

SEM eCAT 03

INSTRUCTIONS

1. This test is divided into three sections, Sections 1, 2 and 3 have 25 questions each. You will be given two and half hours to complete the test. **Each section carries 100 marks. Each question carries four marks. Each wrong answer will attract a penalty of one mark.**
3. For each question, five suggested answers are given of which only one is correct. Choose the correct answer option.
4. Multiple answers will be treated as incorrect.
5. Use of calculators, scales and other measuring instruments is not permitted.
6. You will be required to demonstrate adequate competence on every section.
7. Wrong answers carry negative marks. Desist from guessing wildly.

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SECTION 1

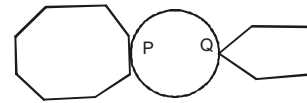
This section contains 25 questions

- What will be the 10th digit from the left of $(4007)^3$?
1. 4 2. 5 3. 6 4. 0 5. 1
- If $(00110\ 00100\ 00010\ 00011)_2 = (b)_{10}$ and $(b)_{10} = (c)_{32}$, then c is
1. 4546 2. 6423 3. 5412 4. 3254 5. 8745
- ABC bank had 3 schemes, X, Y, Z. In scheme X, the rate of interest was 4% P.A SI. In scheme Y, the rate of interest was 2% P.A SI and in scheme Z the rate of interest was 6% P.A SI. Three customers Mike, Tike and Pike were lent a total amount of \$74,000 in X, Y, Z schemes respectively. If Mike, Tike and Pike paid the same interest amount in 6, 12 and 5 years respectively. What is the amount borrowed by Mike.
1. \$18000 2. \$16000 3. \$20,000 4. \$15000 5. \$22000
- In the inaugural track and field event in India, there was a unique race. Runners had to run 15 laps of 400 m each. Bolt and Usain were neck to neck till the end of 3 laps. After 3 laps Bolt accelerated and went on to win the race by 96m. If Bolt gained uniformly over Usain in all the remaining laps, then what is the ratio of the speeds of Usain and Bolt for each of those laps?
1. 49:50 2. 36:40 3. 45:56 4. 57:86 5. 60:65
- Which among the numbers 100^{100} , 99^{101} , 98^{102} , 97^{103} , 96^{104} , 95^{105} is the largest?
1. 99^{101} 2. 100^{100} 3. 96^{104} 4. 95^{105} 5. 97^{103}
- The sum of 4 consecutive two digit odd numbers when divided by 10 becomes a perfect square. Which of the following can possibly be one of these 4 numbers?
1. 73 2. 25 3. 41 4. 67 5. 21
- If P is a prime number and P^2+1 is also prime, then what is the remainder when 2736 is divided by P^3+1 ?
1. 7 2. 2 3. 4 4. 6 5. 0

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Answer questions 8 to 10 based on the following

A special track is made up of a regular octagon, a circle, and a regular pentagon. 3 persons A, B, C are running around these tracks in a particular manner. A starts from P and reaches P (along the octagon). Simultaneously, B starts from P and reaches P (along circle) and in the same time, and C starts from Q and travels along the pentagon. All 3 of them start at the same time. The side of octagon = the radius of circle = the side of the pentagon.



8. What is the ratio of speeds of A, B, C?

1. 56: 44: 35 2. 45:50:30 3. 40:30:50
4. 10:20:30 5. 20:10:30

9. Consider the side of the regular octagon as 637 units and A's speed as 56 units/hr. After traversing the regular octagon, A starts travelling around the circle from point P in anticlockwise direction. Simultaneously C starts travelling around circle from Q in clock wise direction. How much time will A and C take to meet after starting the second round?

1. 20hr 2. 18hr 3. 10hr 4. 8 hr 5. 22hr

10. (Use data from question 9). if the side of the octagon increases by 10% and circumference of the circle decreases by 10%, what is the difference in time taken by A and C to complete one round around the respective tracks? (side of the regular octagon=7)

1. 15min 2. 12 min 3. 10min 4. 8 min 5. 22 min

11. ABC is an equilateral triangle. Let BE be perpendicular to CA meeting CA at E. Then $AB^2 + BC^2 + CA^2$ is equal to

1. $5AC^2$ 2. $8BE^2$ 3. $6BE^2$ 4. $8AC^2$ 5. None of these

12. The median AD of the ΔABC is produced to a point X, such that $AD = DX$. M is the mid point of AB. XM is joined, which intersects the side BC at N. Find the ratio of the lengths of XN and NM.

1. 1 : 1 2. 3 : 2 3. 7 : 4 4. 2:3 5. 2 : 1

13. X and Y are 2 digit numbers. If Y is a prime number less than 50 and X is a multiple of 6 then how many values satisfy Y such that X+Y is divisible by 7?

1. 11 2. 10 3. 14 4. 15 5. 16

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14. ABCDEF is a regular hexagon. If the circum-radius of $\triangle OAB$ is $4\sqrt{3}$, then what is the area of the circle which passes through the in-centers of all six triangles formed in the hexagon ABCDEF?

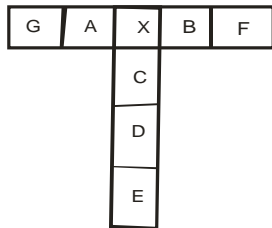
1. $36p$ 2. $48p$ 3. $\frac{81p}{4}$ 4. $50p$ 5. $60p$

15. In a chess competition involving some boys and girls of a school, every student had to play exactly one game with every other student. It was found that in 45 games both the players were girls, and in 190 games both the players were boys. The number of games in which one player was a boy and the other was a girl is

1. 200 2. 216 3. 235 4. 256 5. 300

Direction for question 16 – 18

A, B, C, D, E, F, G are numbers from 1 - 7 such that $GA = BF$, $ABC = X^2$, D is a perfect square. Given that X is not necessarily a distinct digit.



16. Find the value of $A + B$

1. 4 2. 2 3. 6 4. 3 5. 5

17. Find the value of $G + F$

1. 5 2. 8 3. 9 4. 4 5. None of these

18. What can be the value of E?

- i. 5 ii. 6 iii. 7

1. i only 2. ii only 3. iii only 4. i and ii only 5. i, ii and iii

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19. How many rectangles can be formed in 8 x 8 chess board such that a certain rectangle has exactly one black square and one white square?

1. 126 2. 112 3. 160 4. 240 5. 96

20. George takes six different subjects in his semester examination, in which the maximum marks for each paper was 50. His marks in the papers are in the proportion 8 : 9 : 10 : 13 : 14 : 15. Considering his aggregate in all the subjects together, he fails to obtain 60% of the total marks. What is the minimum possible additional marks George should get to obtain 50% of the total marks, given that he got integral marks in each paper?

1. 30 2. 31 3. 40 4. 42 5. 38

21. Given $f(x) = 4^x + 4^{-x}$ and $g(x) = \frac{5}{4}$. find the number of points at which the graphs of $f(x)$ and $g(x)$ intersect.

1. 0 2. 1 3. 2 4. 3 5. Infinite

22. Raj has Rs. 350 with him to buy three distinct types of articles, the number of articles of each type being a, b and c. The price per article is Rs. b, Rs. c and Rs. a respectively. The numbers a, b and c are consecutive integers. What minimum additional amount should he have so that after purchasing the articles he is left with no money?

1. Rs. a 2. Rs. b 3. Rs. c 4. Rs. a+b 5. Rs. b+c

23. Two solutions of milk and water are kept in two vessels A and B. The ratio of quantity of milk in vessels A and B is 4 : 5 while the ratio of quantity of water in vessels A and B is 8 : 9. It is known that the concentration of milk in one of these vessels is between 60% and 80%. What could be the concentration of milk in the other vessel?

1. 55% 2. 70% 3. 75% 4. 85% 5. 50%

24. $\sqrt{x+\sqrt{3x-2}} + \sqrt{x-\sqrt{3x-2}} = P$, where x and P are integers. Which of the following could be the possible value(s) for 'P'?

1. 3 2. 2 3. 4 4. 5 5. 1

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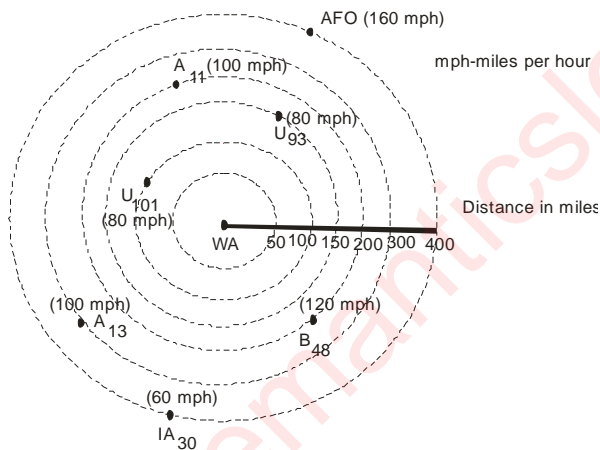
25. In the trapezium ABCD, AD is parallel to BC and $AB = 6$, $BC = 5$, $CD = 8$, $AD = 15$. If sides AB and CD are extended to meet at E, find the measure of $\angle AED$.

1. 60° 2. 90° 3. 100° 4. 120° 5. 110°

SECTION 2

This section contains 25 questions

Answer questions 26 to 30 based on the graph given below.



- AFO → Air Force One U → United Airlines IA → Indian Airlines
 A → African Travels B → Boston Airlines

The above graph is the graph of the radar signals on 11/09/2003 in the Washington DC airport control room. The center dot is the Washington DC airport. The speeds of each airplane are given.

26. The president wanted to reach the White House fast. Thus Air Force One (AFO) was given the highest priority to land. Calculate the fuel wasted due to this sudden decision in the other air-machine if each mile consumed by the air machine = loss of 0.3 gallons of fuel.

1. 405 gallons 2. 360 gallons 3. 240 gallons 4. 120 gallons 5. 100 gallons

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27. The given distance from the airport is only the ground level distance. But the circular paths of the air machines are placed at different altitudes (increasing order). Assuming that AFO starts taking its tangential path to the airport, find the ratio of altitudes between AFO and U_{93} 's path from the airport to the AFO's altitude.

1. 5:8
determined
2. 3:8
3. 1:2
4. 5:3
5. cannot be determined

28. AFO is given the first priority to land. But on 11th September, u_{93} was hijacked and the ploy was to destroy AFO in air. At what speed should u_{93} travel to crash AFO on air when AFO reaches u_{93} 's circular path? (assume 1 rotation for u_{93})

1. $192 p$
determined
2. $189 p$
3. $210 p$
4. $200 p$
5. cannot be determined

29. Assuming that the flight A_{13} is equidistant from both A_{11} and B_{48} . Find the distance from one of the air-machine to A_{13} ?

1. 221
2. 222
3. 223
4. 220
5. 200

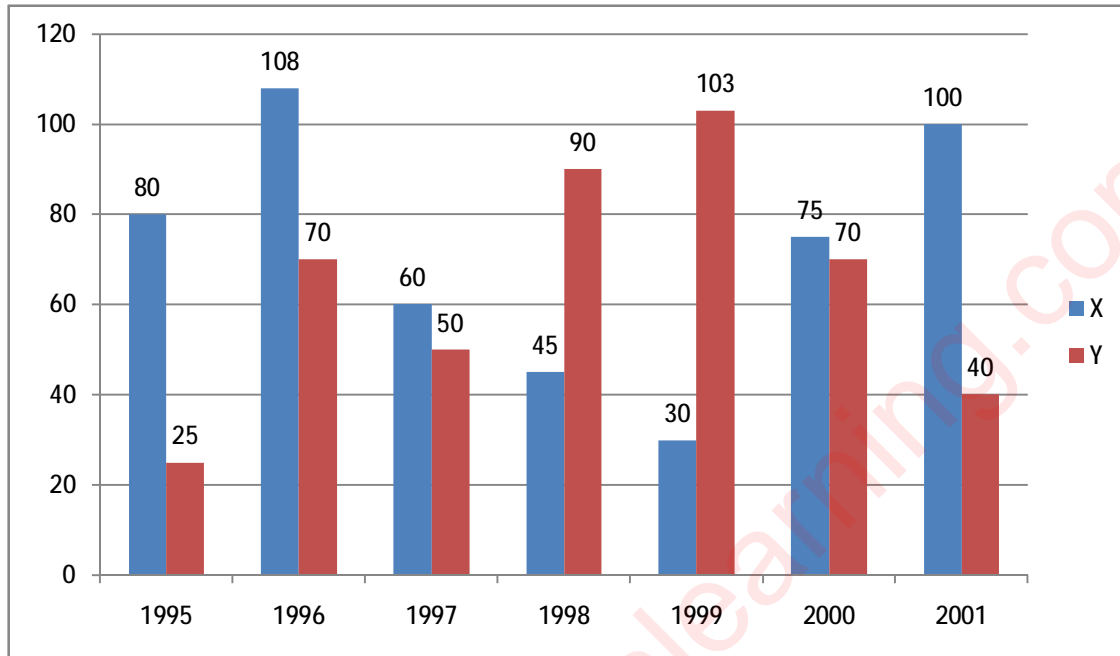
30. From the graph we know A_{11} and B_{48} are on the circular path and at same altitude. Take the other conditions from question (26). Which of the following will be necessarily true?

- Most fuel is lost in this circular path
- The two planes in the path crash

1. TT
2. TF
3. FT
4. FF
5. Both statements are inconclusive

For question 31 to 35

Study the following graph and answer accordingly. The graph shows the percent profit of two manufacturing companies over the years. Percent profit = (income – expense)/ expense x 100



31. If the income of company X in the year 2000 was the same as the expenditure of company Y in the year 1995. Find the ratio of the income of company Y in the year 1995 to the expenditure of company X in the year 2000.
1. 35:16 2. 32:35 3. 7:5 4. 5:7 5. 7:5
32. The income companies X in the year 1997 and the income of company Y in 2001 are Rs.40 lakh and Rs. 30 lakh respectively. Find the difference in the expenditure of companies X in 1997 and expenditure of company Y in the year 2001 respectively.
1. 4 2. 3.5 3. 5 4. 2.5 5. 2
33. If the income of company X in the year 1995 was Rs. 75.60lakh find its expenditure in the same year.
1. 25 lakh 2. 40 lakh 3. 42 lakh 4. 28 lakh 5. cannot be determined

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34. If the total expenditure of company Y in 1996 and 2000 together was Rs 140lakh, what was the total income in these years?

1. 238
determined
2. 279
3. 248
4. 289
5. cannot be determined

35. In how many of the given year's expenditure as a proportion of the income would be less than or equal to 50% in their losses when the percentage profit is greater than or equal to 100? What is the average profit percent of company x over the years 1995 to 2001?

1. 71.2
determined
2. 68
3. 50
4. 75
5. Cannot be determined

For question 36 to 40

IT industry in India (Figures are in million US \$)

	1994-95	1995-96	1996-97	1997-98	1998-99
Software					
Domestic Exports	350 485	490 734	670 1083	950 1750	1250 2650
Hardware					
Domestic Exports	590 177	1037 35	1050 286	1205 201	1026 4
Peripherals					
Domestic Exports	148 6	146 6	181 14	229 19	329 18
Training	107	143	185	263	302
Maintenance	142	172	182	221	236
Networking & Others	36	73	156	193	237
Total	2041	2886	3807	5031	6052

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36. Which one of the following statements is correct?

1. The annual software exports steadily increased but annual hardware exports steadily declined during 1994 – 99.
2. The annual peripheral exports steadily increased during 1994-99.
3. The IT business in training during 1994 – 99 was higher than the total IT business in maintenance during the same period.
4. The annual software and the hardware exports steadily increased 1994 – 99.
5. None of the above.

37. The total annual export lay between 35 and 40 percent to the total annual business of the IT industry, in the years:

1. 1997-98 and 1994-95
2. 1996-97 and 1997-98
3. 1996-97 and 1998-99
4. 1996-97 and 1994-95
5. None of the above

38. The highest percentage growth in the total IT business, relative to the previous year was achieved in:

1. 1995 – 96
2. 1996 -97
3. 1997-98
4. 1998-99
5. 1994-95

Additional instructions:

For any activity A, year X dominates year Y if the IT business in activity A, in the year X, is greater than the IT business, in activity A in the year Y. For any two IT business activities A and B, year X dominates Y if.

- The IT business in activity A, in the year X, is greater than or equal to the IT business, in activity A in the year Y.
- The IT business in activity B, in the year X, is greater than or equal to the IT business in activity B in the year Y.
- And there should be strict inequality in the case of at least one activity.

39. For the two IT business activities, hardware and peripherals, which of the following is true?

1. 1996 – 97 dominates 1995-96
2. 1996 – 99 dominates 1995-96
3. 1997 – 98 dominates 1998-99
4. 1998 – 99 dominates 1994-95
5. None of these

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40. For the IT hardware business activity, which of the following is not true?

1. 1997 -98 dominates 1996-97
2. 1997-98 dominates 1995-96
3. 1995-96 dominates 1998-99
4. 1998-99 dominates 1996-97
5. 1998-99 dominates 1995-96

Answer questions 41 to 45 based on the information given below.

There are 9 residents whose ages are between 20 and 60, who live in 5 flats A,B,C,D and E. 5 maids U,W,X,Y and Z work in these flats(not in any particular order)

There are 3 residents with the same age. There are two pairs of residents with similar ages. Average age of flat D residents is between 25 and 45. Flats C and E have the same number of people.

Flat B has 2 people aged 40 and 50. The average age of flat A occupants is 25.

Z works in flat E and is not working in a flat in which the occupant's ages are 20 and 30. Maid Y works in a flat with 3 people

41. If a person whose age is 60 is in flat C, then what is the age of the person who is in flat E?

1. 20
2. 30
3. 40
4. 50
5. 60

42. What is the possible average age of all the people in flats A to E?

1. 36.55
2. 37.66
3. 34.44
4. 42.34
5. 33.44

43. If W works in the flat, the occupant of which has an average age of 40, then X can work in which all flats?

- I. A
- II. B
- III. C
- IV. D

1. I only
2. II or III only
3. I or II or III only
4. I or II only
5. I or II or III or IV

44. Which of the following ages is common among 3 people?

1. 30
2. 20
3. 40
4. 50
5. 60

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45. What is the average age of flat D occupants?

1. 26.66 2. 37.66 3. 45 4. 25 5. 35

Answer questions 46 to 50 based on the information given below.

At a wine tasting party, 10 people tasted and indicated their preference of 5 wines – Napoleon, Kingfisher, Haywards 5000, Bagpiper, Royal Challenge by method of paired comparison. After all the comparisons, the tastiest drink was adjudged as the ‘best drink’.

Each cell in the following table indicated the number of people who adjudged the ‘row’ wine to be tastier than ‘column’ wine.

	Napolean	King fisher	Haywards 5000	Bag Piper	RC
Napolean	-	5	7	10	3
King fisher	5	-	4	9	6
Haywards 5000	3	6	-	6	7
Bag Piper	0	1	4	-	4
RC	7	4	3	6	-

46. Which drink was judged to be the tastiest?

1. Napolean 2. Kingfisher 3. Haywards 5000 4. Bagpiper 5. Royal Challenge

47. Which drink was judged to be the least tasty?

1. Napolean 2. Kingfisher 3. Haywards 5000 4. Bagpiper 5. Royal Challenge

48. How many comparisons did each person make?

1. 5 2. 10 3. 15 4. 20 5. 25

49. Which is the second tastiest drink?

1. Napolean 2. Haywards 5000 3. King fisher 4. Royal Challenge
5. Bagpiper

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50. If two people who earlier rated Napoleon higher than Royal Challenge and two people who rated Haywards 5000 higher than Bagpiper reverse their judgments, which drink becomes the 'best drink'?

1. Kingfisher
2. Royal Challenge
3. Napoleon
4. Haywards 5000
5. Bagpiper

SECTION 3

This section contains 25 questions

Directions for questions 51 to 55 : Read the passage and answer the questions based on what is stated or implied in the passage.

Passage 1:

Abstract art, the main contributions of 20th C to art history, is definitely its distinctive movement. Nobody until the dawn of 20th C had thought of painting a picture that did not represent something – a face, a body, a landscape, a still life. The idea that art could be unmoored from appearances, that marks on canvas could convey emotions, spiritual states and pleasures quite independently of any reference to the world as we know it, had a long ancestry in theory. Plato, after all, raised the idea that there were certain perfect forms – the square, the circle and so on – that move us in a way free from the itch of desire.

But in reality, it wasn't tried in any systematic fashion until early 20thC, when the chief proponents of abstract painting – Wassily Kandinsky and Kazimir Malevich (both Russians) and Piet Mondrian (a Dutch) – came to believe that pure form, in opposing what they saw as the deadly materialism of European culture, could open the way to a world of pure spirit. Abstraction would become language, the key to utopian states of mental and social harmony that had been only dimly implied in art before. Abstract art would be the music of the spheres for the 20th century, manifesting, wrote Malevich, 'the spiritual, therefore the divine, the universal.'

This faith in a new world order induced by art collapsed soon enough; today it looks like a fossil from the early Messianic era of modernism. In fact, none of the more exalted claims made of abstract art over the past century have worn well. In the first flush of optimism after the 1917 Revolution, artists like Vladimir Tatlin hoped that abstraction, made of the common materials of the workers, could lift dialectical materialism to a new plane and so become the basis of a popular art. These dreams ended in indifference.

Abstract painting lapsed into mannerism in Europe by the late 1930s and was revived in America by artists who discarded its utopian fantasies and replaced them with ideas related to epic space, primitive

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ritual, spontaneous gesture and the sublime. But who today still buys the rhetoric that surrounded Abstract Expressionism?

At every point in its long life, abstraction laid claim to a myth of progress. It was the necessary next stage in art, which went forward by throwing out everything not intrinsic to its nature. Art was heroic reductionism, a long-term contest with history. On that basis, it became a world class academy-without-walls. But since no one practically believes anymore that there is such a thing as progress in art, this view has taken a terrible beating. The idea that pure abstraction admits you, as artist or as viewer, to superior domains of experience flounders on competitive ideas of purity. First you throw out the bath water, then the baby and then the bath.

51. The quoted lines 'the spiritual, therefore the divine, the universal', refers to
1. The perfect forms in art as suggested by Plato.
 2. The art forms that liberate us from desires.
 3. The world order from the abstractionist perspective
 4. The spiritual states depicted in abstract art with matter as the reference point
 5. The representation of human body and landscapes in quasi-divine forms
52. The author of the passage concedes which of the following about abstract art?
1. It was a progressive movement in art.
 2. It was a notable chapter in art history.
 3. It introduced a new universal grammar.
 4. It discredited the artificiality in the works of the non-representational artists.
 5. It defied the artistic norms put forward by western artists.
53. Which of the following can be inferred from the passage about the response of twentieth century American artists to abstract art?
1. American artists wholeheartedly embraced abstract art unlike their European counterparts.
 2. The American artists' progress became a reality mainly through abstract art.
 3. American artists made exalted claims on the modernist elements in abstract painting.
 4. American artists, unlike European painters, repudiated the spiritual and universal elements in abstract art.
 5. American artists integrated more realism into abstract art to bring it back in vogue.
54. 'Art was heroic reductionism' (concluding para). Which of the following best restates the above statement?
1. Art daringly oversimplifies and distorts complex ideas.

SEM/e CAT/1003

2. Artists are treated as heroic figures by art reductionists.
3. Art distorts reality to the extent that exact representation is difficult.
4. Art as more of a creator's fantasy than as the representation of reality
5. Artists being considered as heroic, larger than life figures, thus reducing the significance of art itself.

55. The concluding lines of the passage most necessarily refer to

1. The meaninglessness of the rhetoric surrounding abstract expressionism
2. The negative consequences of the artistic progress made in twentieth century
3. The instability of abstract art in the face of modern thought.
4. The decline and rejection of abstract art.
5. The failure of the efforts to revive twentieth century art movement.

Directions for questions 56 to 60 : Read the passage and answer the questions based on what is stated or implied in the passage.

Passage 2:

When you think Albert Camus, you think existentialism. In his essays he wrote that his life was devoted to opposing the philosophy of nihilism even as he upheld individual freedom. Existentialism is broadly a term applied to the work of several 19th and 20th century philosophers who, despite profound doctrinal differences, took the human subject – not merely the thinking subject, but the acting, feeling, living human individual and his or her conditions of existence – as a starting point for philosophical thought.

Camus still manages to endear himself to young readers. What is it in his writings that make some of his books 'unputdownable' even today? Is it the short, bland sentences that convey more than they say? Or is it that you don't just read the lines, but also between the lines? Or are the plots so ordinarily extraordinary? Though Camus was a journalist what manifests itself in the popular realm is his fiction and short stories.

He did not also profess to be an anarchist, but as a sympathizer wrote for anarchist publications and stood by them when they supported the uprising of 1953 in East Germany and worker's uprising in Poland in 1956. Though Camus had a highly active political life and later his friendship with Sartre was widely reported, it is his novels which delve deep into philosophy that keep him alive and repeatedly read even today. His work *The Rebel* was called a philosophical analysis of rebellion and revolution, and where his rejection of communism became clear. Camus faced heavy criticism for the work and is said to have even lost his friendship with Sartre after this.

SEM/e CAT/1003

The author's most important contribution to philosophy was his concept of the absurd, which he outlined in *The Myth of Sisyphus* and reflected in other works. *The Stranger* is one of his most popular books, even read by the young today and studied in some academic courses across the world. What endears it to readers is the manner in which the Algerian protagonist, Meursault, manages to keep a clinical distance between himself and his emotions. The plot has this dispassionate, disengaged youth love without loving, befriend without feeling or meaning to and eventually kill a stranger without really wanting to. The subsequent trial is as absurd, but attractive to young audiences who feel the same alienation, the same dilemmas even in the 21st century.

The Plague and *The Fall* also continue the same philosophical tradition and are must reads for those who want to imbibe Albert Camus, the author. The author's deep talent to look squarely at life, evolve as an activist and reflect philosophically is often attributed to his childhood when he was forced to live in challenging conditions of poverty, and later in life his battle to overcome tuberculosis.

56. Which of the following best describes existentialist philosophy?

1. Dealing with something that the writer professes he is not.
2. Denying individual freedom that conflicts with the society's larger goal.
3. Building a world view around man's actions and emotional conditions.
4. Unifying the profound thoughts of certain philosophy.
5. Confronting the human conditions more rationally and courageously.

57. 'Is it the bland sentences that convey more than they say': the reviewer's tone pronounced in this statement is one of

1. serious admiration
2. comic imitation
3. obvious reservation
4. blatant objection
5. subtle opposition

58. One of the features of Camus' writing that makes him popular even now, as understood from the passage is

1. its ornamental style
2. its social message
3. its universal relevance
4. its profundity
5. its academic significance

59. Which of the following cannot be attributed to Albert Camus?

1. Courage of conviction in opposing political ideologies that he perceived as erroneous.
2. Escapism from the realities of every day life through self denial.
3. Expressions of philosophical thought through fiction.

SEM/e CAT/1003

4. The existential angst that runs through fiction and other works.
5. The poignant narration of personal dilemmas and conflicts through the protagonists in the novels.

60. Which of the following best replaces the non-standard usage 'un-putdownable' (used in para 2)?

1. captivating
2. redoubtable
3. Un-criticisable
4. Incomprehensible
5. hilarious

Directions for questions 61 to 65 : Read the passage and answer the questions based on what is stated or implied in the passage.

Passage 3:

Exceptions to adaptive behavior in animals occur when their conditions of life are abruptly changed. The existence of such non adaptive tendencies can be understood from its advantage to the animal. Animals pursue what is good for them. Since the conditions of life for the higher animals are complex, and not constant over long periods, present behavior is usually found to be only moderately well adapted. As a consequence we find that desire and pleasure are more or less divorced from physiological usefulness. In the case of man, it is impossible to explain all his tastes and desires on the simple principle that they lead to useful behavior. In many cases they are survivals from a time when he lived in quite different conditions; and while they may have been adapted to his needs at one time in the past, they are sometimes far from being adaptive now. Adaptation is not a law of organic behavior. It is merely a common consequence of those laws. It is the rule.

The universal proliferation of magical beliefs and practices is one of the most startling instances of non adaptive human behavior. Abstraction forms the basis of learning from experience without which the repetition of the same experience, the same situation becomes meaningless. But in reality no situation is exactly repeated, and unless irrelevant differences could be ignored, recognition of a situation would be impossible. It is only to the more extreme cases of such ignoring of differences that the term abstraction is usually applied. But there is no important psychological difference between a dog's recognition of the effective situation 'bone' ignoring irrelevant accidents, and a man's recognition of the effective situation 'drug'. In each case situations that are actually different are responded to as they were the same in virtue of certain common elements which, taken together, constitute the effective situation. Unless these elements are correctly selected, the response will be inappropriate, and the animal is then said to mistake one thing for another.

There are possibilities of multiplying error and confusion with more and more experiences. In the complex sequence of human behavior the inappropriateness of a response is not always obvious. Someone who responds to a conflagration by treating it with ether, believing the substance to be a good

extinguisher, will indeed experience a rude shock, and if he survives, the belief will not survive with him. But he can readily retain for the whole of his life all manner of fantasies concerning matters where the effects of his own actions are less immediate. In such cases he cannot easily devise an alternative method of his own but tends rather to act in the manner he has learned from tradition. If what he does fails in due course to produce the desired result, he may well ascribe the failure to some omission of his own, some error in carrying out the traditional procedure.

61. If there is no sudden change in the conditions of life, which of the following would be true?

1. Organisms pursue life-enhancing experiences.
2. Adaptations to environmental conditions continue to occur.
3. Animals would try to bring in alterations in those conditions.
4. Adaptive behaviors would cease to exist.
5. All of these

62. Which of the following is/are prerequisites for the formation of abstraction?

- a. Encountering a situation again and again
- b. Discerning clear distinctions between situations
- c. Establishing similarity between situations

1. a and b 2. a, b and c 3. b and c 4. a and c 5. a only

63. Overlooking apparently ignorable differences between experiences

1. Helps form a generalization by unifying common elements.
2. Enables the use of instinctive responses to analogous situations.
3. Helps bridge the gap between two occurrences.
4. Enables formulation of an approach to learning.
5. Can result in erroneous learning.

64. If an animal mistakes one situation for another the most likely reason is

1. the wrong selection of common elements in the two situations.
2. the lack of common elements in the two situations.
3. the choosing of a unfamiliar clue.
4. the tendency to consider as important trivial elements.
5. None of these

65. Which of the following best summarizes the last paragraph of the passage?

1. The process of abstraction is unique to human beings.
2. In humans, response to known situations would not depart from tradition.
3. Responses to trained stimuli are uniform across animals.
4. If a response to a situation fails, humans are capable of innovating a different tactic.
5. The process of abstraction increases as man's range of experience increases.

Directions for questions 66 to 70 : Listed under each question are four sentences. Categorize each of the sentences as Fact (F), Inference (I), Judgment (J).

Fact (F) describes what we have seen, heard or read; they are capable of verification and exclude inferences and judgments.

Inference (I) means a statement about an unknown made on the basis of a known.

Judgment (J) implies an approval or disapproval of objects, occurrences or persons described.

Choose the sequence, which correctly describes the classification of sentences.

66.

- A. Learning how to adapt to change has become one of the primary objectives of education.
- B. From their very infancy, human beings begin to learn by acting, participating and experimenting and not merely passive listening.
- C. Accordingly the role of the teacher in fostering such a learning environment becomes crucial and requires dedication.
- D. Yet in many places the teacher is undervalued, underpaid and given a relatively lower status in society.

1. IFJF 2. JFIF 3. FIFJ 4. IFFJ 5. JFFI

67.

- A. For decades, states have been clamoring for financial freedom.
- B. Of late, the question of financial autonomy for states, has gained .
- C. Funds for rural development schemes have to come through the centre
- D. Successive finance commissions have failed to rise to the aspiration of the states

- 1.IIFJ 2.IIFF 3.JIIF 4. FFUJ 5. FIFJ

SEM/e CAT/1003

68.

1. The French government has obtained sanction to spread its business wings in India.
2. In the foreign investor's perception, Indian Industry is disorganized.
3. Consumption of wine in India is negligible against the global level of 3.2 billion cases a year.
4. The Bordeaux industry of France is keen on developing vineyards in Karnataka.

1. IFFI 2. FIFJ 3. FJFI 4. IJJJ 5. FIJJ

69.

1. Financial discipline is defined in economic terms as financial autonomy.
2. The micro level financial restlessness is a reflection of what is going on at the apex.
3. There is no prudent use of available resources when it comes to micro level funding.
4. Despite massive tax efforts, revenue expenditure exceeds revenue receipts.

1. JFII 2. FJJF 3. IJFI 4. JIFI 5. FFII

70.

1. Unemployment generated by our universities has led to frustration among the youth.
2. The total number of educated work seekers in the employment exchange is on the increase.
3. Acquisition of higher degrees has not led to better employment opportunities.
4. Degrees are no longer passports to better career and life.

1. IIFJ 2. FIJI 3. IJFJ 4. JIJJ 5. FIFI

Directions for questions 71- 75 : Each of the following questions has a paragraph from which the last sentence has been deleted. From the given options, choose the sentence that completes the paragraph in the most appropriate way.

71. In meditation, one takes a desired thought and ride over it. This thought begins its inward journey. It passes through various layers of inner consciousness – conscious, subconscious and unconscious, getting subtler and subtler, till it merges in the substratum in the vast ocean of thought-free pure awareness. It is from this source that thought had arisen in seed form and achieved its final evolutionary form at the conscious level; during its outward journey it had gathered various components of knowledge in the form of symbols, memory, ideas, beliefs and meaning.

1. Mediation is a form of introspection.
2. Thought processes characterize every level of one's consciousness.

3. The mental well being of an individual is complementary to his physical health.
 4. Meditation aids in enhancing the faculties of the mind.
 5. Consciousness evolves from other layers of the mind.
72. Grapes can, to a greater extent, prevent cancer, making it a good source of antioxidants two or three times more potent. Resveratol, a compound found in grape skins that has antioxidant and anticancer properties, is considered largely responsible for the beneficial effects of drinking red wine. The results contradict a previous study that used higher levels of irradiation and grapes picked before they ripened. Though the researchers studied only a Spanish variety known as Napoleon table grapes, the findings can apply to other grapes used to make wine.
1. Wine made without refrigerating the grapes does not have health benefits.
 2. Resveratol is found more in grape skin than in other fruit skins.
 3. An Indian grape variety known as Mysore grapes, refrigerated before making wine was found to have lower levels of resveratol.
 4. Low level irradiation and refrigeration of grapes before they are made into wine can magnify the healthful effects of drinking wine.
 5. Drinking wine made from refrigerated wine is more beneficial than garden fresh varieties.
73. If India's nuclear explosions raised a barrage of criticism from the West and China and was seen as a threat to the neighboring countries, it was very wisely evaded by the Sri lankan government. Decrying the sanctions imposed on India by the US, the Sri Lankan premier said, 'imply judgment from a high moral ground'. The US sanctions have in fact hit the US corporations, which were hoping to seek out the big emerging market of India and they had been exerting pressure for the lifting of the same. This is just an instance of a big bullying country being made to look foolish.
1. The US sanctions on India have benefitted other countries.
 2. Except for two countries, the international community had a more tolerant attitude toward India's nuclear tests.
 3. The US corporations in India are outperforming their local counterparts.
 4. The Sri lankan foreign minister is supportive of India's defense strategies.
 5. The US has realized that India had a mind of its own and may not submit to pressure tactics.
74. A Political cartoonist must deliver a daily illustrated epigram to reader's breakfast tables, saying just enough to raise a smile, give pause for thought and refresh the spirit, but nothing so biting that it has the opposite effect. He must never transgress the fine line that divides

cheerful caricature from brutal satire. He can banter but must not lampoon. He must have a social conscience and unerring political antenna but cannot become a passionate advocate or plug a party's political agenda. No wonder, the good political cartoonist is a prized commodity, worth his weight in gold and often thought to be rare than gold dust.

1. A political cartoonist doesn't have the freedom to work for his creative satisfaction.
 2. Political cartoonists generally distance themselves from political parties.
 3. A political cartoonist has to function within a defined convention.
 4. Social conscience is a rare commodity these days.
 5. Political cartoonists, who cross the line of decency are a dreaded lot.
75. Ocean water plays an indispensable role in supporting life. The great ocean basins hold about 300 million cubic miles of water. From this vast amount, about 80,000 cubic miles of water is sucked into the atmosphere each year by evaporation and returned by precipitation and drainage to the ocean. More than 24,000 cubic miles of rain descend annually upon the continents. This vast amount is required to replenish the lakes and streams, springs and water tables on which all flora and fauna are dependent.
1. As a result, water has properties unlike those of any other liquid.
 2. Thus, the ocean can absorb and store vast quantities of heat.
 3. Consequently, the ocean is capable of stalling climate extremes.
 4. Thus, the hydrosphere permits organic existence.
 5. By contrast, the hydrosphere has strange characteristics.

Please email urmentor@semanticslearning.com for answer key and solutions