

IBSAT 2017 –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. FURTIVE

- (a) Spicy (b) Secretive (c) Palpable (d) Fruitful (e) Alien

2. INSIDIOUS

- (a) Tasteless (b) Treacherous (c) Secure (d) Formal (e) Vigilant

3. APLOMB

- (a) Poise (b) Solitude (c) Panacea (d) Alertness (e) Greed

4. WOE

- (a) Homage (b) Evidence (c) Chaos (d) Deluge (e) Sorrow

5. EMULATE

- (a) Appear (b) Impose (c) Imitate (d) Operate (e) Collect

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. FABRICATE

- (a) Aggravate (b) Establish (c) Destroy (d) Foster (e) Electrify

7. HEED

- (a) Hope (b) Ignore (c) Overtake (d) Nurture (e) Pacify

8. APPROBATION

- (a) Disguise (b) Corruption (c) Treachery (d) Permanent (e) Disapproval

9. MIRTH

- (a) Serenity (b) Triumph (c) Gloom (d) Newness (e) Gaiety

10. CELESTIAL

- (a) Sacred (b) Hazardous (c) Unhealthy (d) Earthly (e) Glorious

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. Pack : Wolves :: Shoal :

- (a) Locusts (b) Fish (c) Chicken (d) Books (e) Passengers

12. Unbiased : Judge :: Articulate :

- (a) Orator (b) Soldier (c) Celebrity (d) Clown (e) Novice

13. Classify : Taxonomist :: Bargain :

- (a) Sojourner (b) Minstrel (c) Juggler (d) Visitor (e) Haggler

14. Vindicator : Revenge :: Epicurean :

- (a) Sorrow (b) Fright (c) Hesitation (d) Pleasure (e) Depression

15. Hammer : Nail :: Scissors :

- (a) Screw (b) Pearl (c) Paper (d) Shape (e) Design

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

16. Indian policies should _____ on social justice and on inclusive growth and development, which in the long term will provide greater _____ for all its people.
(a) depend ... safety (b) focus ... security
(c) count ... confidence (d) direct ... protection
(e) build ... delight
17. Research should be done on rainwater _____ and treatment of wastewater so that it might be recycled and made _____.
(a) harvesting ... potable (b) preserving ... available
(c) controlling ... possible (d) maintaining ... edible
(e) collecting ... accessible
18. A team without a good and simple _____ system is like trying to _____ a car without a steering wheel.
(a) guiding ... move (b) convincing ... push
(c) working ... drive (d) developmental ... pull
(e) leading ... propel
19. The _____ cell phone is a wonderful invention of technology, making our lives _____ and happy.
(a) popular ... blissful (b) modern ... stressful
(c) portable ... pleasant (d) ubiquitous ... comfortable
(e) effective ... joyful
20. As he _____ to the dais, the crowd went _____ trying to get a closer look of him.
(a) went ... noisy (b) walked ... happy
(c) climbed ... fearful (d) strode ... berserk
(e) moved ... crazy

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. While the Indian Constitution guarantees / equality for women, /
(a) (b)
legal protection have little effect / in the face of prevailing culture. No error
(c) (d) (e)
22. The detective says / that there is no chance / for finding the person /
(a) (b) (c)
who wrote these letters. No error
(d) (e)
23. He had scarcely / sat down / than there was a / knock at the door. No error
(a) (b) (c) (d) (e)
24. The laboratory of Physics is / not only equipped with / state-of-the-art instruments /
(a) (b) (c)
but also with outstanding Physicists. No error
(d) (e)
25. Finishing his breakfast, / he started working / on the long / pending hours. No error
(a) (b) (c) (d) (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. Practically, any parts of banana tree is useful to man.
(a) any parts (b) most part (c) every part (d) all part (e) each parts
27. More and more people are becoming dependent on its nuclear families to provide them whatever support they require.
(a) are becoming dependent on its
(b) are becoming dependent on their
(c) are become dependent on their
(d) have been becoming dependent on their
(e) are become dependent on its
28. French planes are more superior than Italian planes.
(a) more superior than
(b) most superior than
(c) superior than
(d) superior to
(e) more than superior
29. A handful of pebble in the bottoms of a flowerpot will help drainage.
(a) handful of pebble in the bottoms
(b) handfuls of pebbles at the bottom
(c) handful with pebbles in the bottom
(d) pebble of handful in the bottom
(e) handful of pebbles in the bottom
30. Mercury in the environment in its organic form can lead to health disastrous consequences.
(a) lead to health disastrous consequences
(b) lead to disastrous health consequences
(c) led to disastrous health consequences
(d) leading to health consequences disastrous
(e) lead to consequences health disastrous

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: This is only possible by means of a complete revolution in our thinking
Q: We have to get over the transitional period and become a modern, industrial state
R: We must spread scientific thinking on a massive scale
S: Encourage people to give up superstitions and backward feudal ideas
(a) SQPS (b) QPSR (c) SPQR (d) QPRS (e) QRPS
32. P: They should also update their competence to guide their subordinates
Q: New processes, machines, instruments, gauges, systems and gadgets
R: This would be possible only if they keep in regular touch with
S: Managers must lead by example; they should not be averse to giving a hand in manual work, if required
(a) PSRQ (b) RPQS (c) SPRQ (d) SRPQ (e) PRSQ

33. P: The most authentic aspect of the Indian democratic system is that it is based on a highly credible electoral process
 Q: This has allowed millions of Indians to feel empowered and in control of their own destinies
 R: Most Indians, regardless of their economic status, retain faith in the electoral system and believe that politicians and parties are ultimately accountable to them
 S: Which has ensured that political power remains in the hands of elected representatives of the people
- (a) PRSQ (b) RSPQ (c) RPQS (d) RQSP (e) PSQR
34. P: Are canned and almost all the rest are frozen
 Q: They contain lots of dietary fibre and protein
 R: But, most importantly, they taste of the freshness of winter
 S: More than half the peas sold in the world
- (a) SPQR (b) QRSP (c) PSRQ (d) RQSP (e) PRSQ
35. P: They found a comfortable life here in a country that was gifted by nature
 Q: Before the advent of modern industry, there were agricultural societies
 R: Hence, for thousands of years, people kept pouring into India
 S: India was a veritable paradise for such societies because it has level and fertile land, hundreds of rivers, forests, and is rich in natural resources
- (a) PSQR (b) RSQP (c) QSRP (d) QSPR (e) SPQR

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

36. Someone who has been admitted to membership in a scholarly field.
 (a) Scholar (b) Researcher (c) Academician (d) Savant (e) Pollster
37. The belief that arranging the home or office in a particular way will bring good or bad luck.
 (a) Eugenics (b) Antiquary (c) Geomancy (d) Soothsaying (e) Astrology
38. A collector and student of postage stamps.
 (a) Philatelist (b) Firedrake (c) Lunatic (d) Freelancer (e) Phillumenist
39. The science of soil management and crop production.
 (a) Geology (b) Philology (c) Kinesics (d) Agronomy (e) Gemology
40. Payment made to a person in a position of trust to corrupt his judgment.
 (a) Enticement (b) Snare (c) Epigram (d) Fraud (e) Bribe

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

41. The group called a meeting to finally *clear the air*.
 (a) Call off discussion (b) Offer a solution
 (c) Negotiate a bond (d) Decide the agenda
 (e) Dispel differences
42. The dispute regarding the granting of bonus to workers *came to a head* this week.
 (a) Settled amicably (b) Took a better turn
 (c) Resulted in violence (d) Reached a crisis
 (e) Yielded better results
43. He always advises his brother to *keep his nose clean*.
 (a) Stay out of trouble (b) Be polite
 (c) Act smart (d) Update himself (e) Behave decently

44. The results of the poll have started coming in but our party chief will be *on tenterhooks* until the last result comes in.

- (a) In high spirits (b) In a depressed mood
(c) In a state of agitated suspense (d) In an exalted stage
(e) In a state of resignation

45. She has been betrayed by her own *flesh and blood*.

- (a) Neighbors (b) Close relatives
(c) Acquaintances (d) Colleagues (e) Students

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

Indian institutions prefer students to be _____ (46) listeners. Our education system, barring a few exceptions, encourages a hierarchical relationship between teacher and student. The former controls knowledge and the latter is expected to submissively accept what is handed down. The argumentative Indian thrives despite the system. This may look like an / a _____ (47) because a competitive political democracy like India should have facilitated an educational system that is cool about arguments and dissent. Or, is the _____ (48) in the education system a reflection of a flaw in our democratic culture? We have regular elections and our political space teems with parties subscribing to a _____ (49) of ideologies. But is this space sufficiently democratic so that people get the leaders they deserve? A range of identities such as family, clan, caste, religion influences our choice of leaders more than their understanding of public policy. Beneath _____ (50) of democracy, the old social order, where caste was privileged over merit, has survived, though in a weaker form.

46. (a) Talkative (b) Contemplative (c) Obedient (d) Distracted (e) Cursory
47. (a) Anomaly (b) Amusement (c) Enigma (d) Cavalcade (e) Catastrophe
48. (a) Vacuum (b) Twist (c) Lacuna (d) Effect (e) Triviality
49. (a) Cluster (b) Rainbow (c) Parade (d) Horde (e) Chain
50. (a) Trappings (b) Futility (c) Concoction (d) Treatise (e) Modality

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

There are millions of children in India, who cannot, for a variety of reasons, be protected by their parents and adult family. They maybe dead, or alcoholic, or violent and abusive, or in jail, or lost, or have abandoned their child. The parents may also be themselves destitute, homeless, gravely ill or disabled, and therefore unable to care for their children without support. The child, who has no home or settled place or abode and any ostensible means of subsistence maybe at risk in other ways as well: due to riots, natural disasters, war and militant conflict; disabilities and incurable terminal ailments, with no one who can support or look after the child; when a child is grossly abused or tortured; is inducted into drug abuse or trafficking; child marriage and child labor. In all such situations, it is the State, which is both morally and legally responsible to protect, nurture and raise each child.

However, at present, the State in India invests miniscule resources in child protection. India today is a youthful nation: 19 percent of the children in the world live within its boundaries, and more than one-third of the population is below 18 years. Accounting for the largest number of children in work, and the second largest number of children affected by HIV, India arguably has the highest number of children facing exploitation and neglect in the world. But the investment on child protection was a shocking 0.034 per cent of the budget.

Traditionally, public authorities have tried to accomplish their duty of protecting children who are at risk mainly by locking away large numbers of these children in State-run, closed institutions for many years until the child grows to adulthood, and soon after the child comes of age by abruptly discharging the child without any further support into the larger society. Private and religious charities also sometimes run orphanages for such children, but they are usually run on similar custodial principles of raising the child in confined and overly disciplined environments. For children who conflict with the law, there are statutory 'special homes' to which they are usually confined in conditions similar to jails. For many years, these children also shared adult jails, and many illegally continue to do so.

It is both absurd and heartless for children to be locked up only because they have no one to protect them. It is argued that this is done for the sake of the child: if the child was free in the community, the State would be unable to protect the child from abuse, and therefore she is locked up for her own good. This is quite illogical. The State must find ways to protect the child who is in need of care in ways that respect the child's right to a happy and free childhood, while at the same time ensuring her protection, and her rights to food, education, health care, recreation, love and security.

51. According to the passage, 'special homes' are statutorily run for
- (a) Children who are gravely ill or disabled
 - (b) Orphans and children affected by natural disasters and riots
 - (c) Children with incurable terminal ailments
 - (d) Destitute children and children who are addicted to drugs
 - (e) Juvenile delinquents
52. It is evident from the passage that all these institutions are devoid of
- (a) Requisite facilities
 - (b) Minimum infrastructure
 - (c) Safety arrangements
 - (d) Love and affection
 - (e) Community interaction
53. It becomes an obligation for the State to take moral and legal responsibility in the case of children
- (a) Who are badly abused
 - (b) Whose parents are seriously ill
 - (c) Who are orphaned or abandoned
 - (d) Whose parents are destitute and homeless
 - (e) All the above

54. Pick out the statement, which is true.
- India accounts for the largest number of children engaged in work
 - The author feels that it is quite reasonable to keep the neglected children in jails to ensure their safety
 - Orphanages run by private charities do not enforce strict discipline on the inmates
 - A huge amount in the Indian budget is reserved for child protection
 - Compared to the rest of the countries in the world, India has the least number of children, who are affected by HIV
55. Pick out the word which is a close synonym of 'ostensible' as used in the passage.
- Apprehensive
 - Rigid
 - Contemptible
 - Apparent
 - Unreal
56. It may be inferred from the passage that it is the right of every child to have a/an
- Luxurious life
 - Special identity in the society
 - Individual status
 - Happy and free childhood
 - Free access to higher education
57. What have been the State authorities doing all these years?
- They have been strictly supervising the State-run homes and similar charitable organizations which give shelter to homeless children
 - They have been keeping huge numbers of neglected children in State-run homes and would suddenly send them out into the society as soon as they become adults
 - They have been trying to bring reformation in the minds of children who display socially unacceptable behavior
 - They have been running schools with the prime motto of sending out young offenders as changed persons
 - They have been providing state-of-the-art facilities in order to attract more such children to these homes
58. What is the central theme of this passage?
- It recommends that State-run institutions should be run on the same lines and follow the model of religious charities
 - It makes a comparative study about State-run homes and orphanages run by private organizations
 - It draws conclusions on a study based on 'children's jails'
 - It critically analyses the deplorable conditions in State-run homes
 - It focuses on the child, who is in need of State support

Passage II

'Human life has meaning only to that degree and as long as it is lived in the service of humanity'.

So said Wole Soyinka, the Nigerian Nobel Laureate, in his book of prison notes titled, *The Man Died*. Soyinka has lived a meaningful life. As a poet, dramatist, novelist, essayist and literary critic, his contribution to literature has been immense. Soyinka is more than a writer. An outspoken social critic, political activist and tireless crusader against tyranny, he is the conscience of Africa.

Born in a Yoruba family in Abeokuta, Soyinka is the inheritor of the best of two worlds. His family was Christian. In the book, *Ake: The Years of Childhood*, he recalls the influences of his Christian home. His father was a schoolmaster. In his well-stocked library, where young Wole spent hours, the foundation of a literary career was laid. But it was his grandfather who initiated young Soyinka into the rituals and religious beliefs of his people.

Soyinka's creative art is anchored in his culture. With all his pride in the culture of his people, Soyinka was no blind worshipper of Africa's past. This was startlingly proved by his play, *A Dance of the Forests*, written for the Independence celebrations of Nigeria in 1960. As sadistic and megalomaniac dictators emerged in independent African nations, Soyinka's moral fervour deepened. Soyinka has been severe also in his

criticism of his countrymen. His hilarious comedies and brilliant political satires like *Opera Wonyosi* have brought to light evils and signs of decadence in Nigerian society. In the midst of the violence and chaos that marked the history of independent Nigeria, Soyinka kept his sanity. His deep moral outrage, however, drove him to take enormous personal risks. Soyinka was arrested and held in solitary confinement for more than two years. Soyinka produced some of his best works in prison. After he was being released, he chose to go on voluntary exile for a long period. The bedrock of Soyinka's unwavering social commitment is his deep love for Africa. When he received the Nobel Prize for Literature in 1986, Soyinka held out the Prize in the direction of the African continent. This touching gesture was an acknowledgment of his belief that the Prize was an affirmation of African culture, literature and art that had long been trampled by the colonial powers.

In his Nobel Prize acceptance speech, Soyinka eloquently affirmed the African values. He called for the political will to dismantle all structures of racism and human inequality. The speech echoed his statement in *The Man Died*, 'For me justice is the prime condition of humanity.' It was in recognition of this passionate commitment that in 1994, UNESCO made Soyinka its Goodwill Ambassador for the promotion of African culture and human rights.

59. Which of the following pairs have synonymous words?
- (a) Commitment and Promotion (b) Inequality and Racism
(c) Fervour and Independence (d) Gesture and Acknowledgment
(e) Foundation and Bedrock
60. Choose the statement that is true about Soyinka in the context of the passage.
- (a) He is a strong supporter of Africa's glorious past
(b) He was kept in solitary confinement for more than a decade
(c) He is the nominated member of UNESCO
(d) He was expelled from his country for his rebellious nature
(e) He has lived a purposeful life
61. According to the author's opinion, all the following words describe Soyinka except that he is a/the
- (a) Frank social critic (b) Champion of human rights
(c) Political activist (d) Megalomaniac
(e) Conscience of Africa
62. Which of the following words aptly substitutes the phrase 'a pathological egotist' as used in the passage?
- (a) Critic (b) Megalomaniac (c) Ambassador (d) Dictator (e) Crusader
63. Pick out the synonym of 'hilarious' as used in the passage.
- (a) Amusing (b) Deadly (c) Awful (d) Boisterous (e) Pleasing
64. UNESCO made Soyinka its Goodwill Ambassador
- (a) As a recognition for his unwavering social commitment
(b) In order to acknowledge his exemplary literary skills
(c) For promoting African culture and human rights
(d) To honor him for his patriotic fervor
(e) Because he propagated African culture, literature and art
65. Soyinka's popular work, *Opera Wonyosi*, throws light on the
- (a) Rich traditions and ritual practices of Nigerian society
(b) Evils and signs of decadence in Nigerian society
(c) Varied and rich cultural past of Nigeria
(d) Evils and structures of racism that existed in Nigeria
(e) Vibrant nature of African culture and human rights
66. What is the passage about?
- (a) It is a tribute on Wole Soyinka (b) It is a review of his literary works
(c) It is his autobiography (d) It is about his life in prison
(e) It is his Nobel Prize acceptance speech

Passage III

Forty years after man first set foot on the moon, the United States has dispatched two unmanned lunar spacecraft to earth's natural satellite to pave the way for humans to return there. The search for deposits of water is high on the agenda of the Lunar Reconnaissance Orbiter (LRO) and the Lunar Crater Observation and Sensing Satellite (LCROSS). India's Chandrayaan-1 probe, too, may well join the quest. 'Discovering water on the moon would be like finding a gold mine,' said U.S. space agency NASA in a recent press document. It estimates that getting a bottle of water to the moon would run to about \$50,000 at current launch costs. Therefore, the ability to extract water locally would be immensely useful if humans want to establish bases on the celestial body.

It is believed that water could have been brought to the moon by comets and meteorites that have crashed on its surface over billions of years. Likewise, hydrogen ions streaming out from the sun might have combined with oxygen from chemical compounds in the lunar soil and turned into water. The question is whether all this water has boiled off in the face of the moon's scorching daytime temperatures and its low gravitational hold.

In a paper published in 1961, three scientists at the California Institute of Technology, put forward the idea that water 'may well be present in appreciable quantities in shaded areas in the form of ice'. The paper appeared in the *Journal of Geophysical Research* around the same time President John F. Kennedy committed the U.S. to landing a man on the moon. Some thirty years later, two U.S. space probes that went to the moon, Clementine and Lunar Prospector, provided evidence that water might persist as patches of ice mixed with soil at the bottom of craters at the poles. Sunlight never reaches the bottom of some craters at the lunar poles, which therefore remain at temperatures far below the freezing point of water. So these would be ideal locations for trapping water ice on the moon. But the evidence has been disputed and scientists continue to argue vigorously about whether or not earth's nearest neighbour holds any water.

The LRO and the LCROSS were launched from Cape Canaveral in Florida. The two spacecraft, along with Chandrayaan-1, will undoubtedly throw a great deal of new light on the issue. Once the spacecraft is commissioned, a slew of instruments on it will look for signs of water ice and hydrogen in different ways.

The LCROSS and the spent upper stage of the Atlas rocket that launched the two spacecraft have swung past the moon for the first time. NASA plans to send the empty upper stage, weighing over 2,000 kg, hurtling into a crater near the lunar south pole at a speed of about 9,000 km per hour.

67. How is the moon referred to in the passage?

- I. A gold mine
- II. A celestial body
- III. Earth's natural satellite
- IV. Earth's nearest neighbor

- (a) (I) and (II) above
- (b) (II) and (III) above
- (c) (II) and (IV) above
- (d) (II), (III) and (IV) above
- (e) All (I), (II), (III) and (IV) above

68. Why is it necessary to extract water locally on the moon?

- (a) To carry on further research
- (b) It is highly expensive to carry a bottle of water to the moon
- (c) It would be greatly useful to humans if they want to set up bases on the moon
- (d) It will become easy for the astronauts to stay there for a longer time
- (e) It reduces the burden of carrying water for the astronauts

69. The main objective of sending the LRO and the LCROSS to the moon is to

- (a) Pave the way for the humans to return from the moon
- (b) Find out if sunlight ever reaches some craters at the lunar poles
- (c) Carry on complete research about the moon
- (d) Establish bases on the celestial body
- (e) Search for deposits of water

70. In the phrase, 'slew of instruments', the word 'slew' means
- (a) A large number (b) The assembled parts
(c) The automated components (d) A restricted number
(e) An assortment
71. It can be inferred from the passage that the moon's
- (a) Upper crust contains hydrogen
(b) Daytime temperatures are very high
(c) Lunar soil can hardly hold water
(d) Surface is covered with ice
(e) Gravitational hold is very high
72. Choose the statement that is true in the context of the passage.
- (a) Sunlight never reaches the surface of the moon
(b) Oxygen does not exist in any form on the moon
(c) It is not yet proved whether the moon holds any water or not
(d) The LRO and the LCROSS were launched in 1961
(e) There are gold mines on the moon
73. What is the belief about the existence of water on the moon?
- (a) It exists in the form of ice
(b) It is brought by comets and meteorites
(c) It is formed through chemical reaction
(d) It is present in considerable quantities in shaded areas
(e) All the above
74. What is the apt title of the passage?
- (a) Weather Conditions on the Moon (b) Searching for Water on the Moon
(c) Moon – A Gold Mine for Many (d) India's Chandrayaan-1 Mission
(e) Man's First Steps on the Moon
75. What would be the best place for trapping the ice water on the moon?
- (a) Near the poles (b) In shaded areas
(c) From any part of the moon (d) Bottom of craters at the poles
(e) Upper layers of the soil

Passage IV

'When were you in Morocco?' a globetrotter friend excitedly asked me. 'Never been there, I'm keen to visit it, though,' I sallied. 'This is Morocco,' he said emphatically, pointing to an image on the monitor. 'This is Punjab,' I countered. 'It's the Grand Mosque of Marakesh,' he stressed. 'It's the Moorish Mosque in Kapurthala,' I smiled. Our rebuttal session got a tad extended leaving my friend utterly flummoxed and I thought of bailing him out. 'You've been partially accurate all along. The mosque is a replica.' He was astounded. So are a host of others initially when they see the images of Kapurthala, an erstwhile royal province defined by its architectural grandeur. Their surprise springs not from the verity that a facsimile structure exists, but from the knowledge that it stands in Punjab!

The feisty agrarian land of Punjab has always been shy in boasting about its built heritage, instead letting its overenthusiastic bhangra and scrumptious tandoori chicken do most of the talking. Nonetheless, it does have stunning edifices dotting its landscape and is quite an indulgence for the history-digger. Amongst them all, Kapurthala is definitely the crowning glory. Its lineage dates back to founder, Jassa Singh Ahluwalia, an astute warrior, who played a pivotal role in crushing numerous invasions to become the first leader who consolidated large parts of Punjab. In a way, Jassa Singh laid the path for Punjab's most exceptional monarch, Maharaja Ranjit Singh, to establish an impregnable Sikh empire years later.

However, Kapurthala owes its structural legacy to Maharaja Jagatjit Singh. A widely-travelled royal, his voyages allowed him to see exceptional architecture and he chose the blueprint of some of the finest in the world to adorn his State with. That's how Kapurthala got the Moorish Mosque. Recreated by the French architect, Manteaux, on the pattern of the Koutoubia or Grand Mosque of Marakesh, Morocco's signature structure, it was erected in 1930 at a cost of ` 4 lakh. Far removed from the Indo-Islamic, marble-domed

mosques found around the country, it has instead a brick-work facade, no dome, a flat roofed entrance and, uniquely, a single cuboidal minaret.

What appealed instantly were the joyous colors that reflected a Mediterranean ambience. I was gripped by a rose pink wall meeting a lemon one round the corner, mustard-colored arches, glazed dark turquoise ridged tiles capping a hexagonal dome or the touch of green in its minaret. The intricate, brick-filigreed minaret is further adorned with a spire which is three copper balls in reducing size, signifying the traditional style of the Almohads, a dynasty that originated in 1121 A.D. with Ibn Tumart, a Berber tribe member of the Atlas Mountains; and by 1149 A.D., it had established its control over Marakesh. The Grand Mosque was built between 1184 and 1199 A.D. Centuries later, the Moorish Mosque in Punjab stood as a splendid link in the six degrees of separation from a passage of history that played out in distant Africa.

Today's Kapurthala has a reticent charm. In addition to this slice of Morocco, the town is dotted with other European replicas too. I observed a bit of France in the Jagatjit Palace, a close reproduction of the Palace of Versailles, that is now the Sainik School. A touch of Greece came across in the Jagatjit Club that's designed on the lines of the Acropolis. A bevy of places that completed the impressive line-up were the Indo-Saracenic Jhagar Singh War Memorial; Elysee Palace that's now MGN Public School; the Islamic-patterned former Durbar Hall which at present serves as the District Court; and the Randhir College that was set up in 1856 and named after a former ruler.

76. Pick out the antonym of 'impregnable' as used in the passage.
- (a) Vulnerable (b) Courageous (c) Senile (d) Strong (e) Safe
77. A host of author's friends were surprised to know
- (a) That the author visited Morocco and the Grand Mosque of Marakesh
(b) That Kapurthala, an erstwhile royal province, has the Grand Mosque of Marakesh
(c) That the Grand Mosque of Marakesh is a replica of the Moorish Mosque that stands in Kapurthala
(d) That an exact copy of the Grand Mosque of Marakesh stands in Punjab
(e) That Punjab is much more than bhangra and tandoori chicken
78. The passage opens with a/an
- (a) Reproach (b) Denigration (c) Refutation (d) Approval (e) Tiff
79. How did Kapurthala get the Moorish Mosque?
- (a) Jassa Singh Ahluwalia got it constructed on the lines of Elysee Palace
(b) The French architect, Manteaux, built it as a replica of the Acropolis
(c) Ibn Tumart, a Berber tribe member of the Atlas Mountains, constructed it as a close reproduction of the Palace of Versailles
(d) Maharaja Ranjit Singh added a special charm to Kapurthala by building the Mosque as a fine representation of Indo-islamic culture
(e) Maharaja Jagatjit Singh's admiration for the architectural wonders made him bring blueprints of some of the finest in the world to adorn the State with
80. According to the author, Punjab is shy of boasting about
- (a) Its rich cultural diversity (b) Its architectural marvels
(c) Its agrarian wealth (d) Its traditional bhangra dance
(e) Its typical dish tandoori chicken

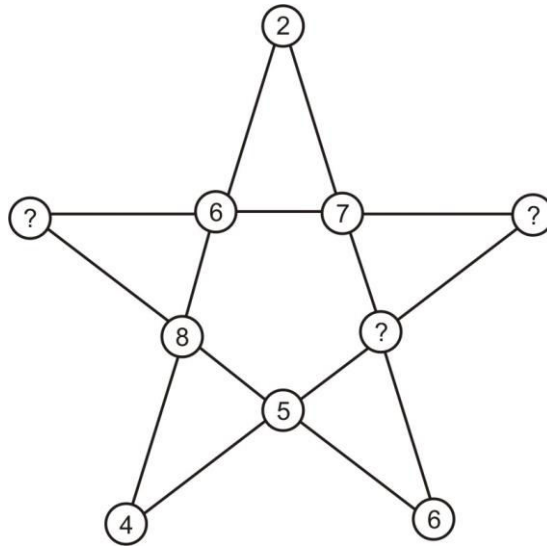
END OF SECTION II

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. If p, q, r and s are four positive integers such that $pqr = 1$, what is the minimum value of $(2 + p)(3 + q)(4 + r)(5 + s)$?
(a) 1 (b) 12 (c) 120 (d) 240 (e) 360
82. Anush has fifteen coins and five boxes labeled A, B, C, D and E. He drops coins into all the boxes such that, each box has at least one coin and no two boxes have the same number of coins. Later, he found that B contains more coins than E and C contains the least number of coins when compared to A and D.
If B contains twice the number of coins in E, then which of the following is necessarily true?
(a) C has an even number of coins (b) C has an odd number of coins
(c) A has an odd number of coins (d) A has an even number of coins
(e) D has more coins than A
83. Let a, b, c be distinct digits. Consider a two digit number 'ab' and a three digit number 'ccb', both defined under the usual decimal number system. If $(ab)^2 = ccb$ and $ccb < 300$, then the value of b is
(a) 0 (b) 1 (c) 2 (d) 5 (e) 6
84. A group of 630 children is arranged in rows for a photograph session. Each row contains three children lesser than the row in front of it. Which of the below mentioned number of rows is not possible?
(a) 3 (b) 4 (c) 5 (d) 6 (e) 7
85. A shipping clerk has 6 boxes of different but unknown weights, each weighing less than 100 kg. The clerk weighs the boxes in pairs. The weights thus obtained are 106, 109, 110, 112, 114, 115, 116, 118, 119, 120, 121, 122, 123, 124 and 126 kg, respectively. What is the weight of the heaviest box?
(a) 68 kg (b) 67 kg (c) 66 kg (d) 65 kg (e) 64 kg
86. Consider the set $S = 1, 2, 3, \dots, 10001$. How many arithmetic progressions with at least 3 elements can be formed from the elements of S that start with 1 and end with 1000?
(a) 6 (b) 7 (c) 8 (d) 12 (e) 13

87. A boy has some coins with some value on them. He arranges the coins in the form of a star as shown below such that the sums of the numbers in the four circles along any line segment of the star are all equal. What is the sum of the missing numbers?



- (a) 10 (b) 12 (c) 13 (d) 14 (e) 15
88. A rectangular floor is fully covered with square tiles of identical size. The tiles on the edges are white and the tiles in the interiors are black. The number of white tiles is same as the number of black tiles. Which of the following can be the possible number of tiles along one edge of the floor?
- (a) 10 (b) 12 (c) 14 (d) 16 (e) 18
89. When a two-digit number is divided by the sum of its digits, the quotient is 7 and the remainder is 6. If one of the digits of the number is three, then what is the difference of the digits?
- (a) 2 (b) 3 (c) 4 (d) 5 (e) 6
90. The sum of four consecutive two-digit odd numbers, when divided by 10, becomes a perfect square. Which of the following can possibly be one of these four numbers?
- (a) 21 (b) 25 (c) 41 (d) 67 (e) 73
91. A trader marks an article $4x\%$ above the cost. He gives a discount of $(x + 3)\%$ and gets a profit of $(2x - 3)\%$. If he gives a discount of $(2x/3)\%$, what would be his gain percent?
- (a) 26.5% (b) 42.6% (c) 56.2% (d) 60.4% (e) 68.8%
92. An equilateral triangle BPC is drawn inside a square ABCD. What is the value of the angle APD?
- (a) 75° (b) 90° (c) 120° (d) 135° (e) 150°
93. There are two solid pyramids, each having 8 edges of length 8 cm each. These two pyramids are moulded to form a hexagonal pyramid with length of each side as 8 cm. What is the slant height of the new pyramid?
- (a) $\frac{8}{3}\sqrt{\frac{35}{3}}$ units (b) $8\sqrt{\frac{35}{3}}$ units (c) $2\sqrt{\frac{35}{3}}$ units (d) $3\sqrt{35}$ units (e) $8\sqrt{35}$ units
94. There are 8 tasks and 8 persons. Task 1 cannot be assigned either to person 1 or to person 2 or to person 8; task 2 must be assigned to either person 3 or person 4 or person 5. Every person is to be assigned one task. In how many ways can the tasks be assigned?
- (a) 3360 (b) 5040 (c) 6720 (d) 8640 (e) 20160
95. If $f(x, y) = 2x^2 + 3xy - 3y^2 + 3$, then what is the value of $f(f(3, 2), f(-2, -1))$?
- (a) 1257 (b) 1527 (c) 1787 (d) 1997 (e) 2007

96. When the digits of the number 14 are reversed, the number increases by 27. How many other two-digit numbers increase by 27 when their digits are reversed?
 (a) 5 (b) 6 (c) 7 (d) 8 (e) 9
97. Two pipes A and B would fill a cistern in 30 and 40 minutes respectively. Both pipes are opened. Determine the time the first pipe can be turned off so that the cistern may be just filled in 20 minutes?
 (a) After 10 minutes (b) After 15 minutes
 (c) After 20 minutes (d) After 22 minutes
 (e) After 25 minutes
98. Mr. Avinash manufactures and sells a single product at a fixed price in a niche market. The selling price of each unit is ₹ 30. On the other hand, the cost, in rupees, of producing x units is $240 + bx + cx^2$, where b and c are some constants. Avinash noticed that doubling the daily production from 20 to 40 units increases the daily production cost by 66.66 percent. However, an increase in daily production from 40 to 60 units results in an increase of only 50 percent in the daily production cost. Assume that demand is unlimited and that Avinash can sell as much as he can produce. His objective is to maximize the profit. How many units should Mr. Avinash produce daily?
 (a) 70 (b) 100 (c) 130 (d) 150 (e) 180
99. Two identical circles intersect so that their centres, and the points at which they intersect, form a square of side 2 cm. What is the area of the portion that is common to both the circles?
 (a) $2(\pi - 2)$ cm² (b) $2(\pi - 1)$ cm²
 (c) 2π cm² (d) $(\pi - 2)$ cm²
 (e) $(\pi - 1)$ cm²
100. What is the number of distinct terms in the expansion of $(x + y + z)^{25}$?
 (a) 25 (b) 50 (c) 125 (d) 325 (e) 351
101. There are five containers A, B, C, D and E each containing 1200 litres of water. The water is being pumped from one tank to another as follows:
 From A to B at 30 litres/minute
 From C to A at 60 litres/minute
 From A to E at 20 litres/minute
 From C to D at 50 litres/minute
 From D to B at 80 litres/minute
 From B to C at 60 litres/minute
 From E to D at 10 litres/minute
 From E to A at 10 litres/minute
 Which tank gets emptied first?
 (a) A (b) B (c) C (d) D (e) E
102. In triangle DEF shown below, points A, B and C are taken on DE, DF and EF respectively such that $EC = AC$ and $CF = BC$. If angle D = 40 degrees, then what is angle ACB in degrees?
 (a) 140 (b) 70 (c) 100 (d) 110 (e) 120
103. Saga Internationals have conducted a chess competition between young boys and girls, wherein every individual has to play exactly one game with every other individual. It was found that in 66 games, both the players were girls, and in 210 games, both were boys. Find the number of games in which one player was a boy and the other was a girl.
 (a) 210 (b) 222 (c) 252 (d) 276 (e) 290

104. A slab of ice 8 inches in length, 11 inches in breadth and 2 inches thick was melted and resolidified into the form of a rod of 8 inches diameter. The length of such a rod, in inches, is nearest to
 (a) 3.0 (b) 3.5 (c) 4.0 (d) 4.5 (e) 2.5
105. N is a positive integer where $10 < N < 501$. Let P and S denote the product of the digits of N and the sum of the digits of N respectively. The number of integers in the given range for which $P + S = N$ is
 (a) 81 (b) 49 (c) 29 (d) 16 (e) 9
106. A dry fruit seller purchased 3 kinds of nuts at the rate of ₹ 100/kg, ₹ 80/kg and ₹ 60/kg. He then mixed them, respectively, in the ratio 3 : 4 : 5 by weight and sold the same to a customer at 50% profit. The price at which he sold to the customer is
 a. ₹ 110 (b) ₹ 90 (c) ₹ 70 (d) 115 (e) 120
107. If $S = (1 \times 1!) + (2 \times 2!) + (3 \times 3!) + \dots + (11 \times 11!)$, then $(S + 5)$ when divided by $12!$ leaves a remainder of
 (a) 0 (b) 1 (c) 4 (d) 6 (e) 7
108. Two positive integers differ by 5. The sum of their reciprocals is $9/14$. Then one of the numbers is:
 (a) 3 (b) 2 (c) 1 (d) 4 (e) 6
109. P, Q, S and R are points on the circumference of a circle of radius r , such that PQR is an equilateral triangle and PS is the diameter of the circle. What is the perimeter of the quadrilateral $PQSR$?
 (a) $4r$ (b) $2r\sqrt{3}$ (c) $2r(1 + \sqrt{3})$ (d) $4r\sqrt{3}$ (e) $4r(1 + \sqrt{3})$
110. Ujagar and Keshab attempted to solve a quadratic equation. Ujagar made a mistake in writing down the constant term. He ended up with the roots (4, 3). Keshab made a mistake in writing down the coefficient of x . He got the roots as (3, 2). What will be the exact roots of the original quadratic equation?
 (a) (6,1) (b) (-3, -4) (c) (4,3) (d) (-4, -3) (e) (5,-3)

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.** A family consists of 6 members P, Q, R, S, T and U. How is P related to R?
Statement 1: U and T have two children R and S. Q is the spouse of R and P is the uncle of S
Statement 2: R and Q have a daughter S. S is married to U, who is the son of P and T
- 112.** Mahesh and Ramesh are studying in the same class. How many students are there in their class if the difference in their ranks is 8?
Statement 1: Mahesh has equal number of students, who are above as well as below, in terms of rank
Statement 2: The number of students above Ramesh's rank is equal to the number of students between Mahesh and Ramesh's ranks.
- 113.** A, B, C, D who are married to P, Q, R, S are sitting opposite to each other. No one is sitting in front of his or her spouse. Who is sitting opposite to B?
Statement 1: A and C are married to Q and S respectively and R is sitting opposite to the only person between B and D
Statement 2: C, B and P are sitting in corners. Q is sitting opposite to the only person between C and A
- 114.** Akash purchased a pair of jeans. What is its marked price?
Statement 1: After giving a discount of 15% on marked price, the shopkeeper earns a profit of 10%
Statement 2: The shopkeeper gets every pair of jeans from the market outlet for ₹ 600
- 115.** The average weight of Abhi and Deeru is 40 kg. What is the average weight of Abhi, Banu, Chaitu and Deeru?
Statement 1: Average weight of Abhi, Banu and Chaitu is 45 kg
Statement 2: Average weight of Banu, Chaitu and Deeru is 40 kg
- 116.** If 'x' is positive, is $\sqrt[4]{x} > \sqrt[3]{x}$?
Statement 1: $0.5 < x < 2$
Statement 2: $12x^2 - 7x + 1 = 0$
- 117.** Amar, Bakshi and Chetan together invest ₹ 24,000 in a business. What is the profit share of Bakshi?
Statement 1: The ratio of investments of Amar, Bakshi and Chetan is 4 : 6 : 9
Statement 2: Ratio of their profits is equal to the ratio of their investments
- 118.** 'a' and 'b' are two natural numbers. Is 'b' a perfect square?
Statement 1: 'b' is divisible by $(a + 1)^2$
Statement 2: $b < 100$
- 119.** a, b and c are three numbers selected from a set containing ten numbers 0 to 9. Is $(a + b + c)$ a multiple of 9?
Statement 1: Three digit number abc is a multiple of 9
Statement 2: $(a \times b) + c$ is a multiple of 9

120. On a particular day, who came earlier, Anita or Vani?
 Statement 1: Anita came not later than 2 PM on that day
 Statement 2: Vani came not earlier than 1 PM on that day
121. A number is picked randomly from a given set of numbers. What is the probability that it is divisible by 3?
 Statement 1: The set contains 10 consecutive integers
 Statement 2: The first number of the set is divisible by 3
122. a, b and c are prime numbers. What is the value of $a \times b \times c$?
 Statement 1: $a + b + c = 12$
 Statement 2: 6300 is divisible by $a \times b \times c$ and 1890 is divisible by $b \times c$
123. A bag contains 15 balls of the same size. Each ball is of a single colour, white, red or blue. How many red balls are there in the bag?
 Statement 1: The probability of drawing a red ball is the same as that of drawing a blue ball
 Statement 2: The probability of randomly drawing a white ball from the bag is 20%
124. Is the polygon MNOPQRSTUVWXYZ regular?
 Statement 1: $MN + OP = QR + ST$
 Statement 2: $MN + OP + WX \neq QR + ST + YZ$
125. If a real estate agent received a commission of 10% of the selling price of a certain house, what was the selling price of the house?
 Statement 1: The difference between the selling price and the real estate agent's commission is ₹ 630,000
 Statement 2: The selling price is 350% of the original purchase price of ₹ 200,000

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 tables provide information regarding total marks and marks in individual subjects of five students. Maximum mark in each subject is 100 and passing mark is 40. All the students passed in each subject with integer value marks.

Students	Total marks
Aman	350
Alekhya	400
Deepak	384
Sowmya	430
Reshma	361

Students	Subjects				
	A	B	C	D	E
Aman					
Alekhya		60		90	
Deepak					
Sowmya		86	94		88
Reshma	75	54			80
Total	402	302		430	

Additional information:

- Aman secured three different square number scores in three subjects and equal non-square marks in D and E. In addition, he scored the highest in subject A.
- Alekhya's highest score is 90 in subject D and she scored equal marks in C and E.
- Deepak scored the highest number (> 95) in subject D which is 9 more than his score in subject A and his score in subject C is 14 more than his score in B. Except in A, remaining all scores are prime numbers.
- Reshma scored 10 more marks in subject D than in subject C.

126. What is Deepak's score in subject E?
 (a) 71 (b) 73 (c) 79 (d) 83 (e) 89
127. How many marks did Alekhya score in subject E?
 (a) 72 (b) 75 (c) 78 (d) 80 (e) 85
128. How many marks did Reshma secure in subject D?
 (a) 61 (b) 68 (c) 71 (d) 75 (e) 81
129. What is the difference between the marks scored in subject A by Reshma and Deepak?
 (a) 10 (b) 13 (c) 18 (d) 20 (e) 21
130. What is Aman's score in subject D?
 (a) 60 (b) 68 (c) 70 (d) 78 (e) 81

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 following tables provide the statistics of football matches played by 8 teams A, B, C, D, E, F, G and H at three cities, X, Y and Z in a period of 5 years.

At city X							
S. No.	Team	Total matches	Matches Won	Matches Lost	Tie	Matches abandoned	Win %
1	A	307	195	102	3	7	65
2	B	155		58	2	5	
3	C	205	125	70	5	5	
4	D		110		0	0	68.75
5	E	139	85	50	1	3	
6	F	135	80	40	5	10	
7	G	111		29		11	65
8	H	83		58	2	3	25

At city Y							
S. No.	Team	Total matches	Matches Won	Matches Lost	Tie	Matches abandoned	Win %
1	A	102	69	30	1	2	69
2	B	82	44	36	0	2	
3	C		90			5	45
4	D	158		78	12	8	
5	E		180	120		1	60
6	F	86		26	4	6	
7	G	163	80	78	2	3	50
8	H	105		74	1		25

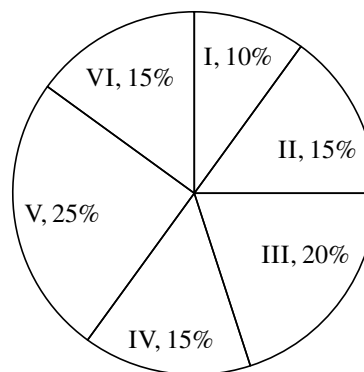
At city Z							
S. No.	Team	Total matches	Matches Won	Matches Lost	Tie	Matches abandoned	Win %
1	A	197	95	90	5	7	50
2	B	187		123	3	7	
3	C	161	40	117			25
4	D	126	50	74	1		
5	E		80	116	4	4	40
6	F	102		54	1		45
7	G	152	45		1	2	
8	H	92	18		1	2	

131. At which city has team B the highest winning percentage?
 (a) City X (b) City Y (c) City Z (d) At both City X and City Y
 (e) Cannot be determined
132. What is the total number of matches abandoned at city Z?
 (a) 24 (b) 25 (c) 26 (d) 27 (e) Cannot be determined
133. What is the approximate winning percentage of team A in all the matches they have played?
 (a) 51% (b) 61% (c) 66% (d) 71% (e) 74%
134. What is the approximate ratio of total number of matches won by eight teams in cities X and Y?
 (a) 285 : 199 (b) 385 : 299 (c) 35 : 27 (d) 42 : 25 (e) 299 : 265
135. Out of the total matches played by team E at city Y, it won 180 matches. In how many number of matches was E in a tie position?
 (a) 4 (b) 3 (c) 2 (d) 1 (e) 0

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.

In a company, there are 1200 employees working in six different departments. The table below gives the ratio of men and woman in each department and the pie chart describes the percentage distribution of employees in each department.

Department	Men to Women Ratio
I	3 : 2
II	4 : 1
III	2 : 3
IV	7 : 8
V	1 : 2
VI	5 : 4



136. What is the angle made by III department sector in the pie chart given?
 (a) 24° (b) 30° (c) 45° (d) 54° (e) 72°

137. In which department are the men maximum?
(a) I (b) II (c) III (d) V (e) VI
138. What is the total number of women in department II and III together?
(a) 200 (b) 236 (c) 240 (d) 242 (e) 280
139. If 100 men and 50 women join department V, what is the ratio of men and women?
(a) 1 : 1 (b) 1 : 2 (c) 2 : 1 (d) 3 : 4 (e) 4 : 5
140. What is the ratio of men in the department II to the women in the department V?
(a) 18 : 25 (b) 22 : 35 (c) 32 : 45 (d) 42 : 55 (e) 31 : 25

END OF SECTION IV

END OF QUESTION PAPER

Key for IBSAT 2017 - Model Paper-2

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

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

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

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