

IBSAT Model Paper – 2

Section I

Verbal Ability

I. Directions: In the following questions, each word is followed by five options. Choose the option which is the closest **synonym** of the given words. While choosing your answer, keep in mind the finer distinctions in the meaning and usage of certain words.

1. DISASTER
 (a) Trouble (b) Distress (c) Hardship (d) Calamity (e) Poorness
2. SUMMIT
 (a) Proposal (b) Peak (c) Resource (d) Expansion (e) Evidence
3. IMPERIOUS
 (a) Domineering (b) Ravenous (c) Striking (d) Effervescent (e) Humdrum
4. QUIESCENT
 (a) Serene (b) Concomitant (c) Dormant (d) Clammy (e) Hopeless
5. MELEE
 (a) Kindness (b) Fervor (c) Rush (d) Melody (e) Brawl

II. Directions: In the following questions, each word is followed by five options. Choose the option which is the closest **antonym** of the given words. While choosing your answer, keep in mind the finer distinctions in the meaning and usage of certain words.

6. PROHIBIT
 (a) Prevent (b) Allow (c) Honor (d) Divert (e) Admire
7. PACIFY
 (a) Operate (b) Advise (c) Direct (d) Aggravate (e) Execute
8. VITIATE
 (a) Trust (b) Deadend (c) Drain (d) Rectify (e) Amuse
9. TRITE
 (a) Peaceful (b) Powerful (c) Noiseless (d) Skeptical (e) Original
10. TACITURN
 (a) Belligerent (b) Conceited (c) Loquacious (d) Restive (e) Challenging

III. Directions: In the following questions, the first two words are related in a particular manner. You have to choose a word from the options so that a new pair of words is formed where the relation is the same as that of the first pair of words. You are required to consider the secondary meaning of certain words while choosing an answer.

11. Gloves : Hand :: Scarf :
 (a) Feet (b) Waist (c) Head (d) Arm (e) Wrist
12. Artist : Paint :: Sculptor :
 (a) Chisel (b) Water (c) Color (d) Stone (e) Drill
13. Song : Cycle :: Sonnet :
 (a) Ballad (b) Melody (c) Rhyme (d) Sequence (e) Epic
14. Lumber : Bear :: Waddle :
 (a) Parrot (b) Pigeon (c) Goose (d) Hawk (e) Sparrow

15. Watch : Wrist :: Girdle :

- (a) Waist (b) Finger (c) Elbow (d) Arm (e) Neck

IV. **Directions:** Fill in the blanks with the words that **best** fit the meaning of the sentence as a whole.

16. Science is the knowledge by which we can _____ nature and use it for our _____.

- (a) estimate ... profit (b) imagine ... life
 (c) understand ... benefit (d) plan ... growth
 (e) maintain ... prosperity

17. The culture of a person, society or nation is _____ on how the citizens _____ children, women and aged people.

- (a) calculated ... manage (b) estimated ... nurture
 (c) settled ... honor (d) measured ... treat
 (e) understood ... address

18. If a nation is unable to come to _____ on interpreting its own past, it will be unable to _____ its national interests.

- (a) conclusion ... plan (b) terms ... design
 (c) decision ... comprehend (d) consensus ... formulate
 (e) consolidation ... meet

19. Globalization _____ both prosperity and _____.

- (a) causes ... development (b) spreads ... distress
 (c) reveals ... doom (d) condemns ... bliss
 (e) transmits ... generosity

20. A _____ approach in considering options and working on them even before a job loss stares us in the face can help us get _____.

- (a) planned ... moving (b) simulative ... going
 (c) tentative ... started (d) fair ... advancing
 (e) proactive ... ahead

V. **Directions:** In the following questions, each sentence is divided into four parts (a), (b), (c) and (d). Find out which part of the sentence contains an error. If there is no error, mark your answer as (e).

21. A little/ of good habits/ make our/ life happy. No error

- (a) (b) (c) (d) (e)

22. He planned/ to not go/ on a vacation/ this year. No error

- (a) (b) (c) (d) (e)

23. Language cannot be static;/ it must constant evolve/ to keep up with changing times/

- (a) (b) (c)

and remain relevant. No error

- (d) (e)

24. If he would have taken rest/ as advised by the doctor,/ he might not have/

- (a) (b) (c)

had a second heart attack. No error

- (d) (e)

25. Minton is an/ outstanding boxer,/ with tremendous confidence/ at his own ability.

- (a) (b) (c) (d)

No error

- (e)

VI. Directions: In each of the following questions, a part of the given sentence has been underlined as this part **may have** an error. The first option is the same as the underlined part in the given sentence. Choose this option if you think that the underlined part has no error. Otherwise, choose the option that rectifies the error in the underlined part of the given sentence.

26. All the members of the club was assembled to celebrate the fiftieth anniversary of the club.
 (a) was assembled to celebrate (b) were assembling to celebrate
 (c) assembled to celebrate (d) is being assembled to celebrate
 (e) assembling to celebrate
27. A well-behaved boy is always obedient for his parents.
 (a) always obedient for his parents (b) always obedient of his parents
 (c) always obedient to his parents (d) obedient always to his parents
 (e) always obedient towards his parents
28. In many corporations, employees are replace by automated equipments so that to save money.
 (a) Are replace by automated equipments so that to
 (b) Are being replaced by automated equipment in order to
 (c) Were replaced by automated equipment so as to
 (d) Are replacing by automated equipment such that
 (e) Replaces by automated equipment accordingly to
29. Tropical forests play a key role as the world's carbon and wildlife reservoirs.
 (a) Play a key role as the world's
 (b) Had played a key role in the world's
 (c) Have been played a key role at the world's
 (d) Has played a key role for the world's
 (e) Plays a key role beside the world's
30. In view of the energy shortage, solar and wind energy will have to be systematically tapped.
 (a) will have to be systematically tapped
 (b) would have to be tapped systematically
 (c) will have to be tapped systematically
 (d) systematically has to be tapped
 (e) systematically to be tapped

VII. Directions: In the following questions, different parts of a sentence/passage have been jumbled. Choose the option that represents the **best** sequence to make the sentence/passage coherent and meaningful. Ignore punctuation marks.

31. P: Technology and design that would encourage
 Q: Conservation and smart living in order to alleviate rather
 R: Than aggravate problems associated with urban growth
 S: The process of expansion must incorporate clean
 (a) SRQP (b) SPQR (c) PSQR (d) SQRP (e) QPSR
32. P: Norms follows in a long series of steps to ensure transparency
 Q: Laws and practices in terms of their consistency with human rights
 R: And accountability of multi-national corporations
 S: The United Nations initiative to evaluate national corporate
 (a) SQPR (b) QSPR (c) SPRQ (d) QRSP (e) SQRP
33. P: Developed countries, including European economies and to a lesser extent
 Q: Nevertheless, managed to maintain robust rates of economic growth
 R: Developing countries have been affected as well, but they have
 S: Japan, have been hit by the crisis in the US
 (a) QRSP (b) SRQP (c) RSQP (d) PSRQ (e) QSPR

34. P: Telescope arrays in the Northern and Southern hemispheres
 Q: In Leh for an international collaboration that is
 R: India plans to offer an astronomical site at Hanle
 S: Exploring the possibility of setting up two large gamma-ray
- (a) PSQR (b) SPRQ (c) RQSP (d) QPRS (e) QSRP
35. P: Harsh and draconian laws will not only violate the right to liberty granted by Article 21 of the Constitution
 Q: And other law enforcing agencies, which will have much more opportunity
 R: To extort money from the citizens, apart from impeding scientific and economic growth
 S: But also lead to great evils such as an increase in corruption in the police
- (a) PSQR (b) QRPS (c) SQPR (d) QRSP (e) RQPS

VIII. Directions: Choose a suitable **one-word substitute** for the given phrase from the options under each question.

36. The unauthorized use or reproduction of another's work.
 (a) Copyright (b) Patent (c) Piracy (d) Privacy (e) Replica
37. A union or association formed for mutual benefit.
 (a) Communion (b) Ratification (c) Trustee (d) Alliance (e) Society
38. An action that is bad or unacceptable, but not very serious.
 (a) Felony (b) Etiquette (c) Misdemeanor (d) Repression (e) Concord
39. An animal or plant that lives in or on another animal or plant.
 (a) Sycophant (b) Bigot (c) Proselyte (d) Chauvinist (e) Parasite
40. The practice or art of choosing, cooking and eating good food.
 (a) Cuisine (b) Catering (c) Gastronomy (d) Nutriment (e) Buffet

IX. Directions: Choose the option that **best** expresses the meaning of the given idiom/phrase.

41. Discipline is *on the wane* in schools and colleges these days.
 (a) Increasing (b) Becoming weaker (c) Top priority
 (d) At high standard (e) Maintained
42. The robbery was committed in the *wee hours of the day*.
 (a) After midnight (b) At dawn (c) At noontime (d) In the evening (e) Before sunset
43. She was sure to *steal a march* upon her rivals.
 (a) Oppose (b) Confront (c) Outshine (d) Avoid (e) Compromise
44. The *carrot and stick* policy pays dividends in every organization.
 (a) Rigorous training (b) Continuous vigilance
 (c) Democratic approach (d) Reward and punishment
 (e) Authoritative style
45. The class could not *keep a straight face* on hearing the strange pronunciation of the new teacher.
 (a) Remain sober (b) Remain calm
 (c) Remain silent (d) Remain indifferent
 (e) Remain serious

- X. **Directions:** Replace the number with the word(s) that **best** fit(s) the meaning of the passage as a whole.

The employees must be able to **46** the right balance among their personal, professional and social life. There is a **47** need to take time off their routine work. They should plan for vacation or tours to **48** stress. At the workplace too, the employees should take regular breaks after lunch, do light physical exercises and talk to their colleagues. At home, it is necessary to do yoga or meditation or physical exercises to **49** their stress levels so that they can go for work with energy and enthusiasm. Being **50** at the workplace and taking feedback helps in solving problems.

46. From the following select the appropriate word to replace number 46 in the above passage.
(a) Pose (b) Level (c) Give (d) Strike (e) Form
47. From the following select the appropriate word to replace number 47 in the above passage.
(a) Heavy (b) Strong (c) Happy (d) Vast (e) Effective
48. From the following select the appropriate word to replace number 48 in the above passage.
(a) Free (b) Manage (c) Relieve (d) Delete (e) Handle
49. From the following select the appropriate word to replace number 49 in the above passage.
(a) Perish (b) Ease (c) Destroy (d) Prevail (e) Stop
50. From the following select the appropriate word to replace number 50 in the above passage.
(a) Assertive (b) Courageous (c) Genuine (d) Mild (e) Noble

END OF SECTION I

Section II

Reading Comprehension

Directions: Each passage is followed by questions based on its content. Answer the questions on the basis of what is directly stated in each of the passages or can be inferred from it.

Passage I

Although cynics may like to see the government's policy for women in terms of the party's internal power struggles, it will nevertheless be churlish to deny that it represents a pioneering effort aimed at bringing about sweeping social reforms. In its language, scope and strategies, the policy document displays a degree of understanding of women's needs that is uncommon in government pronouncements. This is due in large part to the participatory process that marked its formulation, seeking the active involvement right from the start of women's groups, academic institutions and non-government organizations with grass roots experience.

The result is not just a lofty declaration of principles but a blueprint for a practical programme of action. The policy delineates a series of concrete measures to accord women a decision-making role in the political domain and greater control over their economic status. Of especially far-reaching impact are the devolution of control of economic infrastructure to women, notably at the gram panchayat level, and the amendments proposed in the Hindu Succession Act of 1956 to give women coparcenary rights.

An enlightened aspect of the policy is its recognition that actual change in the status of women cannot be brought about by the mere enactment of socially progressive legislation. Accordingly, it focuses on reorienting development programmes and sensitizing administrations to address specific situations as, for instance, the growing number of households headed by women, which is a consequence of rural-urban migration. The proposal to create an equal-opportunity police force and give women greater control of police stations is an acknowledgement of the biases and callousness displayed by the generally all-male law-enforcement authorities in cases of dowry and domestic violence. While the mere enunciation of such a policy has the salutary effect of sensitizing the administration as a whole, it does not make the task of its implementation any easier.

This is because the changes it envisages in the political and economic status of women strike at the root of power structures in society and the basis of man woman relationships. There is also the danger that reservation for women in public life, while necessary for their greater visibility, could lapse into tokenism or become a tool in the hands of vote seeking politicians. Much will depend on the dissemination of the policy and the ability of elected representatives and government agencies to reorder their priorities.

51. What can be inferred from the opening lines of the passage?
- (a) The government's policies are formulated through participatory process
 - (b) There is need for stricter legislation regarding women's issues
 - (c) The policy recommends reservation for women
 - (d) Domestic violence is on the rise
 - (e) Women already had coparcenary rights
52. Pick out the true statement with regard to the policy.
- (a) This is yet another pronouncement by the government
 - (b) It is a pioneering effort
 - (c) It is not based on the understanding of woman's needs
 - (d) It has made many loud declarations
 - (e) In its formulation, participatory approach was not followed
53. According to the passage, what is the consequence of rural-urban migration?
- (a) There will not be any development in rural areas
 - (b) Many women migrate to urban areas leaving their family in the rural areas
 - (c) Industries do not get sufficient manpower in rural areas
 - (d) Rural children's education suffers badly
 - (e) A growing number of households are headed by women

54. What is the far-reaching impact of the policy?
- (a) To render women coparcenary rights
 - (b) To prepare women to face the challenges
 - (c) To create an equal-opportunity police force
 - (d) To accord women a decision making role in political sphere
 - (e) To give women the power to rule the nation
55. Choose the statement which is not true.
- (a) The policy gives a blueprint for a programme of action
 - (b) Women should be given greater control of police stations
 - (c) There is no bias in dowry cases though the law enforcement authorities are men
 - (d) For effective implementation, the government agencies will have to reorder their priorities
 - (e) The policy is based on the understanding of the needs of women
56. Which of the following has the danger of lapsing into tokenism?
- (a) Socially progressive legislation
 - (b) Policy for women
 - (c) Coparcenary rights to women
 - (d) Reservation for women
 - (e) Man-woman relationships
57. Choose the word that is opposite in meaning to 'lofty' as used in the passage?
- (a) Purified
 - (b) Humble
 - (c) Inferior
 - (d) Exalted
 - (e) Undignified
58. The basic block in the effective implementation of the policy is
- (a) Prevalent power structure in India
 - (b) Inadequate legislation
 - (c) Insensitive administration
 - (d) Lack of political will
 - (e) Male dominated law-enforcing authorities

Passage II

Generally, people experience stress in their day-to-day lives, but more than thirty million Americans suffer from something more intense than that. Anxiety disorders are the second-most-common mental health problem in the country, and they can be paralyzing. Sometimes, day-to-day stress and anxiety are hard to tell apart, but the easiest way to distinguish them is that stress is brought on by actual events, and then dissipates, whereas anxiety is a more pervasive worry, that often attaches itself to specific areas of your life, like your relationship, job or health, says psychologist Terry Mooney.

This anxiety does not dissipate, and in fact, it can increase to the level where it begins to change your behavior. That's when it's characterized as an anxiety disorder. Anxiety can keep you safe, helping you recognize danger, and cope with it, says Mooney. But if you begin to see danger lurking around every corner, or worry over and over again about the same events, then you might be dealing with something more substantial, like an anxiety disorder.

People with anxiety disorders often begin to avoid activities or circumstances that make them anxious, said John Forsyth, associate professor of Psychology at the State University of New York at Albany and director of the Anxiety Disorders Research Programme at the university. People may stop driving, or stop going to parties. They may stop travelling or even avoid leaving the house. It's this curtailing of activities that causes the suffering, Forsyth said, making you feel that 'life is shrinking around you.'

Anxiety disorders come in a variety of forms and manifest themselves in different ways. Generalized anxiety disorder is characterized by ongoing worry about everyday tasks, even when there is no clear reason to worry. People with social anxiety disorder experience intense worry over social interactions, and often feel judged by people or worry that they will embarrass themselves. Post-traumatic stress disorder, which is characterized by people re-living a frightening event over and over again, is also considered an anxiety disorder. Obsessive-compulsive disorder is when people take on obsessive rituals that help them maintain the illusion of control. Often repetitive in nature, obsessive compulsive rituals can include cleaning, checking and rechecking something, counting or endlessly reviewing conversations in their mind. Treatment is available for anxiety disorders. People can use a variety of approaches, including therapy, medication and exercise.

59. What distinction does the author make between stress and anxiety?
- Compared to anxiety, stress is experienced only by a few people
 - Americans are more prone to anxiety than stress
 - Stress is the second most common health problem, which distinguishes it from anxiety
 - Anxiety is more intense than stress
 - Anxiety leads to stress
60. What is the positive effect of anxiety according to Mooney?
- It improves one's health
 - It helps to recognize danger
 - It brings in mental peace
 - It sometimes brings happiness
 - It helps to overcome dangers
61. Anxiety disorder can best be described as
- Change in eating habits
 - Ill-treating others for no reason
 - Often bursting of anger
 - Feeling anxious over trivial things
 - Change in one's behavior
62. People with anxiety disorder avoid
- Travelling
 - Going to parties
 - Leaving the house
 - Activities that make them worried
 - All the above
63. How do the people with social anxiety disorder behave?
- They experience intense worry over social interactions
 - They worry about everyday tasks
 - They sit idle at home
 - They worry for no clear reason
 - They judge others in a wrong way
64. Re-living a frightening event over and over again is known as
- Generalized anxiety disorder
 - Obsessive-compulsive disorder
 - Social anxiety disorder
 - Post-traumatic stress disorder
 - Excess anxiety
65. What are the different approaches available for treating anxiety disorder?
- Meditation, exercise and massages
 - Training, controlling and rest
 - Therapy, exercise and medication
 - Self control, commitment and acceptance
 - None of the above
66. What is the technical name given to the new treatment by Forsyth?
- Obsessive-compulsive disorder therapy
 - Acceptance and commitment therapy
 - Post-traumatic stress disorder therapy
 - Physiotherapy
 - Behavior control therapy

Passage III

I am the family face; flesh perishes. I live on, projecting trait and trace through time to times anon, and leaping from place to place over oblivion.

So wrote Thomas Hardy in his poem, *Heredity*, describing direct descent of life from one generation to the next. Indeed, the poem reflects the DNA in our genome. Dr. Drew Endy of MIT quoted this when he described how people at the J. Craig Venter Institute (JCVI) bypass nature's constraint of direct descent. Scientists there have used chemistry and biochemistry to produce the first synthetic genome in the laboratory. They chemically synthesized many fragments of the DNA, encoding the 582,970-units-long genome of a bacterium called *Mycoplasma genitalium*. Next, they assembled these fragments in perfect order to generate the genome of the bacterium.

The DNA sequence of the synthetic one was confirmed to be identical to the natural one. While the DNA pieces were synthesized chemically, the stitching together was done using the biochemical machinery of a host cell. About 100 pieces of the genome, each 5000-7000 units long in DNA sequence, were first joined to produce 25 sub-assemblies, each about 24000 base pairs long. These were then introduced into the bacterium *E. coli* to produce sufficient DNA for the next steps. Next, they repeated the procedure to generate large fragments comprising 1/4th of the whole genome of *M. genitalium*.

Now, they used the clever trick of exploiting the process called homologous recombination. This is a basic essential process in every cell, which physically rearranges the two strands of DNA. The JCVI researchers inserted the synthesized DNA fragments into yeast and utilized its homologous recombination ability to generate the whole 580,000 long genome of *M. genitalium* in one step.

This is clearly a landmark work that leads into the brave new world of synthesizing life itself in the laboratory. It was hardly 200 years ago when Friedrich Wohler synthesized urea, an organic molecule, in the chemical laboratory, thus throwing out the notion of 'vital forces' involved in the components of living organisms. What is the next step, making life itself in the lab, bypassing nature? With single cell organisms like *M. genitalium*, it might not be far away. It is now possible in the lab to do so, by inserting the genome into a 'host' cell and asking the latter to make the bacterium of your choice. If only we find a way to insert the bacterial genome into this proto-cell, and somehow trigger it to make the bacterium itself! We would have chemically created life in the lab. This is not a pipedream; JCVI scientists are already on the job, and my bet is they will do it within a few years.

This surely raises ethical questions, a matter that JCVI is keenly aware of and is already engaged in with ethicists. Even their present work on *M. genitalium* was done with prior approval of ethical experts. But then, today it is *M. genitalium*, tomorrow it could be a more advanced, multi-cellular organism, and that could flummox even the ethicist. Assisted reproduction, which is the other side of the coin and truly a recently initiated technology, has become ethically and morally acceptable. Cloning of Dolly, the sheep, has not raised any outrage, but cloning a human certainly does.

67. Why does the author refer to Thomas Hardy's poem?

- (a) To estimate the role played by direct properties attributable to one's parentage
- (b) To underline the significance of the biological process whereby genetic factors are transmitted from one generation to the next
- (c) To emphasize the importance of the total of inherited attributes that rarely come by natural descent
- (d) To highlight the purpose of genetic endowment which can be traced through the family line
- (e) To evaluate the function of genes that are seldom present among the descendants of one individual

68. What did the scientists at JCVI do?

- (a) They circumvented nature's constraint of direct descent
- (b) They bypassed nature's laws and produced a natural gene
- (c) They invented an imperishable gene which is synthetic in nature
- (d) They ignored the theory of inheritance and created an intrinsic gene
- (e) They produced a gene which can be preserved permanently

69. What was the outcome of their research?

- (a) They analyzed the DNA sequence of the synthetic gene in the laboratory for the first time
- (b) They contrasted the properties of a synthetic gene with that of a natural one
- (c) They created a gene sequence in artificial conditions which could undergo mutation
- (d) They produced the first synthetic genome in the laboratory which is analogous to the natural one
- (e) They studied the functions of a natural gene and a synthetic gene under controlled conditions of a laboratory

70. The DNA pieces of the synthetic genome were stitched together by using
- The method of biochemical synthesis
 - The biochemical machinery of a host cell
 - The biochemical genome of a host cell
 - The DNA sequence of a host cell
 - The synthesized DNA pieces of a host cell
71. What is the author's gut feeling?
- Scientists will invent a mechanism that might trigger a genome and convert it into the bacterium
 - Scientists will succeed in creating a synthetic genome which has the characteristics of a natural one
 - Scientists will improve upon the synthetic gene and find an alternative which is akin to the proto-cell of the bacterium
 - Scientists will prove that the DNA structure of a proto-cell is similar to that of an artificial one
 - Scientists will find a way to insert the bacterial genome into the proto-cell and somehow trigger it to make the bacterium itself
72. Which of the following words aptly substitutes 'flummox' as used in the passage?
- Control
 - Petrify
 - Bewilder
 - Challenge
 - Demystify
73. According to the passage, which of the following statements is **not true**?
- Thomas Hardy's poem, *Heredity*, reflects the DNA in a human being's genome
 - Creating life in a lab will surely raise pertinent questions pertaining to ethics
 - Scientists, in future, will be able to create life under artificial conditions
 - Cloning of Dolly, the sheep, has invited the wrath of people because the sheep soon died a miserable death
 - Two centuries ago, urea was synthesized in a chemical laboratory
74. A recently initiated technology, which is ethically acceptable, is
- Assembling the complex biological molecule
 - Gene sequencing
 - Assisted reproduction
 - Stitching together of an artificial cell
 - Inserting a proto-cell into the bacterium
75. According to the author's opinion, what would be the result of cloning a human being?
- It will invite people's indignation
 - It would be a wonderful prospect for humanity
 - It might change the face of the earth
 - It will be looked down as a sin
 - It will prove to be a global catastrophe

Passage IV

The technological trajectory traversed in communications and transport from pigeon mail and pony express to e-mail and videoconferencing is almost as great as the intellectual space between Noah's Ark and the biotechnological revolution in the preservation and improvement of the species. Dreams are multi-hued today and soar beyond the hitherto accepted bounds of human endeavor.

The first bimolecular motors with tiny metal propellers to reach inside our cells and probe their secrets have been built and pilot-tested and scalpels fitted with probes that can instantly reveal whether cells are cancerous may soon help surgeons operating on tumours to detect cancer at the earliest stages, perhaps even replacing biopsies. That Einstein ousted Gandhi as *Time's* Man of the Century clearly reflects the Zeitgeist. As Stephen Hawking writes, The world has changed far more in the last 100 years than in any other century in history. The reason is not political or economic, but technological - technologies that flowed directly from advances in basic science.

The reflection of the Zeitgeist, even as it stands witness to the enormity of man's reach, is also a warning: that when man's reach exceeds his grasp, it is time to pause and ponder over priorities. From time to time, a

natural disaster might push us back to oil lamps and cooking by wood fire but a baby born a whole hundred hours after the mother was trapped under heavy rubble will also establish the sovereignty of other forces. Baby buying on the Internet illustrates the lowest human motivations at work, but harnessing its reach to attract global aid for earthquake victims reflects higher human impulses.

76. By using the phrase technological trajectory traversed by man the writer means
- (a) Man has progressed stupendously
 - (b) Man has become a slave of technology
 - (c) Man has no regressive progression
 - (d) Man has enlightened revolutionary minds
77. Why does the writer compare Noah's Ark and biotechnological revolution to technological trajectory traversed by man?
- (a) He does so to substantiate his account
 - (b) He does so to beguile the reader
 - (c) He does so because he feels that these developments should be brought to light
 - (d) He does so because it has been a revolutionizing progression
78. The phrase 'dreams are multi-hued today' implies
- (a) They are of various colors
 - (b) They have greater scope of materialization
 - (c) They have limited forms
 - (d) They are eagerly sought after
79. The purpose of metal propellers is to
- (a) Reach inside malignant tumors
 - (b) Reach inside our cells
 - (c) Reach inside our tissues
 - (d) Reach inside the carcass
80. Which of the following statements is **not true** according to the passage?
- (a) Advancements have been a result of tremendous human endeavor
 - (b) Natural disasters propel us to work harder
 - (c) Dreams are not only multifarious but often soar beyond our reach
 - (d) The world is believed to have changed a great deal over the past 100 years

END OF SECTION II

Section III

Quantitative Aptitude

Directions: There are 30 questions in this section. Each question is followed by five alternatives (a), (b), (c), (d) and (e). You are required to choose the **best** alternative from these five alternatives.

81. Sugar worth ₹ 15 per kg and ₹ 16 per kg is mixed with a third variety of some other cost in the ratio 1 : 1 : 2. If the mixture is of worth ₹ 20 per kg, what would be the cost of the third variety of sugar per kg?

(a) ₹ 15 (b) ₹ 19 (c) ₹ 20.50 (d) ₹ 22.50 (e) ₹ 24.50

82. Simplify the expression $\frac{\sqrt{\frac{1-\sin\theta}{1+\sin\theta}}}{\sqrt{\frac{1+\cos\theta}{1-\cos\theta}}} + \frac{\sqrt{\frac{1+\sin\theta}{1-\sin\theta}}}{\sqrt{\frac{1-\cos\theta}{1+\cos\theta}}}$.

(a) 1 (b) $\tan\theta$ (c) $2(\operatorname{cosec}2\theta + 1)$ (d) $4\operatorname{cosec}2\theta + 2$ (e) $2\cot\theta$

83. Shyam has a square piece of paper of length 15 m. He put four circles on the edges of the square such that the edges of the square are centres of the circles and they touch each other at the midpoint of their respective sides. What is the area of the square which is not covered by the four circles (approx.)?

(a) 15 sq.m (b) 20 sq.m (c) 48 sq.m (d) 29 sq.m (e) 36 sq.m

84. The ratio between the speed of a boat and a stream is 3 : 1 respectively. If the boat covers 24 km in 3 hours downstream, what is the speed of the stream?

(a) 1.5 kmph (b) 2 kmph (c) 3 kmph (d) 4 kmph (e) 6 kmph

85. A certain sum placed at compound interest triples itself in 5 years. In how many years will it amount to nine times at the same rate of interest?

(a) 8 years (b) 10 years (c) 12 years (d) 14 years (e) 16 years

86. Krishna has certain number of coins numbered with a series of consecutive natural numbers starting with 1. He found that the sum of squares of all the numbers on the coins is 1753 times the sum of numbers on coins. How many coins does he have?

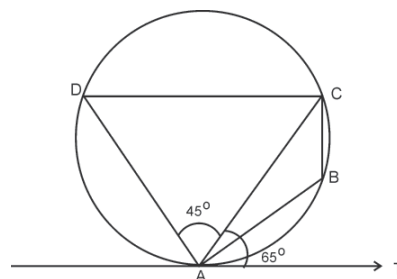
(a) 1753 (b) 2569 (c) 2629 (d) 3439 (e) 5259

87. The ratio between two numbers is 6 : 5. If 30% of the first number is 12, what would be 60% of the second number?

(a) 12 (b) 15 (c) 18 (d) 20 (e) 23

88. In the given figure, if $\angle CAT = 65^\circ$ and $\angle CAD = 45^\circ$, what is the value of $\angle ACD$? (Figure not drawn to scale)

(a) 65° (b) 85° (c) 115°
(d) 125° (e) 135°



89. Two numbers are in the ratio 8 : 11 and their LCM is 2816. What would be the difference between the two numbers?

(a) 64 (b) 72 (c) 84 (d) 96 (e) 256

90. If x is a positive integer satisfying $64 \leq x \leq 121$ and $y = \frac{x^2 + 4\sqrt{x}(x+16) + 256}{x + 8\sqrt{x} + 16}$, then which of the following is satisfied by y ?
- (a) $39 \leq y \leq 68$ (b) $38 < y < 94$ (c) $40 < y \leq 68$ (d) $42 \leq y \leq 78$ (e) $52 \leq y \leq 88$
91. What is the value of $\sqrt{42 + \sqrt{42 + \sqrt{42 + \sqrt{42 + \sqrt{42 + \dots}}}}}$?
- (a) -7 (b) -6 (c) 6 (d) 7 (e) 42
92. An electronic company conducts a survey of 1500 houses for their products. The survey suggested that 862 houses own TV, 783 houses has AC and 736 houses has washing machine. There were 95 houses having only TV, 136 houses having only AC and 88 houses having only washing machine. There were 398 houses having all the three equipments. How many houses have only TV and washing machine but not AC?
- (a) 65 (b) 119 (c) 184 (d) 185 (e) 213
93. Anu collected certain number of coins of denominations ` 1, ` 2 and ` 5. She has certain number of ` 2 coins, 4 times as many ` 1 coins as ` 5 coins and 15 more ` 2 coins than ` 1 coins. If the total value is ` 490, how many ` 2 coins are there?
- (a) 11 (b) 20 (c) 35 (d) 60 (e) 70
94. Given quadratic equation is $x^2 - |x| - 30 = 0$. Then which of the following statements is/are incorrect?
- (a) $x - 6 = 0$ (b) $x + 6 = 0$ (c) $x + 5 = 0$ (d) $x + 7 = 0$
(e) Both (c) and (d)
95. P, Q and E start a joint venture, where in they make an annual profit. P invested one-third of the capital for one-fourth of the time, Q invested one-fourth of the capital for one-half of the time and R invested the remainder of the capital for the entire year. P is a working partner and gets a salary of ` 10,000 per month. The profit after paying P's salary is directly proportional to the sum each one has put and also to the square of the number of months for which each has put their sum in the venture. If in a year P earns ` 60,000 more than Q, then how much does P earn?
- (a) ` 1,00,000 (b) ` 1,20,000 (c) ` 1,35,000 (d) ` 1,50,000 (e) ` 1,80,000
96. Given $A = x + y^2 + z^3$. If x increases by 6300%, y increases by 700% and z increases by 300%, then what is the percentage increase in the value of A ?
- (a) 1200% (b) 1800% (c) 2600% (d) 3300% (e) 6300%
97. The charge for sending a telegram is constant for the first 10 or less words and an amount proportional to the number of words exceeding 10. If the charge for sending a 15 word telegram is ` 3.00 and that for a 20 word is ` 4.25, how much would it cost to send a 35 word telegram?
- (a) ` 8.00 (b) ` 9.50 (c) ` 10.50 (d) ` 11.25 (e) ` 12.50
98. There are eight persons – P, Q, R, S, T, U, V and W, standing in a row and four distinct articles A, B, C and D are to be given to four people. No four neighboring persons receive an article. How many ways can this distribution be done?
- (a) 1680 ways (b) 1560 ways (c) 1440 ways (d) 1380 ways (e) 1320 ways

99. Gopi constructed a right-angled triangle. By modifying the dimensions of first triangle, he drew another triangle. The modifications are - the largest side is increased by 5 cm, the smallest side is doubled and the third side is increased by 50%. If the triangle formed with these new dimensions has equal angles, then what is the perimeter of the new triangle?
- (a) 45 cm (b) 60 cm (c) 90 cm (d) 120 cm (e) 150 cm
100. The boat will sink when the weight on it increases beyond 350 kg. There is a hole in it through which the water leaks in at the rate of 0.4 kg/s. The weight of the boat is 1200 kg, and the weight of the boatman is 48 kg. The boatman throws out water at the rate of 0.04 kg/s. There are four passengers whose weights are 42.5 kg, 53.5 kg, 43.5 kg and 54.5 kg. How long will the boat float?
- (a) 60 hours (b) 80 hours (c) 96 hours (d) 100 hours (e) 120 hours
101. A committee is to be formed from amongst 9 boys and 6 girls. In how many ways can the boys and girls divide themselves into groups of three so that no group has more than 2 girls and no group has all boys?
- (a) $15(9!)$ (b) $20(9!)$ (c) $45(8!)$ (d) $\frac{45}{2}(9!)$ (e) $\frac{45}{2}(8!)$
102. The populations of two cities X and Y is equal. The population of city X increases in two successive years by 15% and 20% respectively and that of city Y increases successively by 10% and 30% respectively. If the difference in the population of two cities after 2 years is 55,980, then what was the total population of the two cities initially?
- (a) 3,11,000 (b) 5,55,000 (c) 6,22,000 (d) 6,88,000 (e) 7,22,000
103. A box contains 4 blue, 2 green and 3 red balls and another box contains 4 red, 3 green, and 5 blue balls. A ball is picked up at random from one of the boxes. What is the probability that the ball is blue?
- (a) $\frac{2}{9}$ (b) $\frac{5}{24}$ (c) $\frac{19}{72}$ (d) $\frac{29}{72}$ (e) $\frac{31}{72}$
104. A started a business with a capital of ` 24,000. B joined him after a month with a capital of ` 22,000 and C joined A and B with a capital of ` 20,000 and new partners joined in this manner so on till L joined in the last month with a capital of ` 2,000. What is the total profit if D got ` 72,000 more than L?
- (a) ` 2,42,500 (b) ` 3,40,000 (c) ` 5,85,000 (d) ` 7,25,000 (e) ` 10,80,000
105. What is the sum of the factors of 27000?
- (a) 11700 (b) 23400 (c) 46800 (d) 70200 (e) 93600
106. A number when divided by 7 leaves a remainder x. When divided by 19 it leaves a remainder 2x. Also, when divided by 39 it leaves a remainder 3x. If $x = 3$, then what is the least possible value of such number?
- (a) 101 (b) 211 (c) 633 (d) 844 (e) 1266
107. What is the simplified value of $\frac{1.08 \times 1.08 \times 1.08 \times 1.08 - 0.92 \times 0.92 \times 0.92 \times 0.92}{1.08^2 + 0.92^2 + 2 \times 1.08 \times 0.92}$ correct to two decimal places?
- (a) 0.08 (b) 0.16 (c) 0.32 (d) 0.64 (e) 0.01
108. A trader buys 240 watches for ` 50,400 and he marks each of them at ` 320. He gives a discount of 15% on each watch and gives 1 watch free on a purchase of 5 watches. What is his minimum possible overall percentage of profit?
- (a) 5.9% (b) 6.1% (c) 6.6% (d) 7.2% (e) 7.9%

109. The ratio of selling prices of four articles is 3 : 5 : 6 : 8 and their profits are 20%, 25%, 20% and 25% respectively. What is the overall percentage of profit on selling the four articles?
- (a) 11% (b) $22\frac{11}{12}\%$ (c) 24% (d) $28\frac{11}{12}\%$ (e) 36%
110. A chart consists of numbers from 1 to 360. What is the sum of all the numbers remained on the chart after removing all the multiples of 2, multiples of 3 and multiples of 5?
- (a) 9876 (b) 17280 (c) 34560 (d) 51840 (e) 69120

END OF SECTION III

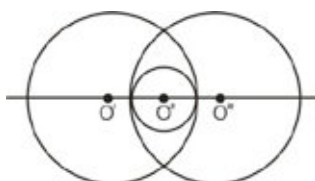
Section IV

Data Adequacy and Data Interpretation

I. Directions: Each question given below has a problem and two statements numbered (1) and (2) giving certain information. You have to decide if the information given in the statements is sufficient for answering the problem. Indicate your answer as:

- a — If the data in statement (1) alone is sufficient to answer the question;
- b — If the data in statement (2) alone is sufficient to answer the question;
- c — If the data in both the statements together are needed to answer the question;
- d — If either statement (1) alone or statement (2) alone is sufficient to answer the question;
- e — If neither statement (1) nor statement (2) suffices to answer the question.

- 111.** Two trains are travelling on two adjacent tracks. What would be their respective speeds?
 Statement 1: The relative speed when the trains are travelling in the same direction is 30 kmph
 Statement 2: The relative speed when the trains are travelling in the opposite direction is 90 kmph
- 112.** A set contains six odd numbers. What is its median?
 Statement 1: Sum of 6 odd numbers is 300 and they are consecutive
 Statement 2: The mean of six numbers is 20
- 113.** $A \in \mathbb{Z}$. Is A divisible by 45?
 Statement 1: The number is divisible by 15
 Statement 2: The number is divisible by 315
- 114.** A family has four members W, X, Y and Z. How is Y related to X?
 Statement 1: Z is the sister of X and daughter of Y
 Statement 2: W is the father of Y and Y is the mother of Z, who is the brother of X
- 115.** A person wants to purchase 1,000 pieces of article A and 800 pieces of article B. There is an offer price on these two articles that for every purchase of 4 pieces of article B, 1 piece of article A is given free. What percentage of amount should he spend on article A to fulfill his requirement?
 Statement 1: Ratio of price of article A to article B is 3 : 5
 Statement 2: Price of article A is one fourth of the price of article B
- 116.** a, b and c are three positive integers. What is the value of $(a^2 + b^2 + c^2)$?
 Statement 1: $a^2 + b^2 = 17$ and c is the arithmetic mean of a and b
 Statement 2: The geometric mean of a and b is 2
- 117.** A right circular cone (PQR) is cut into two parts, cone (C) and frustum (F) by a plane parallel to base. What is the ratio of volume of C to the volume of F?
 Statement 1: PQR is twice the radius of C
 Statement 2: PQR is been cut off at the middle of its height
- 118.** In the figure below, what is the area of the smaller circle?



- Statement 1: The two larger circles have same radii of 8 cm each and $O'O''$ is 12 cm
 Statement 2: The centres O, O' and O'' of the three circles are collinear

- 119.** What is the unit's digit of the number $(8pqr)^{64}$ where p, q and r are the hundredth, tenth and units digits of the number?
 Statement 1: The product of p and q is 12
 Statement 2: The product of q and r is 24 and r is greater than 4

- 120.** Ritu, Deep, Lakshya, Krish, Suja, Adi and Anu are seven friends and belong to the same family. Ritu has a son and a daughter. Krish and Deep are males. Suja and Lakshya are females. What is the relationship between Suja and Adi?

Statement 1: Ritu has a grandson and a granddaughter and Anu is Krish's niece

Statement 2: Suja is Lakshya's sister-in-law and Deep has two children Adi and Anu

- 121.** A ship was moving towards lighthouse on the shore with uniform speed. A man standing on the lighthouse observes the ship. Eight minutes later, he finds that the angle of depression was 45° . In how much time does the ship reach the lighthouse?

Statement 1: Initially, the man standing on the lighthouse observes the ship at an angle of depression of 30°

Statement 2: The speed of the ship was 6 km/h and the height of the lighthouse is 300 m

- 122.** P, Q, R, S, T and U are to be arranged in a circular table. Q does not sit opposite T. S and R are together. What is the sequence of their seating in clockwise direction?

Statement 1: R sits to the left of P

Statement 2: T does not want to sit near U

- 123.** Seven friends A, B, C, D, E, F and G go for a movie. Out of these, AD, FC and BG are couples of which A, F and B are males. The couples sit with husbands and wives in the left to right order. Who sat at the two corners?

Statement 1: E sits at the centre with D sitting 2 places to the left of E

Statement 2: B does not sit at the corner and nor does G

- 124.** If the length of a rectangle is increased by 5 cm and the breadth is decreased by 5 cm, area of the rectangle remained same. What are the dimensions of the given rectangle?

Statement 1: If the length is decreased by 12 cm and the breadth increased by 8 cm, even then the area is unaltered

Statement 2: Breadth of the rectangle is 4 less than twice its length

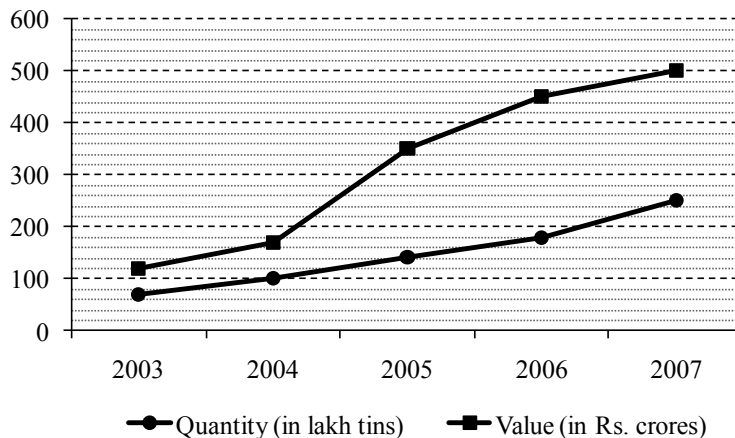
- 125.** Teams A, B, C, D and E play a certain number of matches in a tournament. Three points are awarded for a win, 1 point for a tie and 0 for a loss. At the end of the tournament, team B acquired 12 points, team C acquired 6 points, team D acquired 3 points and team E zero points. How many points does A win?

Statement 1: The points won by A is 9 more than the points won by B in his victories

Statement 2: The total number of matches played by B is 5

- II. Directions:** For the question numbers 126 to 130, a table and a pie graph are given. Study the data carefully and answer the following questions and choose the **best** answer from the five alternatives given below the question.

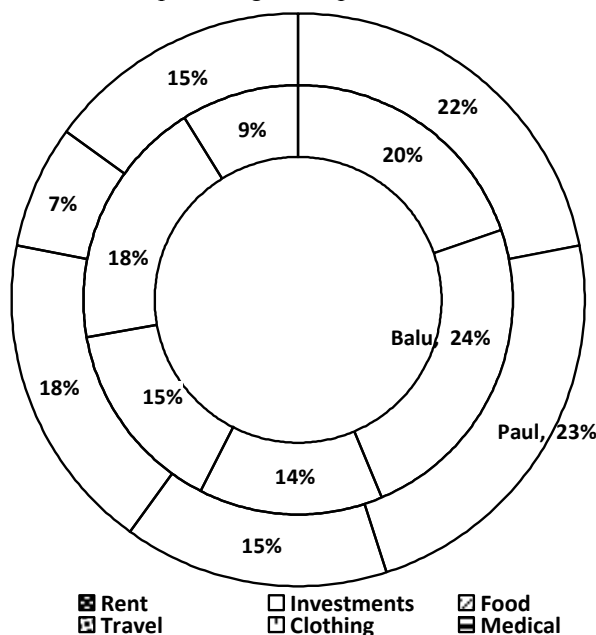
The following line graph gives the exports of biscuits (in tins) by a certain company over the period 2003-07.



126. If in 2007, each tin was exported at the same cost as that of in 2006, what would be the value (in ` crores) of total exports in 2007?
- (a) 425 (b) 590.28 (c) 605.50 (d) 625 (e) 650.50
127. What is the average number of tins exported over the given period?
- (a) 306.7 lakhs (b) 289.2 lakhs (c) 202.0 lakhs (d) 157.4 lakhs (e) 148.0 lakhs
128. What is the ratio of total tins exported (in lakhs) to the value of tins exported over the given period?
- (a) 1157 : 2805 (b) 697 : 3900 (c) 854 : 1865 (d) 37 : 7950 (e) 841 : 37800
129. The rate of increase in quantity exported from year 2006 to 2007 is equal to the rate of decrease in the quantity exported from year 2007 to 2008. What would be the approximate quantity of tins (in lakhs) exported in the year 2008?
- (a) 70 (b) 85 (c) 97 (d) 146 (e) 153
130. If there is a constant rate of increase in the value of export from 2006, what would be the value of export (in ` crores) in the year 2008?
- (a) 510 (b) 540 (c) 555.56 (d) 575.80 (e) 585.80

III. Directions: For the question numbers 131 to 135, a bar graph is given. Study the graph carefully and answer the following questions and choose the **best** answer from the five alternatives given below the question.

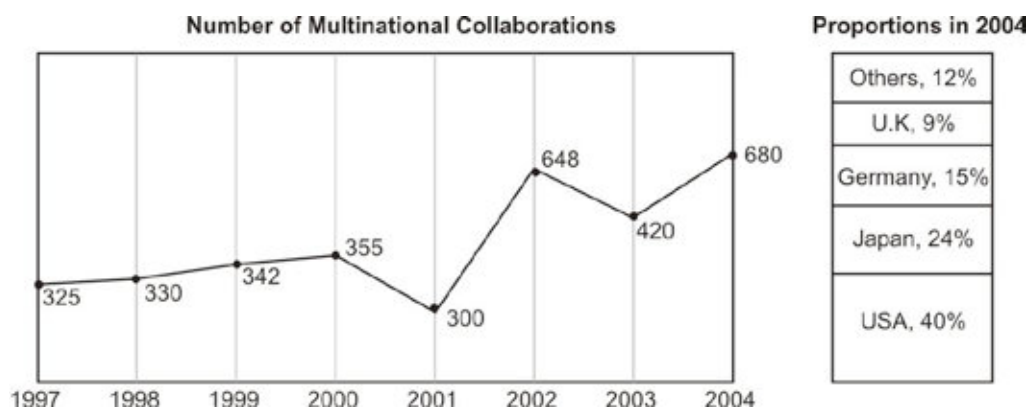
The pie-diagram below shows the percentage of expenditures of Paul and Balu per month.



131. If the salary of Balu is ₹ 15,000, what would be the expenditure on Investments and Food?
- (a) ₹ 5450 (b) ₹ 4200 (c) ₹ 4560 (d) ₹ 5700 (e) ₹ 5900
132. If both Balu and Paul get equal income, what is the ratio of their expenditures on Food and clothing?
- (a) 1 : 1 (b) 1 : 2 (c) 3 : 1 (d) 2 : 3 (e) 16 : 11
133. If both Balu and Paul get equal income, what would be the difference of their expenditures on all except Investments?
- (a) ₹ 1 of income (b) ₹ 0.50 of income
 (c) ₹ 0.01 of income (d) ₹ 0.05 of income
 (e) ₹ 2 of income
134. If Paul's income was ₹ 13,500, what would be his average expenditure on Investments, Rent and Travelling?
- (a) ₹ 2540 (b) ₹ 2125 (c) ₹ 2490 (d) ₹ 2650 (e) ₹ 2700
135. What is the sum of angles subtended by expenditures of Paul on Travel, Rent and Medical?
- (a) 207.2° (b) 165.8° (c) 157.5° (d) 207° (e) 187.2°

IV. Directions: For the question numbers 136 to 140, a graph is given. Study the graph carefully and answer the following questions and choose the **best** answer from the five alternatives given below the question.

The following graph gives the total number of multinational collaborations approved, from different states during the period 1997 to 2004.



- 136.** The total number of collaborations approved from 1997 – 2004 with USA firms are 493. What percent of the total collaborations does this constitute?
- (a) 13.2% (b) 14.5% (c) 15.4% (d) 16.5% (e) 17.5%
- 137.** In 2004, the number of collaborations approved from UK, Germany and Japan exceeded that from USA by (approx.)
- (a) 48 (b) 54 (c) 68 (d) 85 (e) 90
- 138.** What is the ratio of the highest to the lowest number of collaborations approved in the period 1997-2004?
- (a) 45 : 23 (b) 41 : 25 (c) 34 : 15 (d) 28 : 19 (e) 27:14
- 139.** In 2005, if the number of collaborations approved with USA increased by 50%, and if Japan has to maintain its share at its level as in 2004, then by what approximate percent should the number of collaborations be increased, if all other states maintain the same number of collaborations as in 2004?
- (a) 22% (b) 24% (c) 26% (d) 28% (e) 30%
- 140.** If in the year 2005, the total number of collaborations approved was 980, and if the same proportions were maintained as in the year 2004, then the approximate number of multinational collaborations from U.K alone would be
- (a) 112 (b) 106 (c) 102 (d) 88 (e) 80

END OF SECTION IV

END OF QUESTION PAPER

Key for Model Paper 2

Verbal Ability			
S.No.	Key	S.No.	Key
1	D	26	C
2	B	27	C
3	E	28	B
4	A	29	A
5	E	30	C
6	B	31	B
7	D	32	A
8	D	33	D
9	E	34	C
10	C	35	A
11	C	36	C
12	D	37	D
13	D	38	C
14	C	39	E
15	A	40	C
16	C	41	B
17	D	42	B
18	D	43	C
19	B	44	D
20	E	45	E
21	C	46	D
22	B	47	B
23	B	48	C
24	A	49	B
25	D	50	A

Reading Comprehension	
S.No.	Key
51	C
52	B
53	E
54	A
55	C
56	D
57	E
58	A
59	D
60	B
61	E
62	E
63	A
64	D
65	C
66	B
67	B
68	A
69	D
70	B
71	E
72	C
73	D
74	C
75	A
76	A
77	D
78	A
79	B
80	B

Quantitative Aptitude	
S.No.	Key
81	E
82	D
83	C
84	B
85	B
86	C
87	D
88	A
89	D
90	B
91	D
92	E
93	C
94	E
95	D
96	E
97	C
98	B
99	C
100	D
101	D
102	C
103	E
104	C
105	E
106	C
107	B
108	E
109	B
110	B

Data Adequacy and Data Interpretation	
S.No.	Key
111	C
112	A
113	B
114	B
115	D
116	C
117	D
118	C
119	C
120	E
121	D
122	E
123	C
124	D
125	C
126	D
127	E
128	D
129	E
130	C
131	D
132	E
133	C
134	E
135	E
136	B
137	B
138	C
139	C
140	D