclination which might be due to the level of education offered but does not refute the authors claim that the engineering course is not up to date. Hence 3 is eliminated.

The alumni may have suggested an alternative means of improving student quality but this does not weaken the author's argument in any manner. Hence 5 is eliminated.

Hence, the correct answer is option 4.

Solution #35: (20-Jul-08)

Let X be of the form (from left to right) $X_1X_2X_3...X_n$, where each X_i is a digit.

Then, $10X$ is of the form $X_1X_2X_3...X_n0$

$$9X = 10X - X$$

Now, the rightmost digit of $9X$ will be equal to $(10 - X_n)$ because there will be a borrow from the digit immediately to its left. Hence the digit to the left of the rightmost digit of $9X$ will be $(X_n - X_{n-1} - 1)$.

There will be no more borrows from any other digit of $10X$ since the digits of X increase strictly from left to right.

$$\therefore 9X \text{ will be of the form } X_1 (X_2 - X_1) (X_3 - X_2) \dots (X_n - X_{n-1} - 1) (10 - X_n)$$

If we take the sum of these digits, there is pairwise cancellation in each term.

At the end, all that is left is $10 - 1 = 9$

\therefore The sum of digits of $9X$ will always be 9.

Hence option 1.

Solution #36: (21-Jul-08)

The thrust of the paragraph is about why 'it is enlightened self-interest for governments and NGOs to work in partnership with business'. Option 4 will conclude the paragraph by reinforcing this argument.

Options 2, 3 and 5 bring in issues that make sweeping generalizations about corporate social responsibility (which is not even mentioned in the main paragraph).

Option 1 is completely detached from the main paragraph. The penultimate sentence of the paragraph talks about 'know-how, capital & infrastructure'. The last sentence (as per option 1) refers to these things when it says that they can provide to society, goods and services when, in fact, this role has to be played by governments and NGOs. These things can only help them do their duties more effectively (as mentioned in option 4).

Hence, the correct answer is option 4.

Solution #37: (22-Jul-08)

If x and y are integers, then $(x - y)$ and $(x + y)$ are either both even, or both odd. Since $(x - y)$ and $(x + y)$ are prime numbers, therefore, both are odd, and so one of x and y needs to be an even number and the other has to be an odd number.

$(x^2 + y^2)$ and $(x^2 - y^2)$ will always be odd.

∴ II is true and III is false.

Now consider $x = 5$ and $b = 2$

$x^2 + y^2 = 25 + 4 = 29$ which is a prime number.

∴ I is false.

Hence, option 2.

Solution #38: (23-Jul-08)

The first sentence defines the purpose for comparing the two novels. In both the main characters become “subversives in a totalitarian government” the purpose of the comparison is fulfilled. The message in relation to the first sentence has to be delivered in order to end the paragraph. And it is available only in the fifth option. The other options stretch the comparison further – they don’t conclude the paragraph. Option 3 could be evaluated more seriously. It loses out because if we are ‘truly free’, the first two sentences of the paragraph will not be completely justifiable.

Hence, the correct answer is option 5.

Solution #39: (24-Jul-08)

$$\begin{aligned}\log y &= \log 252^{10} = 10 \log (252) = 10 \log (9 \times 7 \times 4) = 10 (\log 9 + \log 7 + \log 4) \\ &= 10 (2 \log 3 + \log 7 + 2 \log 2) \\ &= 10 [(2 \times 0.477) + (0.845) + (2 \times 0.301)] \\ &= 10 (0.954 + 0.845 + 0.602) \\ &= 10 \times (2.401) = 24.01\end{aligned}$$

$$\therefore y = 10^{24.01} = 10^{0.01} \times 10^{24}$$

This means that y will have $24 + 1 = 25$ digits

Hence, option 2.

Solution #40: (25-Jul-08)

The way statement E is worded, it can be either a good start or a good conclusion. We can eliminate options 3, 4 and 5 on the same grounds as statement E inserted in-between is disconnected.

In option 1, BC go well together but the inconsistency appears in statement A with 'its'. If the 'its' in A refers to the public mentioned in statement C, then the rest of data in A - 'the subjects on which it is conversant are so difficult, and require such unremitted devotion of time.....' becomes meaningless. Thus we can eliminate option 1.

Hence, the correct answer is option 2.

Solution #41: (26-Jul-08)

The novel must have had consecutive page numbers. The sum of consecutive numbers is given by $n(n + 1)/2$.

By trial and error, we can find that the value of n comes to 141 which gives us a total of 10011, or 142 which gives us 10153.

∴ The pages that were missing could be page numbers 5 and 6, or numbers 76 and 77.

Hence option 5.

Solution #42: (27-Jul-08)

C is the opening sentence of the paragraph since it introduces the main character of the passage. C describes the disease that Elijah Price is born with - a bone disorder. E continues talking about Elijah Price's disease as it starts with 'He (Elijah) was even born with broken bones' - the word 'even' over here establishes a logical connect between C and E. Hence, a CE link is established. This eliminates options 3, 4 and 5.

Elijah received comic books as gifts from his mom, as described in A. Statement D mentions 'those' comic books and talks about Elijah's interpretation of them. Hence, there is an AD link. Out of the remaining options, option 1 can be eliminated on this basis.

Hence, the correct answer is option 2.

Solution #43: (28-Jul-08)

$$109^2 = 11881$$

$$\therefore \log_{109} 11892 > 2$$

$$119^2 = 14161$$

$$\therefore 2 > \log_{119} 14100 > 1$$

$$113^2 = 12769$$

$$\therefore 1 > \log_{12769} 115 > 0.5$$

$$\therefore \log_{109} 11892 \geq \log_{119} 14100 \geq \log_{12769} 115$$

Hence, option 5.

Solution #44: (29-Jul-08)

The latter half of the paragraph says that the success of a government in a country occurs only when the political power is held by two great parties. The concluding sentence presents a situation where there is a lack of great political parties and the presence of smaller contingents. As per the above mentioned points, if a country lacks major parties, the highest form of success becomes unattainable. Option 1 is too vague while option 4 is contradictory. Option 2 is incorrect as free and parliamentary governments are one in the same thing. Option 3 is too extreme to be the correct option.

Hence, the correct answer is option 5.

Solution #45: (30-Jul-08)

The correct answer is 4 since the sentence before the link sentence clearly states that quantitative and qualitative methods are the two main types of methods in sociological research. Quantitative methods have been written in the first half and since qualitative methods are absent in the first and second half they have to be contained in the link sentence. Therefore 1, 2, 3 are irrelevant.

Hence, the correct answer is option 4.

Solution #46: (01-Aug-08)

Dilemma is a tough choice between two things, and quandary is among many things. Hence, it should be B.

Epitaph is an inscription on a tombstone and epigraph is a pithy saying at the beginning of a poem or book. Hence, A.

Ensure is to make sure and to insure is to obtain insurance. Hence, A.

Expedient means convenient, expeditious means done speedily. Hence, A.

Extemporaneous is prepared but done without notes, and impromptu means without preparation. Hence, B.

Hence, the correct answer is option 4.

Solution #47: (02-Aug-08)

Possible values of A and B , keeping in mind that $30 < C(2) < 100$, are:

$$[A = 1, B = 4; A^3 + B^3 = 65], [A = 2, B = 3; A^3 + B^3 = 35], [A = 2, B = 4; A^3 + B^3 = 72],$$

$$[A = 3, B = 3; A^3 + B^3 = 54], [A = 3, B = 4; A^3 + B^3 = 91], [A = 4, B = -1; A^3 + B^3 = 63],$$

$$[A = 4, B = -2; A^3 + B^3 = 56], [A = 4, B = -3; A^3 + B^3 = 37], [A = 5, B = -3; A^3 + B^3 = 98],$$

$$[A = 5, B = -4; A^3 + B^3 = 61], [A = 6, B = -5; A^3 + B^3 = 91]$$

We see that the only sum which occurs twice is 91, and hence that $C(2)$ must be 91, since it is the smallest number in this list expressible as the sum of two cubes in two different ways.

$$\therefore 91 = 3^3 + 4^3 = 6^3 - 5^3$$

$$\therefore |ABXY| = 3 \times 4 \times 5 \times 6 = 360$$

Hence, option 1.

Solution #48: (03-Aug-08)

A is wrong because "Business opportunities in an emerging market" is plural hence requires 'offer' instead of offers.

B is wrong as the pronoun use is inconsistent. Eitherif you get it right and disaster if you get it wrong orif one gets it right and disaster if one gets it wrong is right.

There is no error in C.

D is wrong because of 'but'. The conjunction to be used is 'both and' - 'both..... but' is non-standard.

E is wrong in that it confuses between 'all ready' and 'already'.

Hence, the correct answer is option 4.

Solution #49: (04-Aug-08)

Consider $Y = (\sqrt{3} + \sqrt{5})^{222} + (\sqrt{3} - \sqrt{5})^{222}$

We expand the terms in both brackets using the binomial theorem. We can see that, since 222 is even, alternate terms which involve square roots will cancel. Only integral terms will remain, and hence Y is an integer.

Now, consider $Y - X = (\sqrt{3} - \sqrt{5})^{222}$. Since $|\sqrt{3} - \sqrt{5}| < 1$, $(\sqrt{3} - \sqrt{5})^{222}$ will be much less than 1, and will be positive.

It will be of the form 0.00...<many zeroes>...<string of nonzero digits>. Since Y is an integer, when this small number is subtracted from Y, it will give a number that is very slightly less than Y, i.e. a number of the form <some integer>.9999999...<many nines>...<string of digits>.

∴ The first digit after the decimal point is a 9.

Hence, option 5.

Solution #50: (05-Aug-08)

In the first sentence, 'intellectual glory suggests something to with the mind not the heart. Hence we can eliminate options 2 & 4 which speak of 'feelings'. In blank 2, 'heights' is an incorrect phrase. Hence we can eliminate option 5. In blank 2, 'height' fits in better than 'peak' contextually. In blank 3, 'reminisces' cannot be followed with 'in' as it becomes grammatically incorrect. For these two reasons, we choose answer option 3 over option 1.

Hence, the correct answer is option 3.

About TestFunda.com

TestFunda.com is an initiative by Enabillion Learning Private Limited. Enabillion is a sister-concern of Zeus Learning, an e-learning solutions company. Products designed and created by us are currently being used in thousands of US schools and colleges. Clients include some of the world's largest publishers and developers of educational software: Discovery Education, Reader's Digest, Pearson Education, etc.

TESTfunda.com is managed by four IIT-IIM Alumni. It has a 65+ member team of Educationists, Instructional Designers and Systems Architects with vast experience in MBA Coaching and Computer-Based Training and Testing. The TestFunda Team has 9 years of experience designing and creating international award-winning eLearning courses.