XAT MOCK TEST

Instructions

1. DO NOT OPEN THE SEAL OF THIS BOOKLET. WAIT FOR THE SIGNAL TO START.
2. This booklet contains 40 pages including the blank ones. Immediately after opening the booklet, verify that all pages are printed properly.
3. Keep only the Admit Card, pencil eraser and sharpener with you. DO NOT keep with you books, rulers, slide rules, drawing instruments, calculators (including watch calculators), pagers, cellular phones, or any other device. These should be left outside the room.
4. This paper has 200 questions. The total time for the test is 120 minutes.
5. The paper is divided into three sections.
   - Section-I   : 80 Questions
   - Section-II : 60 Questions
   - Section-III : 60 Questions
6. Directions for answering the questions are given in the test booklet before each group of questions to which they apply. Read these directions carefully and answer the questions by darkening the appropriate ovals.
7. Wrong answers carry negative marks. There is only one correct answer for each question.
8. Do the rough work on the test booklet only and NOT on the answer sheet or any other paper.
9. Follow the instructions of the invigilator. Candidates found violating the instructions will be disqualified.
10. At the end of the test, remain seated. Do not leave the hall till the invigilator announces, "You may leave now." The invigilator will make the announcement only after collecting the test booklets and answer sheets from everyone in the room.

ANY CANDIDATE GIVING/SEEKING/RECEIVING ASSISTANCE OR FOUND COPYING WILL BE IMMEDIATELY DISQUALIFIED.

Section – I

Direction for questions 1 to 5: Read the following passage and answer the questions that follow with reference to it.

Retailing — no marks for guessing this is the most active and attractive sector of the last decade. While the retailing industry itself has been present through history in our country, it is only the recent past that has witnessed so much dynamism. It's the latest bandwagon that has witnessed hordes of players leaping onto it. While international retail store chains have caught the fancy of many travellers abroad, the action was missing from the Indian business scene, at least till recently.

The emergence of retailing in India has more to do with the increasing purchasing power of buyers, especially post-liberalisation, increase in product variety, and the increasing economies of scale, with the aid of modern supply and distribution management solutions.

A definition of retailing is essential in order to be in a position to assess the impact of retailing and its future potential. The current retailing revolution has been provided an impetus from multiple sources. These 'revolutionaries' include many conventional stores upgrading themselves to modern retailing, companies in competitive environments entering the market directly to ensure exclusive visibility for their products and professional chain stores coming up to meet the need of the manufacturers who do not fall into either of the above categories. Attractiveness, accessibility and affordability seem to be the key offerings of the retailing chain

1.   What, according to the passage, has been the most attractive sector in the last decade?
        a. Conventional stores   b. Product variety   c. Retailing   d. None of these

2.   Retailing was present, but lacked something according to the author. What was it?
        a. Charm   b. Profitability   c. Entrepreneurship   d. Dynamism

3.   What has led to the rise of retailing in India?
        a. Rising population   b. Increasing volume of sales
        c. Both (a) and (b)   d. Increasing buying power of consumers

4.   What, according to the passage, does not appear as a feature of the modern face of retailing?
        a. Attractiveness   b. Affordability   c. Accessibility   d. Alacrity

5.   This article seems to be
        a. taken from a newspaper.   b. thought-provoking.
        c. a figment of the imagination.   d. part of a government white paper.

Direction for questions 6 to 15: Fill in the blanks with one of the choices provided below.

6.   ____ a business is all about proper decision making.
        a. Finishing   b. Catching   c. Running   d. Laundering

7. Any business calls for two ____ functions.
   a. critical   b. rudimentary   c. innate   d. None of these

8. Buying and selling, they would say. However, great businesses ____ another important function.
   a. comprise   b. consist of   c. collect   d. entail

9. Establishing relationships. Can you or can you not ____ a relation with all the stakeholders, is what is critical.
   a. propagate   b. motivate   c. cultivate   d. instigate

10. The best business managers ____ that business is 90 per cent relations and 10 per cent perspiration.
    a. compound   b. predict   c. propound   d. None of these

11. There have been many instances of great business empires that have been ____ by bad management.
    a. ruined   b. saved   c. created   d. toppled

12. Dhirubhai Ambani called his company Reliance, since Reliance stood for trust and hence the ____ of success.
    a. cornerstone   b. pitfall   c. preamble   d. meaning

13. Trust takes a lifetime to generate and only one mistake to ____.
    a. forget   b. squander   c. Both (a) and (b)   d. vanish

14. Incidents like Enron, Arthur Anderson and WorldCom will ____ the people who have lost their money and jobs for the rest of their lives.
    a. chase   b. suffer   c. threaten   d. haunt

15. Any business is not without a face. It only matters whether the face is ____ or intimidating.
    a. intimate   b. intimating   c. intimation   d. None of these

Direction for questions 16 to 25: In each of the following questions, one complete pair of words or phrases and one term of another pair are given. Complete the second pair by choosing the correct term from the given choices.

16. Carpenter : Auger :: Surgeon : ____
    a. Stethoscope   b. Blood   c. Scalpel   d. Dosage

17. Memorandum : Memoranda :: ____
    a. Strata: Stratum   b. Insignia : Insigne   c. Alumna : Alumnus   d. Bacillus : Bacilli

18. ____ : Turpitude :: Courage : Fortitude
    a. Depravity   b. Turbidity   c. Idleness   d. Idiocy

19. Implicate : Exculpate :: Complicate : ____
    a. Magnify   b. Mystify   c. Elucidate   d. Simplify

20. Malinger : Illness :: Flatter : ____
    a. Sneer   b. Exaggeration   c. Appreciation   d. Respect

21. Thor : Thunder :: Venus : ____
    a. Harvest   b. Virginity   c. Love   d. None of these

22. Doggerel : Poet :: ____ : Novelist
    a. Caricature   b. Parody   c. Potboiler   d. Tragedy

23. Outfox : Cumming :: Outstrip : ____
    a. Thought   b. Speed   c. Bravery   d. Wrath

24. Olfactory : Nose :: ____ : Tongue
    a. Guttoral   b. Gustatory   c. Oral   d. Aural

25. Needle Eye : Thread :: Eyelet : ____
    a. Binoculars   b. Kaleidoscope   c. Detergents   d. Shoelace

Direction for questions 26 to 30: Read the passage carefully and indicate the meaning of the word underlined by choosing one of the four alternatives as given.

Some profit by verbal <u>obfuscation</u>, or indeed strive to bring it about. Advertisers are not displeased if the public thinks of vacuum cleaners as Hoovers or paper tissues as Kleenex. And <u>demagogues</u> frequently believe in the <u>premise</u> of Newspeak, namely, that to control language is to control thought, and they dream of limiting speech and thinking to a rude little <u>lexicon</u> of politically correct grunts, just enough for efficient exploitation of those they rule. But when left to itself the evolution of word meanings is an <u>occult</u>, unpredictable, and unfathomable process.

26. Obfuscation
    a. Confusion   b. Cancellation   c. Uneasiness   d. Constipation

27. Demagogue
    a. Ancient   b. Corpse   c. Manipulator   d. Traitor

28. Premise
    a. Conclusion   b. Inference   c. Assumption   d. Noteworthy

29. Lexicon
    a. Meaning   b. Record   c. List   d. None of these

30. Occult
    a. Cult   b. Concealed   c. Conflict   d. Camaraderie

Direction for questions 31 to 40: In each of the following questions, choose the word opposite in meaning to given word.

31. Overt
    a. Undercover   b. Explicit   c. Secretive   d. Covert

32. Incorrigible
    a. Reformable   b. Impossible   c. Irrevocable   d. Inedible

33. Transparent
    a. Clear   b. Opaque   c. Large   d. Open

34. Quotidian
    a. Serious   b. Expensive   c. Unusual   d. Neutral

35. Gawky
    a. Fragrant   b. Melodious   c. Dexterous   d. Interesting

36. Comely
    a. Becoming   b. Ugly   c. Pretty   d. Attractive

37. Infirm
    a. Weak   b. Deft   c. Potent   d. Strong

38. Errant
    a. Vagabond   b. Settled   c. Upright   d. Arrant

39. Nurture
    a. Flourish   b. Nervous   c. Heavenly   d. Destroy

40. Kindle
    a. Inspire   b. Desire   c. Extinguish   d. Distinguish

Direction for questions 41 to 50: Read the following passage carefully and indicate the meaning of the words or phrases underlined by choosing the correct alternative.

The Karnataka government must be gratified that forest brigand Veerappan did not dictate who should be the state chief minister. Instead, he merely wanted jailed 'LTTE sympathiser' Kolathur T. S. Mani to be freed and made the emissary for securing the release of kidnapped former minister H. Nagappa, the bandit's hostage for over three months. Since Veerappan had threatened to behead Mr Nagappa if Mani was not released before November 30, the government of S. M. Krishna readily capitulated.

Hardly surprising then that the government did not oppose the bail application of Mani, the charges against whom include supplying arms, ammunition, explosives and other material to Veerappan. With the Krishna government only too willing to utilise his services as a negotiator, little credence can be given to law and

parliamentary affairs minister D. B. Chandre Gowda's assertion that the state had no intention of withdrawing the cases against Mani. Having secured conditional bail from one court, Mani, who was nabbed by the Special Task Force last March, is <u>brimming</u> with confidence. He has demanded dropping of the cases against him in exchange for functioning as an <u>emissary</u>.

Even as Karnataka prepares to <u>revoke</u> the charges against Mani, the Tamil Nadu government has said that he will be arrested the moment he steps into the state where he is wanted in five cases, including one relating to the kidnapping of <u>matinee</u> idol Rajkumar. However, the fact that Chennai is helpless should Bangalore send him as an emissary clearly shows that terrorists and criminals, far from being on the run, are being courted by governments.

This is not to suggest that Kolathur Mani should be <u>condemned</u> without a fair trial but to underscore that the Karnataka government, which framed the charges against him, now finds it <u>expedient</u> to drop the cases, making both actions highly suspect. In 2000, the Krishna government's decision to release Veerappan's associates detained under TADA in exchange for Rajkumar's release was halted by the Supreme Court.

In its criticism of the hostage-for-detenus deal, the apex court asked the Krishna administration to quit if it could not govern. If the import of the court's observations made at that time can be disregarded with <u>impunity</u> now, obviously the administration's fear of Veerappan is greater than its respect for the judiciary.

41. Gratified
   a. Great　　　　　　b. Thankless　　　　c. Content　　　　　d. Joyous

42. Sympathiser
   a. Traitor　　　　　b. Ally　　　　　　　c. Relative　　　　　d. None of these

43. Credence
   a. Acceptance　　　b. Rigidity　　　　　c. Rebuttal　　　　　d. Trustworthiness

44. Brimming
   a. Scarcity　　　　b. Stolid　　　　　　c. Fond　　　　　　　d. Awash

45. Emissary
   a. Ambassador　　　b. Spy　　　　　　　c. Tourist　　　　　　d. Visitor

46. Revoke
   a. Provoke　　　　　b. Invoke　　　　　　c. Repeal　　　　　　d. Retard

47. Matinee
   a. Moribund　　　　b. Hostile　　　　　　c. Unperturbed　　　d. None of these

48. Condemned
   a. Blessed　　　　　b. Gorgeous　　　　　c. Convicted　　　　d. None of these

49. Expedient
    a. Quick   b. Practical   c. Difficult   d. Unbecoming

50. Impunity
    a. Delightful   b. Exemption   c. Alacrity   d. Disgusting

Direction for questions 51 to 55: Read the following passage carefully and answer the questions that follow with reference to it.

South Africa is a country blessed with an abundance of natural resources including fertile farmlands and unique mineral resources. South African mines are world leaders in the production of diamonds and gold as well as strategic metals such as platinum. The climate is mild, reportedly resembling the San Francisco bay area weather more than anywhere in the world.

South Africa was colonised by the English and Dutch in the 17th century. English domination of the Dutch descendants (known as Boers or Afrikaners) resulted in the Dutch establishing the new colonies of Orange Free State and Transvaal. The discovery of diamonds in these lands around 1900 resulted in an English invasion, which sparked the Boer War. Following independence from England, an uneasy power sharing between the two groups held sway until the 1940s, when the Afrikaner National Party was able to gain a strong majority. Strategists in the National Party invented apartheid as a means to cement their control over the economic and social system. Initially, aim of the apartheid was to maintain white domination while extending racial separation. Starting in the 1960s, a plan of 'Grand Apartheid' was executed, emphasising territorial separation and police repression.

With the enactment of apartheid laws in 1948, racial discrimination was institutionalised. Race laws touched every aspect of social life, including a prohibition of marriage between non-whites and whites, and the sanctioning of 'white-only' jobs. In 1950, the Population Registration Act required that all South Africans be racially classified into one of three categories: white, black (African), or coloured (of mixed descent). The coloured category included major subgroups of Indians and Asians. Classification into these categories was based on appearance, social acceptance, and descent. For example, a white person was defined as 'in appearance obviously a white person or generally accepted as a white person'. A person could not be considered white if one of his or her parents were non-white. The determination that a person was 'obviously white' would take into account 'his habits, education, and speech and deportment and demeanour'. A black person would be of or accepted as a member of an African tribe or race, and a coloured person is one that is not black or white. The department of home affairs (a government bureau) was responsible for the classification of the citizenry. Non-compliance with the race laws was dealt with harshly. All blacks were required to carry 'pass books' containing fingerprints, photos and information on access to non-black areas.

In 1951, the Bantu Authorities Act established a basis for ethnic government in African reserves, known as 'homelands'. These homelands were independent states to which each African was assigned by the government according to the record of origin (which was frequently inaccurate). All political rights, including voting, held by an African were restricted to the designated homeland. The idea was that they would be citizens of the homeland, losing their citizenship in South Africa and any right of involvement with the South African Parliament, which held complete hegemony over the homelands. From 1976 to 1981, four of these homelands were created, denationalising nine million South Africans. The homeland administrations refused the nominal independence,

maintaining pressure for political rights within the country as a whole. Nevertheless, Africans living in the homelands needed passports to enter South Africa: aliens in their own country.

In 1953, the Public Safety Act and the Criminal Law Amendment Act were passed, which empowered the government to declare stringent states of emergency and increased penalties for protesting against or supporting the repeal of a law. The penalties included fines, imprisonment and whippings. In 1960, a large group of blacks in Sharpeville refused to carry their passes; the government declared a state of emergency. The emergency lasted for 156 days, leaving 69 people dead and 187 people wounded. Wielding the Public Safety Act and the Criminal Law Amendment Act, the white regime had no intention of changing the unjust laws of apartheid.

The penalties imposed on political protest, even non-violent protest, were severe. During the states of emergency that continued intermittently until 1989, anyone could be detained without a hearing by a low-level police official for up to six months. Thousands of individuals died in custody, frequently after gruesome acts of torture. Those who were tried were sentenced to death, banished, or imprisoned for life, like Nelson Mandela.

51.   This passage seems to be a
        a. a page from a book of history.   b. a newspaper article.
        c. an excerpt from a political treatise.   d. None of these

52.   What according to the passage led to the Boer War?
        a. Discovery of diamonds   b. Colonization
        c. English invasion   d. None of these

53.   Which party has been accused of introducing apartheid in South Africa?
        a. African National Congress   b. Afrikaner National Party
        c. The Boer Militia   d. Cannot be determined

54.   When according to the passage, was apartheid institutionalized?
        a. 1948   b. 1947   c. 1949   d. 1950

55.   The Bantu Authorities Act led to the creation of
        a. native homelands.   b. dictatorship.
        c. ethnic governments in homelands   d. None of these

Direction for questions 56 to 65: Fill in the blanks with one of the choices provided below.

56.   _____ had I put my key in the lock than the watchdog sprang at me.
        a. Hardly   b. Barely   c. Scarcely   d. No sooner

57.   Not since 1942 had Orissa _____ a cyclone of this magnitude.
        a. demonstrated   b. witnessed   c. made   d. undergone

58.   The cyclone, with wind speeds of around 200 kilometres per hour had uprooted trees, _____ electric poles, brought down houses and blown away tinned roofs.
        a. removed   b. uprooted   c. thrown   d. twisted

59. "It has been an ____ disaster," said chief minister Gamang after visiting the worst-hit areas.
   a. unfair   b. unforgivable   c. unmitigated   d. unchallenged

60. According to the ____ department officials in the state, the cyclone was not altogether unexpected during this part of the year.
   a. forestry   b. forensic   c. forecasting   d. meteorological

61. On October 18, a devastating cyclone ____ through one of the state's largest cities, Behrampur in Ganjam district, and adjoining districts leaving a trail of destruction.
   a. ran   b. howled   c. ripped   d. moved

62. But by the time the cyclone had passed through, it had already shown how ____ inadequate the disaster prediction in the country actually is.
   a. Short-sightedly   b. pitifully   c. scarcely   d. awesomely

63. The storm began as a ____ on the meteorology radar screens.
   a. warning   b. indicator   c. cloud   d. depression

64. The post-monsoon season routinely ____ such storms at least twice a month.
   a. brings   b. testifies   c. forecasts   d. witnesses

65. It was only later that the ____ experts finally realised that it was going to be a severe cyclonic storm.
   a. political   b. country's   c. international   d. weather

Direction for questions 66 to 75: Read the passage given below and answer the questions that follow.

Performance appraisal has been one of the most debated management practices for several decades. It has generated a wide variety of viewpoints. Here I will concentrate, due to paucity of time and space, on appraisal objectives and its linkages with pay and rewards.

Typically, performance appraisal schemes serve multiple objectives. It is centrally linked to the motivation of employees. It provides some of the essential components of effective motivational strategies; in particular, feedback that permits an employee to learn how well he or she is performing; goal or objective-setting that specifies what the person should be doing; team building that allows the employee to participate along with peers and his superiors in solving problems that impede his productivity; and monetary incentives that reward good performance.

Performance appraisal leads to the identification of the training and development needs of the employees. It also has close links with other important areas of human resource management, in particular with selection, motivation, goal-congruency and succession planning. Performance data provides relevant information required for validating selection methods, in assessing whether selection methods are bringing high performers into the organisation.

Here the organisation must not get trapped into the various pitfalls that come along with administration of appraisal system. The question that arises here is how to avoid these pitfalls? A necessary condition for the

effective management of performance appraisal system in any organisation is the need to clarify and communicate to all concerned the objectives that the system intends to achieve. Everyone in the organisation especially the key decision makers should be fully aware of precisely what objectives the system of performance appraisal is expected to achieve, and the priorities within these objectives.

66. What, according to the passage, should be done to make the performance appraisal successful?
    a. Clearly communicate the objectives of the appraisal process.
    b. Link the appraisal process with remuneration.
    c. Use the appraisal simply as a measure of goal congruency.
    d. None of these

67. What, according to the passage, should the key decision-makers be aware of?
    a. The level of motivation of the employees.
    b. The objectives the appraisal system is expected to achieve.
    c. Training and development needs of the employees.
    d. None of these

68. According to the passage, performance appraisal helps to
    a. motivate employees.   b. determine goal congruency.
    c. plan succession.   d. All of these

69. What does 'paucity', as used in the context of this passage mean?
    a. Availability   b. Opportunity   c. Scarcity   d. None of these

70. There has been a debate on
    a. performance appraisal's moral validity.
    b. cost-benefit analysis of the appraisal process.
    c. correlation between appraisal and remuneration.
    d. Cannot say

71. According to the author, performance appraisal helps the appraised to
    a. set goals.   b. improve as a team player.
    c. monitor problems that impede productivity.   d. All of the above

72. According to the passage,
    a. appraisal data can provide inputs to validate selection procedures.
    b. identify non-conformities in business processes.
    c. Both (a) and (b)
    d. None of the above

73. Performance appraisal, according to the passage
    a. helps to identify training needs of employees.
    b. helps to design training and development programmes.
    c. helps to identify candidates for specific training programmes.
    d. helps to validate the efficiency of training programmes.

74. This article seems to have been taken from
    a. a student's research paper.
    b. a newspaper report.
    c. a business magazine.
    d. None of the above

75. What, according to the passage, is performance appraisal a part of?
    a. Personnel management
    b. Human resource management
    c. Strategic human resource management
    d. Cannot say

Directions for questions 76 to 80: Select the choice that comes closest to the opposite in meaning to the word given in the question.

76. Enhance
    a. Abate   b. Ruin   c. Repeat   d. Philanthropic

77. Catalyst
    a. Defeatist   b. Droop   c. Brake   d. Pessimistic

78. Witless
    a. Certain   b. Clear   c. Brilliant   d. Definite

79. Dexterous
    a. Suave   b. Desperate   c. Awkward   d. Eclectic

80. Wary
    a. Imbalanced   b. Ventricle   c. Insane   d. Trusting

Direction for questions 81 to 85: Find out what comes next in the series.

81. 0, 11, 26, 45, ___.
    a. 55   b. 65   c. 68   d. 54

82. 1, 1, $\frac{3}{4}$, $\frac{1}{2}$, $\frac{5}{16}$, ——.

    a. $\frac{7}{16}$ b. $\frac{3}{32}$ c. $\frac{3}{16}$ d. None of these

83. 5, 9, 15, 19, ___.
    a. 21   b. 23   c. 25   d. None of these

84. 80, 75, 65, 50, ___.
    a. 30   b. 70   c. 45   d. None of these

85. 4, 9, 20, 43, 90, ___.
    a. 178   b. 180   c. 182   d. 185

Directon for questions 86 to 90: The following questions are related to the construction of words from an alphabet set comprising of three letters: A, B and C. The words are formed by applying one or more of the syntactical rules.

  I. Rule 1 : If a word ends with letter A, then a new word can be made by adding B at the end.

  II. Rule 2 : If 'x' is any sequence of letters and Cx is a word, then so is Cxx.

  III. Rule 3 : If AAA occurs in any word, then we may drop it and replace it by B.

  IV. Rule 4 : If BB occurs in any word, then we may drop it.

It is also given that CA is also a word. Given is an illustration of one of the ways of constructing the words CBABBAB from CA in six steps.

  i. CA (given)
  ii. CAA (rule 2)
  iii. CAAAA (rule 2)
  iv. CBA (rule 3)
  v. CBAB (rule 1)
  vi. CBABBAB (rule 2)

Note: A step is defined as an addition of one 'x' or replacement of one set of AAA by one B.

86. The minimum number of steps required to construct CBBAA is
    a. 4   b. 6   c. 5   d. 3

87. The minimum number of steps required to construct BB from CA is
    a. 4   b. 3   c. 8   d. Cannot be constructed

88. The minimum number of steps required to construct CBBBA is
    a. 11   b. 8   c. 10   d. 12

89. The number of words in the collection {CBB, CAB, CBA, CAA, BC} that can be constructed from CA is
    a. 5   b. 4   c. 3   d. 2

90. If CB is also a valid word, then the number of constructible words in the collection in question 89 is
    a. 5   b. 4   c. 3   d. 2

91. In a meeting there are five participants, A, B, C, D and E, out of which three are gents and two are ladies. How many ways can they sit such that there is at least one lady to the side of each gentleman.
    a. 12   b. 36   c. 24   d. 48

Direction for questions 92 to 97: Answer the questions based on the following information.

Function $A(x, y)$ is defined only for non-negative integers.

$A(x, y) = y + 1$ if $x = 0$

$\quad = A(x - 1, y)$ if $x \neq 0$ but $y = 0$

$\quad = A(x - 1, A(x, y - 1))$ if $x \neq 0$ and $y \neq 0$

92. $A(1, 3) = ?$
   a. 5   b. 4   c. 3   d. None of these

93. $A(2, 0) = ?$
    a. 4   b. 3   c. 2   d. None of these

94. $A(1, 2) = ?$
    a. 3   b. 5   c. 4   d. None of these

95. $A(0, A(1, 1))$ is the same as
    a. $A(1, 1)$ b. $A(0, A(1, 0))$ c. $A(1, 2)$ d. None of these

96. $A(0, A(1, 0))$ is same as
    a. $A(1, 1)$ b. $A(0, A(1, 1))$ c. $A(1, 2)$ d. None of these

97. If $A(1, y) = 5$, then the value of y is
    a. 2   b. 3   c. 0   d. None of these

Direction for questions 98 to 107: Answer the questions based on the following information.

A large scale workshop has workers in four grades: W1, W2, W3 and W4, woking in various departments. The table below gives information about three departements: processing, assembly and fabrication. Some workers from processing and fabrication department also work in assembly department. In the assembly department, ratio of workers from (processing department) to (exclusively assembly department) to (fabrication department) is 1 : 2 : 1. This ratio is same for all grades and all skill levels.

Department

Grade	Processing	Assembly	Fabrication	Total
W1	54 / 26	60 / 24	45 / 32	145 / 100
W2	62 / 31	64 / 36	64 / 27	174 / 90
W3	44 / 22	44 / 16	44 / 14	121 / 50
W4	28 / 15	32 / 12	22 / 10	72 / 36
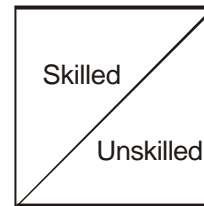
Skilled / Unskilled

98. How many skilled workers work in a department other than the three given?
    a. 49   b. 50   c. 52   d. 55

99. How many unskilled workers are there exclusively in the assembly department?
    a. 46   b. 42   c. 44   d. 45

100. If 28 more skilled workers are added to W4 grade in assembly department, by how much per cent will the skilled workers in processing depatment in grade W4 increase? [The same ratios are valid.]
    a. 17%   b. 19%   c. 20%   d. 25%

101. In the above case, how many skilled workers from fabrication department in W4 grade will also be working in assembly department?
    a. 15   b. 12   c. 13   d. 11

102. What is the ratio of the total number of workers of W4 grade working only in processing departement to the number of skilled workers of W2 grade working exclusively in assembly department?
    a. 2 : 1   b. 2 : 3   c. 1 : 2   d. 1 : 1

103. By how much per cent do the number of skilled workers from W1 grade working in both processing and assembly departement exceed the corresponding numbers of the unskilled workers from W4 grade?
    a. 500%   b. 20%   c. 400%   d. 25%

104. What is the total number of workers working exclusively in assembly department?
    a. 140   b. 288   c. 200   d.144

105. How many unskilled workers from W2 and W3 grades work only in processing and fabrication departments?
    a. 160   b. 288   c. 68   d. 94

106. Approximately what per cent of total employees are those of W1 grade working in fabrication department?
    a. 12%   b. 8%   c. 10%   d. 11%

107. Which among the following constitutes the highest number of workers?
    a. Skilled workers of W3 grade working only in processing department
    b. Skilled workers of W2 grade working only in fabricaiton department
    c. Skilled workers of W2 grade working only in processing department
    d. Skilled workers of W1 grade working only in assembly department

108. Which of the following divides $144^2 + 169^2 + 144 \times 169$?
    a. 157   b. 144   c. 313   d. None of these

109. If $a^x = b^y = c^z$, $\dfrac{b}{a} = \dfrac{c}{b}$ and a, b and c are not equal, then what is the value of $\dfrac{2z}{x+z}$?

    a. $\dfrac{y}{x}$ b. $\dfrac{x}{y}$ c. $\dfrac{x}{z}$ d. $\dfrac{z}{x}$

Direction for questions 110 to 114: Answer the questions based on the following information.

A function f(a, b) is defined for all integers a and b with $a > b \geq 0$ as follows.
f(a, b) = a, if b = 0.
f(a, b) = f(b, r) if b > r, where r is the remainder when a is divided by b.

110. The value of f(27, 18) is
    a. 6   b. 9   c. 12   d. None of these

111. f(6, 4) equals to
    a. f(54, 52)   b. f(56, 52)   c. f(52, 48)   d. None of these

112. The value of f(15, 9) is
    a. 5   b. 9   c. 1   d. None of these

113. f(44, 15) equals
    a. 4   b. 3   c. 5   d. None of these

114. f(9, 3) equals
    a. f(54, 50)   b. f(54, 51)   c. f(54, 48)   d. None of these

Direction for questions 115 to 118: Answer the questions based on the following information.
There are three projects and at least one project is to be selected and the following specified certain conditions are given for the selection of these projects.

Condition I: Projects 1 and 2 must be selected.
Condition II: Project 1 or 3 must be selected but both cannot be selected.
Condition III: Project 2 can be selected only if project 3 is selected.

115. Ignoring the conditions I, II and III, how many different ways of selecting projects are there?
a. 6 b. 7 c. 4 d. 8

116. The number of selection combinations which satisfy at most one of the three conditions is
a. 3 b. 2 c. 4 d. 5

117. The number of selection combinations which satisfy at least two conditions is
a. 3 b. 4 c. 5 d. 2

118. The number of selection combinations which satisfy condition 3 is
a. 4 b. 3 c. 5 d. 6

Direction for questions 119 to 125: Given below are some series of numbers or letters. One member of the series is missing form the list marked as '?'. From the alternatives given for each question, select the correct one.

119. 1W 2V 3U 5T ? 13R
a. 11Q b. 8X c. 9S d. 8S

120. HV GT FR EP DN ?
a. EM b. CW c. CL d. CM

121. I M Q ?
a. T b. W c. Z d. U

122. 258 130 66 ? 18 10
a. 34 b. 32 c. 36 d. 40

123. D F I M R ?
a. S b. X c. Y d. V

124. 2 3 4 6 8 ? 16 24
a. 14 b. 11 c. 13 d. 12

125. 2 4 8 14 22 ?
a. 28 b. 34 c. 32 d. 38

Direction for questions 126 to 130: Following questions consist of a number of assertions. Each sentence is an assertion. Some of these assertions may be inconsistent with each other. From these you can form groups of assertions that are consistent with each other. You have to find the largest number of consistent assertions in each case.

126. Bricks can be used as pillows. Only soft pillows put insomniacs to sleep. Ashok is not an insomniac. Bricks are not soft. Ashok sleeps using bricks as pillows. Only insomniacs take sleeping pills. Ashok takes sleeping pills.
    a. 5   b. 6   c. 4   d. None of these

127. All poets are creatures of fantasy. Ram cannot create fantasy. Those who create fantasy are creatures of fantasy. Those who are creatures of fantasy can create fantasy. Ram is a poet. Ram is a creature of fantasy.
    a. 4   b. 3   c. 5   d. None of these

128. Geeta is a housewife. No housewife can be an office worker. All housewives are cooks. Only good cooks can cook fried rice. Geeta works in office. Geeta can cook fried rice. Geeta is not a very good cook.
    a. 6   b. 5   c. 4   d. None of these

129. You can fool some people all the time but not all. Some people cannot be fooled all the time. Most of the people can be fooled all the time. All the people can be fooled some time. Some people cannot be fooled anytime.
    a. 5   b. 4   c. 3   d. None of these

130. All successful managers are dishonest. All dishonest managers are successful. X is a successful manager if and only if Y is a successful manager. X is an unsuccessful manager and he is a dishonest manager. X is a successful manager and Y is an unsuccessful manager. Y is an honest manager.
    a. 3   b. 4   c. 5   d. None of these.

Direction for questions 131 to 136: Answer the questions based on the following experiment.
Five different balls (1, 2, 3, 4 and 5) are distributed into four different urns (I, II, III, and IV). Each urn may not receive any ball, may receive exactly one ball, or more than one ball.

131. The number of ways urn II receives exactly two balls is
    a. 135   b. 27   c. 270   d. None of these

132. The number of ways in which ball 1 goes to urn I is
    a. 256   b. 64   c. 320   d. None of these

133. The total number of ways in which the balls can be distributed in the urns is
    a. 625   b. 1,024   c. 120   d. None of these

134. The number of ways in which the balls can be distributed in the urns, such that no urn is empty, is
    a. 120   b. 240   c. 119   d. None of these

135. The number of ways in which the balls can be distributed such that all the balls go into one urn is
    a. 4　　　　　　　　b. 24　　　　　　　　c. 120　　　　　　　　d. None of these

136. In the above set of questions, if the number of balls is changed from five to three and the number of urns is changed from four to three, then in how many ways can the balls be distributed such that only one urn is empty?
    a. 18　　　　　　　　b. 9　　　　　　　　c. 24　　　　　　　　d. None of these

137. Complete the following series.
    1, 1, 4, 12, 27, 51, ___.
    a. 59　　　　　　　　b. 86　　　　　　　　c. 107　　　　　　　　d. 114

138. What is the difference between the smallest and the largest six-digit numbers formed using the digits 0, 1, 2, 3, 4 and 5?
    a. 440865　　　　　　b. 419760　　　　　　c. 502343　　　　　　d. None of these

Direction for questions 139 and 140: Answer the questions based on the following data.
A survey was conducted by *India Today* to know how our Memebrs of Parliament (MPs) are conscious of the population scenario of the country. The data below summarizes the number of children of the Lok Sabha and the Rajya Sabha members, across different zones of the country.

Number of children

Zone	1	2	3	>3	Total no. of members
North	7 / 4	12 / 8	32 / 12	41 / 13	96 / 49
East	18 / 11	23 / 16	18 / 1	21 / 4	85 / 33
South	21 / 21	43 / 23	12 / 5	8 / 3	96 / 59
West	18 / 6	42 / 17	16 / 7	14 / 7	113 / 42
Central	3 / 2	43 / 21	44 / 26	62 / 18	154 / 68

(Each cell: Lok Sabha members / Rajya Sabha members)
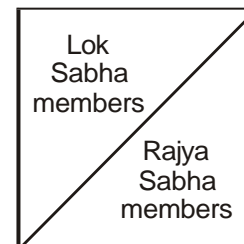
139. What per cent of the Rajya Sabha members do not have children at all?
    a. 8.75%　　　　　　b. 11.24%　　　　　　c. 11.63%　　　　　　d. 10.35%

140. What is the average number of children of the Lok Sabha members from the south zone?
    a. 1　　　　　　　　b. 2　　　　　　　　c. 3　　　　　　　　d. Cannot be determined

Section – III

141. Which of the following Shakespearean plays is parodied in a scene in the Arnold Schwarzenegger flop *Last Action Hero*?
    a. *Romeo and Juliet* b. *Twelfth Night* c. *Hamlet* d. *As You Like It*

142. Which of the following element is lightest and has the atomic number 1?
    a. Neon b. Helium c. Oxygen d. Hydrogen

143. The 'patella bone' is better known as
    a. The jaw bone b. The knee cap c. The ear lobe d. The mid nose bone

144. Walker Cup is associated with which of the following sports disciplines?
    a. Golf b. Tennis c. Football d. Squash

145. Who wrote the novel *Jurassic Park* on which the famous Steven Spielberg film was based?
    a. Arthur C.Clarke b. John Grisham c. Michael Crichton d. George Hans

146. Who directed the movies *Jaws* and *Schindler's List* ?
    a. Steven Spielberg b. M. Knight Shyamalan c. Henry Ogilvy d. Hauz Kahkar

147. Anand dairy farm is in which state of India?
    a. Gujarat b. Maharashtra c. Rajasthan d. Orissa

148. Which of the following personality's song features in Jagjit Singh's album, *Samvedna*?
    a. Murli Manohar Joshi b. V. P. Singh c. Indira Nooyi d. Atal Behari Vajpayee

149. Justice K.G.Shah Commission of Inquiry was set up for
    a. the probe of Godhara carnage in Gujarat. b. the probe of 1999 Mumbai blasts
    c. resolving the BODO problem d. resolving the POTO implementation problem

150. Which of the following personalites was addressing the meeting in Jalianwala Bagh on April 13,1919?
    a. Dr Saifuddin Kitchlew b. Mahatma Gandhi
    c. Lala Lajpat Rai d. None of these

151. Which of the following rulers suffered defeat in the famous Battle of Haldighati?
    a. Akbar b. Aurangzeb c. Rana Pratap d. Ibrahim Lodi

152. 'Allen Solly', is a brand owned by which of the following group of companies?
    a. Madura Coats b. Arvind Mills c. Mafatlal d. Raymonds

153. The controversial MIP-95 Mutual Fund scheme belongs to
    a. UTI b. ICICI Prudential Life c. Om Kotak Mahindra d. HDFC Standard Life

154. Which of the following personalities would you associate with Arzoo.com?
    a. Rahul Bajaj b. Sabeer Bhatia
    c. N.R. Narayana Murthy d. Arun Kumar

155. 'World Ozone Day', is celebrated on which of the following days every year?
    a. October 7 b. September 16 c. November 15 d. December 5

156. In Einstein's famous equation $E = mc^2$, if 'E' stands for energy and 'm' for mass, then what does 'c' stand for?
     a. Instensity of light   b. Speed of light   c. Einstein's constant   d. Planck's constant

157. Which of the following is the largest gland in the human body?
     a. Liver   b. Spleen   c. Lungs   d. Bile

158. This gentleman is associated with the propagation of the 'Theory of heredity' for the first time. We are talking about
     a. Gregor J. Mendel   b. John Schotky   c. Hargobind Khorana   d. B. Srinivasan

159. What was the code name given for the joint Indian armed force's, operations which evicted the Pakistanis and their surrogates from Kargil in 1999 ?
     a. Operation Vijay   b. Operation Black Hill   c. Operation PAKDEF   d. Operation Victory

160. 'Camry' is the latest brand of car model from which of the following auto giant's stable?
     a. General Motors   b.Toyota Motors   c.Maruti Suzuki Ltd.   d. Hyundai

161. 'Be the first to know', assures which of the following satellite channels?
     a. CNN   b. BBC World   c. Fox News   d. Star News

162. The muscial '*West Side Story*' is based on which of the following Shakespearean plays?
     a. *As You Like It*   b. *Romeo and Juliet*   c. *Julius Caesar*   d. *The Twelfth Night*

163. What is the nickname of New York city?
     a. Big Ben   b. Big Apple   c. City of Dreams   d. Dominique's City

164. A closed economy is one which
     a. does not trade with the other countries
     b. does not possess any means of international transport
     c. does not have a coastal line
     d. is not a member of the United Nations

165. The traditional economy is characterised by
     a. division of labour and specialisation   b. organisation of production for self consumption
     c. capital intensive process of production   d. increasing state intervention

166. Who is the present chief executive officer of General Electric (GE)?
     a. Jack Welch   b. Waren Buffett   c. Jeffery Immelt   d. Samuel J. Palmisano

167. Who is the chief executive officer of Microsoft?
     a. Bill Gates   b. Steve Ballmer   c. Steve Wozniak   d. Henry Kruger

168. Who is the chief executive officer of IBM?
     a. Samuel J. Palmisano   b. Phillip Bullock
     c. Henry Kissinger   d. Scott Mcneally

169. Which of the following company has the punchline 'We bring good things to life'?
     a. Intel   b. BPL   c. Philips   d. General Electric

170. *3001: The Final Odyssey'* has been authored by which of the following personalities?
     a. Arthur C. Clarke   b. William Golding   c. Issac Asimov   d. Alvin Toffler

171. Which of the following is the capital city of Morocco?
    a. Rabat   b. Baku   c. Bishkek   d. Amman

172. Which river flows through the Grand Canyon in the USA?
    a. Thames   b. Thebes   c. Colorado   d. Mississippi

173. Which of the following towns was the birthplace of William Shakespeare?
    a. Stratford-upon-Avon b. NewYork   c. Thames City   d. Viverendi City

174. The only state in India which has more female population than male population is
    a. Orissa   b. Kerala   c. Maharashtra   d. Nagaland

175. Which of the following missiles was test fired successfully on January 26, 2002?
    a. AGNI - I   b. AGNI - II   c. AGNI - III   d. AGNI - IV

176. Which of the following books is a good source of information on the history of Kashmir?
    a. Kalhana's *Rajatarangini*   b. Kamban's *Raslila*
    c. Udayan's *Maitri*   d. Megasthenes's *India*

177. India's first electric car is known as
    a. Reva   b. Mewa   c. Bewa   d. Mova

178. The latest model of Barbie doll launched recently by Mattel Toys is
    a. The President Barbie   b. Spice Barbie
    c. Dolly Barbie   d. Rose Barbie

179. What is BPL according to Indian finance minister Yashwant Sinha?
    a. Below Peer Location b. Bent to Pull Lead c. Below Poverty Line d. Below Poor Line

180. A professor of electrical engineering and computer sciences at MIT, his products have been used in cars, space shuttles, ships and theatres. Who are we talking about?
    a. Ajit Kelkar   b. Amar Bose   c. Arun Netravali   d. Ajit S. Galgotia

181. Which of the following elements, after oxygen, is most abundant on earth's crust?
    a. Copper   b. Silicon   c. Aluminium   d. Silver

182. Albert Einstein was awarded the Nobel Prize for which of his following works?
    a. Discovery of X-rays   b. Diffraction of light
    c. Photoelectric effect   d. Effect of light on the mass of a body

183. Who created Spiderman?
    a. Stan Lee   b. Roger Moore
    c. Lee Falk   d. Hector Remi Herge

184. Which was the only thing that remained in the Pandora's Box after it was opened?
    a. Love   b. Life   c. Hope   d. Water

185. Beijing recently won the bid to host the 2008 Olympics. Which city achieved the second spot?
    a. Chicago   b. Toronto   c. New Delhi   d. New York

186. Which are the three destinations in Orissa known as part of the popular Golden Triangle?
    a. Puri, Cuttack, Rourkela   b. Puri, Konark and Bhubaneshwar
    c. Cuttack, Bhubaneshwar, Puri   d. Konark, Digha, Balasore

187. 'Gold Riband', the brand owned by McDowell's is a type of
a. Whisky   b. Beer   c. Rum   d. None of these

188. Which of the following is a characteristic feature of a modern economy?
a. Predominance of agriculture   b. Self-sufficient village economy
c. Diversity in production of commodities   d. Static technology

189. Who is the disinvestment minister of India?
a. Arun Shourie   b. George Fernandes
c. Ram Jethmalani   d. Ghulam Nabi Azad

190. The newly appointed chairman of State Bank of India (SBI) is
a. Janaki Ballabha   b. K. V. Kamath   c. P. P. Vora   d. A. K. Purwar

191. Who is the author of the famous novel *Family Matters*?
a. Arundhati Roy   b. Anita Desai   c. Rohniton Mistry   d. Salman Rushdie

192. Who is the present president of Confederation of Indian Industry (CII)
a. A.V. Birla   b. Ashok Soota   c. Sanjiv Goenka   d. R.S. Lodha

193. 'It takes the rough with the smooth' is used by which of the following car models?
a. TATA Sumo   b. TATA Sierra   c. TATA Indica   d. Toyota Qualis

194. Justine Pasek was in the news for winning the Miss Universe title 2002 from Oxana Fedorora. She hails from
a. Greece   b. Panama   c. Venezuela   d. South Africa

195. Which of the following represents the number of member countries in WTO as on January 1, 2002?
a. 141   b. 142   c. 143   d. 144

196. Who was the first Indian film star who advertised for Lux soap ?
a. Persis Khambata   b. Lila Chitnis   c. Nargis   d. Madhubala

197. The new chairman of NASSCOM is
a. Phiroz Vandrevala   b. Pradeep Guha.   c. Arun Netravalli   d. Arun Kumar

198. 'Cannon' is a term associated with which of the following sports disciplines?
a. Carom   b. Billiards   c. Snooker   d. Golf

199. Lifebuoy soap is brand of which of the following companies?
a. Godrej   b. P&G   c. HLL   d. None of these

200. Light year is a unit of
a. distance   b. time   c. speed   d. velocity

XAT - Mock
Answers & Explanations

1	c	2	d	3	d	4	d	5	a	6	c	7	a	8	d	9	c	10	c
11	a	12	a	13	b	14	d	15	a	16	c	17	d	18	a	19	d	20	c
21	c	22	c	23	b	24	b	25	d	26	a	27	c	28	c	29	d	30	b
31	d	32	a	33	b	34	c	35	c	36	b	37	d	38	b	39	d	40	c
41	c	42	b	43	a	44	d	45	a	46	c	47	d	48	c	49	b	50	b
51	c	52	c	53	b	54	a	55	c	56	d	57	b	58	d	59	c	60	d
61	c	62	b	63	d	64	a	65	d	66	a	67	b	68	d	69	c	70	d
71	d	72	a	73	a	74	c	75	b	76	a	77	c	78	c	79	c	80	d
81	c	82	c	83	c	84	a	85	d	86	b	87	d	88	a	89	c	90	b
91	b	92	b	93	d	94	a	95	c	96	a	97	d	98	a	99	c	100	d
101	a	102	d	103	c	104	d	105	c	106	c	107	b	108	a	109	a	110	b
111	a	112	d	113	d	114	b	115	b	116	b	117	c	118	c	119	d	120	c
121	d	122	a	123	b	124	d	125	c	126	d	127	a	128	d	129	c	130	d
131	c	132	a	133	b	134	b	135	a	136	a	137	b	138	a	139	d	140	d
141	b	142	d	143	b	144	a	145	c	146	a	147	a	148	d	149	a	150	d
151	c	152	a	153	a	154	b	155	b	156	b	157	a	158	a	159	a	160	b
161	a	162	b	163	b	164	a	165	a	166	c	167	b	168	a	169	d	170	a
171	a	172	c	173	a	174	b	175	a	176	a	177	a	178	a	179	c	180	b
181	b	182	c	183	a	184	c	185	b	186	b	187	a	188	c	189	a	190	d
191	c	192	b	193	b	194	b	195	d	196	b	197	d	198	b	199	c	200	a

Scoring table

Total questions	Total attempted	Total correct	Total wrong	Score	Time taken
200					

1. Refer to the 1st line.

2. Refer to the 2nd sentence.

3. Refer to the paragraph 2.

4. Refer to the last line.

5. A newspaper feature is the most likely option.

6. 'Running' is most akin to 'managing'.

7. The functions here have to be critical otherwise the business fails.

8. 'Entail' here means 'necessitate'.

9. 'Cultivate' means 'to nurture'.

10. 'Propound' means 'to suggest'.

11. 'Saved' and 'created' will not fit with 'bad management'. 'Toppled' also won't fit as we are not talking about governments here.

12. 'Cornerstone' means a basic part.

13. 'Squander' means to 'throw away'.

14. 'Incidents' cannot 'suffer' or 'chase'. 'Threaten' is also an unlikely choice.

15. We look for an opposite word to 'intimidate'.

16. The first word in the word pair is the profession and the second word is the tool.

17. The singular-plural pair.

18. The second word in the pair is a characteristic of the first word in the pair.

19. 'Implicate' is an antonym of 'exculpate', 'complicate' is an antonym of 'simplify'.

20. Malinger is to feign illness just as flattery is to appreciate in an insincere manner.

21. 'Thor' is the 'God of Thunder' as 'Venus' is the 'God of Love'.

22. Doggerel is poor or trivial poetry as a potboiler is pulp fiction.

23. You need cunning to outfox someone and you need speed to outstrip someone.

24. Olfactory pertains to the sense of smell (nose), whereas gustatory pertains to the sense of taste (tongue).

25. A thread is inserted in the needle eye. Similarly a shoelace is inserted in an eyelet.

26. To obfuscate means to confuse.

27. A demagogue is a person who wins people's support by manipulating them by appealing to their emotions or baser instincts rather than their reason.

28. A premise here means an assumption.

29. A lexicon is the politician's glossary of terms or dictionary.

30. Occult here means mysterious, beyond the range of ordinary knowledge and hence concealed.

31. Overt means to be open about something and covert means to be secretive.

32. Incorrigible means someone who cannot be corrected and changed but reformable means someone who can be reformed and changed.

33. Transparent and opaque are clear antonyms.

34. Quotidian means commonplace daily or usual. So the opposite is unusual.

35. A gawky person is awkward. A dexterous person is skilful.

36. A comely person is attractive.

37. An infirm person is weak.

38. An errant person is wayward.

39. Nurture and destroy are antonyms.

40. To kindle is to ignite a fire.

41. Gratified here means thankful, and hence pleased or content.

42. A sympathizer is a person who subscribes to the views of the LTTE and is hence an ally.

43. Credence here means to give weightage or believability to Gowda's assertion.

44. Brimming means to be full of something.

45. An emissary is an envoy.

46. To revoke means to cancel a law.

47. Matinee refers to the movies, specifically to an afternoon show.

48. Condemned means convicted or punished.

49. 'Expedient' means 'convenient' or practical rather than based on principles or moral grounds.

50. Impunity means to be free or exempt from blame.

51. The passage is from a political essay or a thesis.

52. Refer to paragraph 2.

53. Refer to paragraph 2.

54. Refer to paragraph 3.

55. Refer to paragraph 4.

56. 'Hardly/Scarcely/Barely' are ungrammatical with 'than'.

57. 'Demonstrated', 'made' and 'undergone' do not fit in the sentence at all.

58. A pole can be bent or twisted, not 'removed', or 'thrown' or 'uprooted' by a cyclone.

59. 'Unmitigated' means that the disaster was complete, nothing or no one was spared.

60. The meteorological department does weather forecasting.

61. 'Ripped through' means that the cyclone tore the city apart, leaving a trail of destruction.

62. 'Pitifully' means that the disaster prediction system was woefully inadequate.

63. A depression is a mass of air that has a low pressure and that often causes rain.

64. The season brings storms or showers.

65. The weather experts can realize the development.

66. Refer to the last paragraph.

67. Refer to the last paragraph.

68. Refer to paragraph 3.

69. 'Paucity' in paragraph 1 talks of lack of time and space for writing this article.

70. Refer to paragraph 1.

71. All the options have been mentioned.

72. Refer to paragraph 3.

73. Refer to paragraph 3.

74. A research paper would not have 'paucity of time and space' while an article would.

75. Refer to paragraph 3.

76. Enhance is to increase, whereas abate is to decrease in intensity or the like.

77. Catalyst tends to speed up things, whereas a brake tends to reduce speed.

78. Witless is foolish and hence the opposite of brilliant.
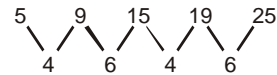
79. Dexterous is skillful, and not awkward.

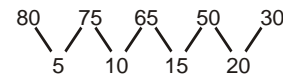80. Wary is cautious, careful (because suspicious) and the opposite of trusting.

81.

0, 11, 26, 45, 68

with differences 11, 15, 19, 23
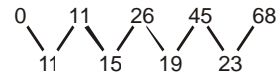
Difference of consecutive terms are in AP.

82.
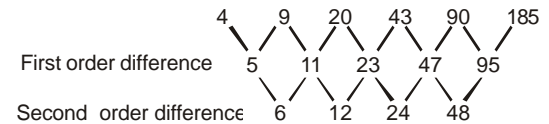$$\frac{2}{2}, \frac{4}{4}, \frac{6}{8}, \frac{8}{16}, \frac{10}{32}, \frac{12}{64}$$

83.

5, 9, 15, 19, 25

with differences 4, 6, 4, 6

With alternate difference of 4 and 6 respectively.

84.

80, 75, 65, 50, 30

with differences 5, 10, 15, 20

Difference are in AP.

85.

4, 9, 20, 43, 90, 185

First order difference: 5, 11, 23, 47, 95

Second order difference: 6, 12, 24, 48

86.
1. CA
2. CAA
3. CAAAA
4. CAAAAAAAA
5. CBAAAAA
6. CBBAA

87. It is never possible to make C disappear completely. So BB cannot be constructed.

88.
1. CA
2. CAA
3. CAAAA
4. CAAAAAAAA
5. CAAAAAAAAAAAAAAAA
6. CBAAAAAAAAAAAAA
7. CBBAAAAAAAAAA
8. CBBBAAAAAAA
9. CBBBBAAAA
10. CBBBBBBA (Rule 3)
11. CBBBA (Rule 4)

89. The words that can be formed are:
CA
CAA (Rule 2)
CBA (CAA → CAAAA → CBA)
CAB (CA → CAB)

90. The valid words possible are:
CBB (Rule 2)
CAB (As we take CA from question 9)
CBA
CAA

91. There are three possible ways of arranging the given condition.

(i) Gents L Gents L Gents
So 3! × 2 = 12 ways.

(ii) Gents L Gents Gents L
3! × 2 = 12 ways.
Total = 12 + 12 = 24 ways.

(iii) The mirror image of the arrangement of (ii), i.e. L Gents Gents L Gents. these are 12 ways.
So total 12 + 12 + 12 = 36

92. A(1, 3) = A(0, A(1, 2))
A(1, 2) = A(0, A(1, 1))
A(1, 1) = A(0, A(1, 0))
A(1, 0) = A(0, 0) = 1
Re substituting, A(1, 1) = A(0, 1) = 2
A(1, 2) = A(0, 2) = 3
A(1, 3) = A(0, 3) = 4

93. A(2, 0) = A(1, 0) = A(0, 0) = 0 + 1 = 1

94. A(1, 2) = 3, as seen in solution of Q. No. 92.

95. A(1, 2) = A(0, A(1, 1)) by definition.

96. A(1, 1) = A(0, A(1, 0)) [By using the third condition of the function definition]

97. A(1, y) = A(0, y) = y + 1 = 5, so y = 4.

Questions 98 to 107:
Skilled:
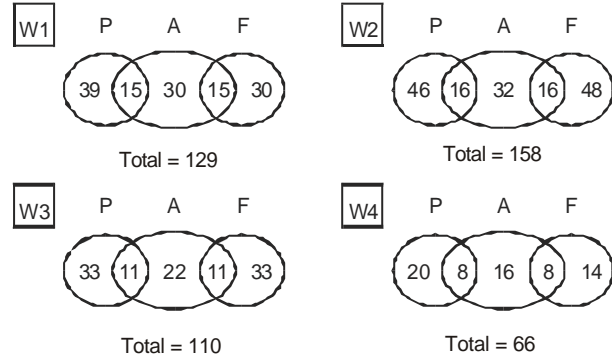
Unskilled:
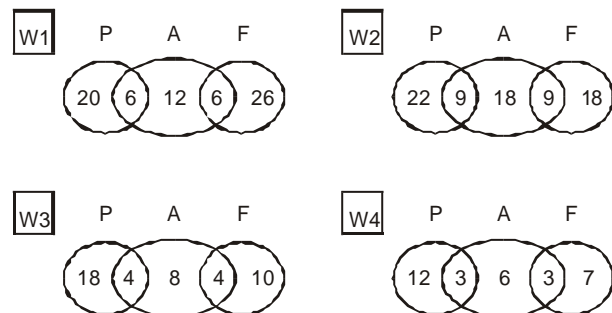
98. Number of skilled workers in other departments
= [145 + 174 + 121 + 72] − [129 + 158 + 110 + 66] = 49

99. Number of unskilled workers in assembly
= 12 + 18 + 8 + 6 = 44

100. The number of people in the processing department would increase by $\frac{1}{4} \times 28 = 7$

Hence, increase in W4 grade skilled workers is

$\frac{7}{28} \times 100 = 25\%$.

101. The final intersection of fabrication and assembly department = 8 + 7 = 15

102. From the set representation we have the required ratio is (12 + 20) : 32 ⇒ 1 : 1.

103. Skilled from W1 = 15
Unskilled from W4 = 3
Hence, the skilled in W1 exceed the unskilled from W4 by 400%.

104. Use the set representation answer is
[30 + 32 + 22 + 16 + 12 + 18 + 8 + 6] = 144

105. Use the set representation answer is
= (22 + 18) + (18 + 10) = 68

106. Use the set representation
Total number of employees
= [145 + 174 + 121 + 72] + [100 + 90 + 50 + 36]
= 512 + 276 = 788
Number of workers of grade W1 in fabrication department = 35 + 32 = 77
Approximate percentage = 10%.

107. Compare using the sets, we get the answer as (b).

108. $144^2 + 169^2 + (144 \times 169)$
$12^4 + 13^4 + (12^2 \times 13^2)$
= {$12^2 + (12 \times 13) + 13^2$}{$12^2 - (12 \times 13) + 13^2$}
= 469 × 157
This is as per the formula
$a^4 + b^4 + a^2b^2 = (a^2 + ab + b^2)(a^2 - ab + b^2)$.

109. Let us assume

$a^x = b^y = c^z = \alpha$

$\therefore a = \alpha^{1/x}, \quad b = \alpha^{1/y}$ and $c = \alpha^{1/z}$

So $\frac{b}{a} = \frac{c}{b}$

$\Rightarrow \alpha^{\frac{1}{y} - \frac{1}{x}} = \alpha^{\frac{1}{z} - \frac{1}{y}}$

$\Rightarrow \frac{1}{y} - \frac{1}{x} = \frac{1}{z} - \frac{1}{y}$

$\Rightarrow \frac{x+z}{xz} = \frac{2}{y} \Rightarrow \frac{2z}{x+z} = \frac{y}{x}$

110. $f(27, 28) = f(18, 9) = (9, 0) = 9$

111. $f(6, 4) = f(4, 2) = f(2, 0) = 2$
$f(54, 52) = f(52, 2) = f(2, 0) = 2$

112. $f(15, 9) = f(9, 6) = f(6, 3) = f(3, 0) = 3$

113. $f(44, 15) = f(15, 14) = f(14, 1) = f(1, 0) = 1$

114. $f(9, 3) = f(3, 0) = 3 = f(51, 3) = f(3, 0) = 3$

115. $\{2^3 - 1\}$
Every project has two ways, either selection or rejection.
So total number of ways are 2 × 2 × 2 = 8.
Subtracting one way (the case of all getting rejected),
we have 8 – 1 = 7 ways.

116. Two selections, i.e. (1, 3) and (2) meet at most one condition.

117. All the remaining 5 ways other than the possibilities in Q. 116, i.e. (1, 2, 3), (1, 2), (2, 3), (1), (3).

118. The projects are (2, 3), (1, 2, 3), (1, 3), (1) and (3).

119. The digit is changing as in Fibonacci series
1, 1 + 1 = 2, 2 + 1 = 3, 3 + 2 = 5, 5 + 3 = 8, 8 + 5 = 13
and letters attached are in decreasing order,
i.e. W, V, U, T, S, R
∴ 8S

120. First letter is in decreasing sequence
H G F E D C̲
V T R P N L̲
Second letter is in alternate decreasing series.

121. Two consecutive letters have a difference of three letters between them.
I J̲K̲L̲ M N̲O̲P̲ Q R̲S̲T̲ U

122.

123. Between two consecutive letters the number of letters are in AP.
D̲ E F̲ G H I̲ J K L M̲ N O P Q R̲ S T U V W X̲

124.

125.

126. No three statements are consistent.

127. All poets are creatures of fantasy. Ram is a poet. Ram is a creature of fantasy. Those who are creatures of fantasy can create fantasy.

128. None of the given answer choices are applicable, though independently, two assertions can be consistent to one another.

129. First three assertions are logically consistent. The fourth and the fifth ones are not. Converting to the assertions to a set of five, we have the following.

Assertion		Example
1.	→	Some A are B and some A are not B.
2.	→	Some A are not B. (Some A are B.)
3.	→	Some A are B.
4.	→	All A are C.
5.	→	Some A are D.

From the above analogues example, we can see that 1, 2 and 3 are consistent while 4 and 5 are not linked to the first three.

130. 'Unsuccessful' and 'dishonest' are not linked. Similarly, honest is linked neither with unsuccessful nor successful. So none of the answer choices a, b, c fits in.

131. Two balls out of five balls can be selected in $^5C_2$ ways = 10 ways.
Remaining three different balls can be distributed in three different boxes in 3^3, i.e. = 27 ways.
So total number of ways = 27 × 10 = 270.

132. After putting ball 1 in urn I, the remaining four balls can be distributed in four urns, in 4^4 ways = 256.

133. Every ball can be put in four ways. It can go to any of the four urns. This means for each ball, there are four ways.
∴ Total ways = 4 × 4 × 4 × 4 × 4 = 4^5 = 1024 ways.

134. The only possible way of distributing all five balls into four urns is that one urn has two balls and other three have one-one ball each. Two balls out of 5 can be selected in $^5C_2$ ways. These 2, 1, 1, 1 can be distributed into 4 urns in 4! ways.
Total ways = $4! \times {}^5C_2$ = 240 ways.

135. All balls can go to any of the four urns.
∴ Four ways.

136. Two out of three urns can be selected in $^3C_2$ ways.
Both urns should be filled. So there is only one way of dividing the balls into two groups (2 balls and 1 ball);
two balls can be selected in $^3C_2$ ways and can be distributed in two ways.
∴ Total ways of distribution = $^3C_2 \times {}^3C_2 \times 2 = 18$ ways

137. The series increases by addition of $(x^2 - 1)$ to the previous number, where $x = 1, 2, 3, ...$
$1 + (1^2 - 1) = 1$
$1 + (2^2 - 1) = 4$
$4 + (3^2 - 1) = 12$
$12 + (4^2 - 1) = 27$
$27 + (5^2 - 1) = 51$
$51 + (6^2 - 1) = 86$

138. Largest six-digit number using the given digits = 543210.
Smallest six-digit number using the given digits = 102345.
The difference = 440865.

139. $12(N) + 1(E) + 7(S) + 5(W) + 1(C) = 26$
$\dfrac{26}{251} = 10.35\%$

140. Number of members having more than three children is not known.