OPENMAT (XV) ENTRANCE TEST FOR MANAGEMENT PROGRAMMES 2004

TEST I
General Awareness

1. Which is the correct sequence of the Indian cities in the increasing order of their longitude ?
   (1) Gandhinagar — Jamnagar — Alwar — Jaipur
   (2) Jamnagar — Gandhinagar — Jaipur — Alwar
   (3) Gandhinagar — Jaipur — Jamnagar — Alwar
   (4) Jamnagar — Jaipur — Alwar — Gandhinagar

2. Which of the following Indian state/states does/do *not* share border with Assam ?
   (1) Sikkim and Tripura (2) West Bengal
   (3) Sikkim (4) Mizoram

3. Which of the following state capitals takes its name from a mythical serpent ?
   (1) Dispur
   (2) Aizwal
   (3) Agartala
   (4) Thiruvananthapuram

4. Whose memoirs are titled *"Smriti Ki Rekhayen"* ?
   (1) Harivansh Rai Bachchan
   (2) Mahadevi Verma
   (3) Sumitra Nandan Pant
   (4) Suryakant Tripathi 'Nirala'

5. The 93rd Constitution Amendment Bill seeks to establish
   (1) Right to education as a Fundamental Right
   (2) Right to minorities to establish educational institutions as their Fundamental Right
   (3) Right to consumers to quality goods as their Fundamental Right
   (4) Right of non-resident Indians to dual citizenship as a Fundamental Right

6. Demographic changes are *not* cause by
   (1) Migration (2) Fertility
   (3) Femininity (4) Mortality

7. Juvenile delinquency is *not* directly affected by
   (1) Influence of mass media
   (2) Infra familial disharmony
   (3) Bio-psychological stresses of adolescence
   (4) Consumerism

8. Net National Product means
   (1) Gross National Product (GNP) minus Cost of production
   (2) GNP minus Depreciation
   (3) GNP multiplied by market prices
   (4) GNP minus Capital stock

9. The Monetary Policy of India is announced by the
   (1) Union Finance Minister
   (2) Union Commerce Minister
   (3) Prime Minister
   (4) Governor of RBI

10. The concept of sustainable development was first defined by
    (1) Royal Commission
    (2) Brundtland Commission
    (3) Hoover Commission
    (4) Kaldor Commission

11. Which one of the following is the correct sequence of the four planets in the increasing order of their distance from the Sun ?
    (1) Mercury — Venus — Earth — Pluto
    (2) Venus — Earth — Mercury — Pluto
    (3) Earth — Pluto — Venus — Mercury
    (4) Venus — Mercury — Earth — Pluto

12. Which of the following places is associated with Jainism ?
    (1) Kapilvastu (2) Prayag
    (3) Pava (4) Shravasti

13. The principal objective of the *"Sarv Shiksha Abhiyan"* of the Ministry of HRD, Government of India, is to provide Elementary Education to
    (1) All
    (2) All the girls
    (3) All in the minority groups
    (4) All in the North Eastern States of the country

14. Who among the following was defeated by Babar in the First Battle of Panipat ?

(1) Bahlol Lodhi   (2) Ibrahim Lodhi

(3) Sikandar Lodhi   (4) Daulat Khan Lodhi

15. Which one of the following museums has the famous painting titled *Mona Lisa* ?

(1) British Museum

(2) New York City Museum

(3) Louvre Museum

(4) Borghese Gallery, Rome

16. Which of the following cities will host the Olympics in 2004 ?

(1) Adelaide   (2) Brussels

(3) Vienna   (4) Athens

17. Fundamental Duties were introduced in the Constitution by _____ Amendment.

(1) 40th   (2) 42nd

(3) 43rd   (4) 44th

18. Which of the following ocean currents is popularly known as "Warm Blanket" of Europe ?

(1) Benguela Current

(2) Canaries Current

(3) Gulf Stream

(4) West Wind Drift

19. Which one of the following mountain ranges is situated between Narmada and Tapti (Tapi) rivers ?

(1) Satpura Range   (2) Vindhya Range

(3) Aravalli Range   (4) Ajanta Range

20. Solder is an alloy of

(1) Tin, Lead and Zinc

(2) Tin, Copper and Zinc

(3) Tin and Copper

(4) Tin and Lead

21. In August 2003, North Atlantic Treaty Organisation (NATO) took over peace-keeping in which of the following places ?

(1) Amman   (2) Baghdad

(3) Basra   (4) Kabul

22. *'The Great Indian Dream'* is jointly written by Malay Chaudhuri and

(1) Anita Desai   (2) Arindam Chaudhuri

(3) Rafique Zakaria   (4) Mulk Raj Anand

23. East Bengal became the first Indian Club to win a Soccer International Tournament on foreign soil by winning the

(1) Premier Leage Asia Cup

(2) SAARC — Under 19 Championship

3) ASEAN — Club Championship.

4) MM Ford Trophy

24. In August, 2003, the Union Government sanctioned the setting up of _____ Agri-Export Zones (AEZs) envisaging a total investment of Rs. 1326 crores including Centre's assistance of Rs. 380 crores.

(1) 24   (2) 36

(3) 48   (4) 60

25. Who among the following won the Best Actor Award at the 50th National Film Awards ?

(1) Ajay Devgan   (2) Mamooti

(3) Aamir Khan   (4) Murali

26. 'Losharik' is the name of

(1) The world's deepest and most silent nuclear submarine built by Russia

(2) A new missile built by Pakistan

(3) A ship built by Japan

(4) A book written by Shri J.N. Dixit

27 Which of the following comittees has recommended death penalty for those who manufacture and distribute fake drugs ?

(1) Malimath Committee

(2) Y.V. Reddy Committee

(3) Alagh Committee

(4) Mashelkar Committee

28. What is the name of the world's first cloned horse?

(1) Gem   (2) Prometea

(3) Hawalin   (4) Joyous

29. The tree whose bark yields quinine used against malaria and bacterial infections is

(1) Mangifera   (2) Citrus

(3) Cinchona   (4) Ficus

30. Healing of wound is accelerated by

(1) Vitamin A   (2) Vitamin C

(3) Vitamin E   (4) Vitamin K

TEST II
English Language

Directions for Q. Nos. 31 to 45. Given below are two passages (I and II) followed by the questions based on the contents of the passages. Answer the questions based on the contents of the passage.

PASSAGE I

The headlines proclaimed billions of dollars of debt relief for the world's poorest countries as a result of the decisions taken by the major industrial countries at their annual G-7 summit, held in Cologne. But as the saying goes, the devil is in the detail. And closer examination of the debt write-off plan reveals a yawning gap between rhetoric and reality. The G-7 has proposed to reduce the debt of the poorest nations by $27 billion. But critics point out that much of the debt written off was not being serviced in any case. Even with the latest relief, poor countries will still be paying more interest and other payments to the banks and global financial institutions than they spend on education and health. Experience shows that extreme caution should be exercised when considering official pronouncements on debt relief plans. Three years ago the so-called Highly Indebted Poor Countries (HIPC) debt reduction initiative was greeted with similar headlines. World Bank president James Wolfensohn hailed it as a "breakthrough". US Treasury Secretary Robert Rubin said debt would be reduced to "manageable levels" and poor countries would be placed "on a sound footing for future development and growth". Even the aid agency, Oxfam called it a "real opportunity to bring down the curtain on the debt crisis". But the HIPC plan left the poorest nations deeper in debt and more tightly entrapped in the coils of the international financial system. This year, four million children under the age of five in the 41 nations classified as HIPCs will die as a result of preventable diseases, mainly due to lack of clean water and sanitation. Around 50 million children of primary school age are not in school, two-thirds of them girls. After carrying out stringent International Monetary Fund (IMF) restructuring measures, based on cutting government spending and opening up its economy to the operations of the "free market", Mozambique, one of the poorest nations in the world, qualified for debt relief under the HIPC programme. It cut just $10 million from its debt burden and will still spend $80 million a year on debt — more than twice the national budget for primary education and four times the budget for primary health.

The HIPC countries are concentrated in Sub-Saharan Africa, where the external debt has risen from $3 billion in 1962 to $250 billion. And the rise in debt has been accompanied by a series of conferences, initiatives and plans, all accompanied by claims that, this time, real measures had been taken to resolve the problem. The Cologne Summit is no exception. US hailed the latest agreement as "a historic step to help the world's poorest nations achieve sustained growth and independence". British Prime Minister Tony Blair, never one to be outdone in humanitarian rhetoric, said the summit "will probably mark the biggest step forward in debt relief and help to the poorest countries that we have seen in the international community for many years". Critics point out that poor countries will be faced with imposing even harsher measures under the IMF's "structural adjustment programme" in order to qualify for debt relief. Such measures include ending government subsidies, increased privatization, deregulation of the economy and currency devaluations. As the details of the plan were being released last week, Oxfam pointed out that even after the proposed reforms, HIPC states would still be spending more than one-fifth of their revenues on debt servicing. Another aspect of the plan to come under fire is the proposal for the IMF to sell part of its gold stocks in order to finance debt relief. The World Gold Council, a London-based organisation of gold mining companies, claimed that the recent fall in the price of gold was a result of plans by the IMF. The UK and Switzerland had to sell off stock that had costed HIPC countries more than $150 million in export earnings. "The future growth of these nations is being undermined by precisely those who wish to proffer a helping hand — the IMF and governments of some well developed countries", it said.

31. According to the passage the promised debt relief announced at the G-7 summit
- (1) will be a major step towards alleviating the debt burden of developing countries
- (2) is a huge outlay and would cost the G-7 nations high
- (3) is not quite so attractive for the debtor nations if one looks at the detailed plan
- (4) is a major breakthrough

32. The yawning gap between rhetoric and reality refers to the gap between
- (1) the declaration and the implementation
- (2) the myth and the reality
- (3) the interest burden pre and post relief package
- (4) the size of the proclaimed relief package and the relief actually resulting

33. The primary health budget of Mozambique, according to the passage is about

(1) $80 million   (2) $40 million

(3) $20 million   (4) $10 million

34. The debt relief promised to the poorest countries is likely to be counter productive as

(1) countries will still be spending more than 20% of their total revenue on debt servicing

(2) countries may have to sell part of their gold reserves to finance debt relief

(3) countries will have to undergo structural adjustment programmes which may impose further hardship on their people

(4) Both (1) and (3) above

35. According to the passage, the future growth of the HIPC countries

(1) is likely to be accelerated by the sell-off of gold stocks by the developed countries

(2) is likely to remain the same as a result of these reform measures

(3) is being hampered by the International Monetary Fund

(4) All of the above

36. The phrase "the devil is in the detail" used in the passage means

(1) debt is a big evil

(2) the full meaning dawns when you read the fine print, all of it

(3) the plan has too many details which hamper understanding

(4) whatever way you look, the detailed analysis of the debt burden hits you

37. The HIPC debt relief plan

(1) reduced HIPC debts to manageable levels

(2) gave an opportunity to bring down the debt crisis

(3) bound the counrtries even more into higher debt commitment

(4) made developed countries even more tense about HIPC debts

PASSAGE II

The atmosphere is a mixture of several gases. There are about ten chemical elements which remain permanently in gaseous form in the atmosphere under all natural conditions. Of these permanent gases, oxygen makes up about 21 per cent and nitrogen about 78 per cent. Several other gases, such as argon, carbon dioxide, hydorgen, neon, krypton, and xenon, comprise the remaining 1 per cent of the volume of dry air. The amount of water vapour, and its variations in amount and distribution, are of extraordinary importance in weather changes. Atmospheric gases hold in suspension great quantities of dust, pollen, smoke, and other impurities which are always present in considerable, but variable amounts.

The atmosphere has no definite upper limits but gradually thins until it becomes imperceptible. Until recently it was assumed that the air above the first few miles gradually grew thinner and colder at a constant rate. It was also assumed that upper air had little influence on weather changes. Recent studies of the upper atomosphere, currently being conducted by earth satellites and missile probing, have shown these assumptions to be incorrect. The atmosphere has three well-defined strata.

The layer of the air next to the earth, which extends upward for about 10 miles, if known as the troposphere. On the whole, it makes up about 75 per cent of all the weight of the atmosphere. It is the warmest part of the atmosphere because most of the solar radiation is absorbed by the earth's surface, which warms the air immediately surrounding it. A steady decrease of temperature with increasing elevation is a most striking characteristic. The upper layers are colder because of their greater distance from the earth's surface and rapid radiation of heat into space. The temperatures within the troposphere decrease about 3.5 degrees per 1,000-feet increase in altitude. Within the troposphere, winds and air currents distribute heat and moisture. Strong winds, called jet streams, are located at the upper levels of the troposphere. These jet streams are both complex and widespread in occurrence. They normally show a wave shaped pattern and move from west to east at velocities of 150 mph, but velocities as high as 400 mph have been noted. The influences of changing locations and strengths of jet streams upon weather conditions and patterns are no doubt considerable. Current intesive reserch may eventually reveal their true significance.

Above the troposphere to a height of about 50 miles is a zone called the stratosphere. The stratosphere is separated from the troposphere by a zone of uniform temperatures called the tropopause. Within the lower portions of the tratosphere is a layer of ozone gases which filters out most of the ultraviolet rays from the sun. The ozone layer varies with air pressure. If this zone were not there, the full blast of the sun's ultraviolet light would burn our skins, blind our eyes, and eventually result in our destruction. Within the stratosphere, the temperature and atmospheric compsition are relatively uniform.

The layer upward of about 50 miles if the most fascinating but the least known of these three strata. It is called the ionosphere because it consists of electrically charged practices called ions, thrown from the sun. The northern lights (aurora borealis) originate within this highly charged portion of the atmosphere. Its effect upon weather conditions, if any, is as yet unknown.

38. Which of the following titles best summarizes the contents of the passage ?

(1) New Methods for Calculating the Composition of the Atmosphere

(2) New Evidence Concerning the Stratification of the Atmosphere

(3) The Atmosphere : Its Nature and Importance to our Weather

(4) The Underlying Causes of Atmospheric Turbulence

39. The passage supplied information that would answer which of the following questions ?

I. How do the troposphere and the stratosphere differ?

II. How does the ionosphere affect the weather ?

III. How do earth satellites study the atomsphere ?

(1) I only   (2) III only

(3) I and II only   (4) I and III only

40. According to the passage, life as we know it exists on the earth because the atmosphere

(1) contains a layer of ozone gases

(2) contains electrically charge particles

(3) is warmest at the bottom

(4) carries the ultraviolet rays of the sun

41. It can be inferred from the passage that a jet plane will usually have its best average rate of speed on its run from

(1) New York to San Francisco

(2) Los Angeles to New York

(3) Boston to Miami

(4) Bermuda to New York

42. It can be inferred from the passage that at the top of Jungfrau, which is 12,000 feet above the town of Interlaken in Switzerland, the temperature is usually

(1) below freezing

(2) about 42 degrees colder than in Interlaken

(3) affect by the ionosphere

(4) about 75 degrees colder than in Interlaken

43. The passage states that the troposphere is the warmest part of the atmosphere because it

(1) is closest to the sun

(2) contains electrically charged particles

(3) radiates heat into space

(4) is warmed by the earth's heat

44. According to the passage, the atmosphere consists of all of the following *except*

(1) 21 per cent oxygen

(2) a definite amount of waste products

(3) ten permanent elements

(4) less than 1 per cent of xenon

45. According to the passage, the tropopause is

(1) a layer between the earth and the troposphere

(2) a layer upwards of about 50 miles from the earth

(3) the layer next to the stratosphere as we move upwards

(4) a zone of uniform temperature between the troposphere and the stratosphere

Directions for Q. Nos. 46 to 50. *Each of the questions consists of a capitalized word followed by four alternatives. Choose the alternative that is most similar in meaning to the capitalized word, in each case.*

46. POLEMIC

(1) blackness   (2) magnetism

(3) grimace   (4) controversy

47. CONTRITE

(1) smart   (2) penitent

(3) restful   (4) recognised

48. OPALESCENT

(1) lustrous   (2) transparent

(3) traditional   (4) pretentious

49. ADHERENT

(1) compulsive

(2) inflexible

(3) supporter

(4) temperate

50. ARCANE

(1) mysterious

(2) fearful

(3) untrue

(4) attacking

51. ENTRENCH
   (1) defy   (2) oust
   (3) extinguish   (4) restrain

52. ABROGATE
   (1) signify   (2) transgress
   (3) ratify   (4) placate

53. RAUCOUS
   (1) orderly   (2) buoyant
   (3) mellifluous   (4) contentious

54. STOIC
   (1) savant
   (2) whiner
   (3) victor
   (4) onlooker

55. SAGACIOUS
   (1) foolish
   (2) veracious
   (3) fallacious
   (4) bitter

Directions for Q. Nos. 56 to 60. Each of these questions consists of a sentence with one or more blank spaces. Beneath the sentence are four alternatives. Choose the alternative that best suits the meaning of the sentence.

56. No act of _____ was more pronounced than his _____ of any reward for this discovery.
   (1) abeyance, denial
   (2) egoism, boasting
   (3) denunciation, refusal
   (4) abnegation, ignorance

57. Language, culture and personality may be considered _____ of each other in thought, but they are _____, in fact.
   (1) corollaries, autonomous
   (2) independent, inseparable
   (3) variable, connected
   (4) determinants, independent

58. The term 'rare earths' is in fact a _____, for rare earth elements are actually _____ being present in low concentrations in almost all minerals.
   (1) truism, essential
   (2) misnomer, ubiquitous
   (3) metaphor, infinite
   (4) disclaimer, feeble

59. Although several details of the hypothesis are open to _____, its general conclusion has not been _____.
   (1) conjecture, verified
   (2) criticism, refuted
   (3) variation, determined
   (4) ridicule, disregarded

60. Not only the _____ are fooled by propaganda; we can all be misled if we are not _____.
   (1) illiterate, analytical
   (2) credulous, cynical
   (3) ignorant, critical
   (4) gullible, wary

Directions for Q. Nos. 61 to 70. *Each of these questions consists of a sequence with four underlined parts, one of which is incorrect as per standard use of English Language. Identify the part which is incorrect.*

61. Saying that the stock was currently overpriced and would be a precarious investment, the broker
       (1)   (2)   (3)
advised his client about purchasing it.
           (4)

62. The monarch spent more time at Monte Carlo than at home on his throne.
        (1)   (2)   (3)   (4)

63. Levels of river water pollution is often indicated by algae distribution.
          (1)   (2)   (3)   (4)

64. He kept on inquiring from the police because he wanted to know why his brother was detained.
         (1)   (2)   (3)   (4)

65. Your abiltity to smile through your troubles is one of your stronger points.
         (1)   (2)   (3)   (4)

66. Despite my cajoling, my father only gave me a throusand rupees.
         (1)   (2)   (3)   (4)

67. In that one moment he got cured from his lifelong obsession with city politics.
   (1)   (2)   (3)   (4)

68. In the centigrade thermometer, the freezing point of water is zero degrees.
      (1)   (2)   (3)   (4)

69. As an arbiter in labour disputes, she has won both the confidence of employees and the labour.
    (1)   (2)   (3)   (4)

70. When the bank auditors arrive to conduct their annual audit, they discovered the embezzlement by the chief cashier.
     (1)   (2)   (3)   (4)

Directions for Q. Nos. 71 to 75. Each of these questions consists of an idiom followed by four alternative words or phrases giving the possible meanings of the idiom. Select the alternative which gives the closest meaning of the idiom.

71. Wax eloquent

  (1) talk while you clean

  (2) praise lavishly

  (3) shine brightly

  (4) put a seal on

72. Paint yourself in a corner

  (1) paint your house yourself

  (2) get into a difficulty of your own making

  (3) get adjusted

  (4) become one with your surroundings

73. Having green fingers

  (1) being conscious of the environment

  (2) being good with plants, naturally

  (3) being a gardener

  (4) having soiled hands

74. Pain in the neck

  (1) being unwell   (2) uncomfortable position

  (3) irritating persons   (4) a spinal condition

75. Underground economy

  (1) excavation related industrial sector

  (2) dealing with the criminal underworld

  (3) agricultural economy

  (4) activities not accounted for tax purposes

Directions for Q. Nos. 76 to 80. Each of the following questions consists of a capitalized pair of words followed by four alternative pairs of words. Select the pair that best expresses a relationship similar to that expressed in the capitalized pair.

76. ALARM : TRIGGER

  (1) prison: escape   (2) fright : allay

  (3) trap : spring   (4) criminal : corner

77. SKIRT : ISSUE

  (1) vest : interest   (2) dodge : encounter

  (3) rig : wage   (4) mask : purpose

78. FEUD : ACRIMONY

  (1) crusade : heresy

  (2) dual : brevity

  (3) scuffle : confusion

  (4) siege : hunger

79. ARMATURE : STATUE
    (1) framework : building
    (2) arsenal : weapon
    (3) apparatus : experiment
    (4) landscape : painting

80. VINDICTIVE : MERCY
    (1) avaricious : greed
    (2) insightful : hope
    (3) skeptical : trustfulness
    (4) pathetic : sympathy

TEST III
QUANTITATIVE APTITUDE

81. A man bought 7 oranges for a rupee and sold them at a profit of 40%. How many oranges for a free did he sell?
    (1) 6   (2) 5
    (3) 7   (4) 4

82. Find the simple interest on Rs. 471 for 7 months at 2 paise per rupee per month ?
    (1) Rs. 64.94   (2) Rs. 63.94
    (3) Rs. 69.98   (4) Rs. 65.94

83. A man had Rs. 2,000, part of which he lent at 5% and the rest for 4%. The total annual interest received was Rs. 92. The money he lent @ 5% was
    (1) Rs. 1,100   (2) Rs. 1,300
    (3) Rs. 1,260   (4) Rs. 1,200

84. In what time will the simple interest on Rs. 900 @ 6% be equal to the interest on Rs. 540 for 8 years @ 5% ?
    (1) 3 years   (2) 4 years
    (3) 5 years   (4) 6 years

85. Two men and a boy can do a piece of work in 5 days, while a man and two boys can do it in 6 days. If a man is paid @ Rs. 28 a week, what should be the wages of a boy?
    (1) Rs. 14   (2) Rs. 18
    (3) Rs. 16   (4) Rs. 20

86. The cost of carpeting a room 20 m long is Rs. 40. Had the breadth been 3 metres less, the cost would have been Rs. 25. Find the area of the room.
    (1) 100 sq. m
    (2) 180 sq. m
    (3) 120 sq. m
    (4) 160 sq. m

87. Find the number which when added to itself 17 times becomes 162.
    (1) 13   (2) 7
    (3) 9   (4) 18

88. Find the greatest number that divides 204, 1190 and 1445 exactly.
    (1) 17   (2) 15
    (3) 27   (4) 13

89. Find the value of
    7.55 x 7.55 – 2 x 7.55 x 2.55 + 2.55 x 2.55
    (1) 125   (2) 50
    (3) 25   (4) 100

90. In an examination every candidate took History or Geography or both. 74.8% took History and 50.2% took Geography. If the total number of candidates is 1500, how many took History and Geographgy both ?
    (1) 400   (2) 350
    (3) 750   (4) 375

91. A train passes through a tunnel whose length is 500 metres in 1 minute moving at the speed of 72 km/hr. The length of the train is
    (1) 300 m   (2) 700 m
    (3) 800 m   (4) 850 m

92. The population of a town is 6,000. Out of these 3,400 read 'Hindustan' and 2,700 persons read 'Dainik Jagran'. There are 700 persons who read both the papers. Find the number of persons who do not read either of the two papers.
    (1) 650   (2) 700
    (3) 600   (4) 800

93. What is the total number of candidates at an examination if 31% fail and the number of those who pass exceeds the number of those who fail by 247 ?
    (1) 550   (2) 600
    (3) 650   (4) 700

94. A sum of Rs. 6.25 is made of 80 coins which are either 10 paise or 5 paise. How many are there of each kind?
    (1) 40, 40   (2) 50, 30
    (3) 35, 45   (4) 45, 35

95. A garrison of 112 men has provisions for 5 months. How many men must leave so that the provisions now last for 7 months ?

(1) 50   (2) 45

(3) 40   (4) 32

96. A batsman in his 17th innings makes a score of 85 and thereby increases his average by 3. If he has never been 'not out', what is his average after 17 innings ?

(1) 34   (2) 35

(3) 37   (4) 39

97. Pipe A can fill an empty tank in 5 hours and pipe B can empty it in 7.5 hours. How long will it take to fill the tank when both the pipes are opened together ?

(1) 15 hours   (2) 25 hours

(3) 10 hours   (4) 20 hours

98. The area of a grassy plot is 480 sq. m. If each side had been 5 m longer, the area would have been increased by 245 sq. m. Find the length of the fence to surround it.

(1) 44 m   (2) 88 m

(3) 132 m   (4) 78 m

99. A man is 37 years old and his two sons are 8 years and 3 years old. After how many years will he be twice as old as their united age ?

(1) 4 years   (2) 8 years

(3) 5 years   (4) 9 years

100. Kalpana is thrice as old as Sanjeev. Akash will be twice as old as Kalpana 6 years hence. Six years ago Sanjeev was 5 years old. What is Akash's present age ?

(1) 65 years   (2) 72 years

(3) 70 years   (4) 78 years

101. A clock of an office gains uniformly. On Monday morning at 6.00 a.m. it was set slow by 5 minutes. On next Monday at 6.00 a.m., it was observed to be faster by 10 minutes. During this period, when did the clock give the correct time ?

(1) Tuesday at 6 p.m.   (2) Wednesday at 6 p.m.

(3) Wednesday at 2 p.m.   (4) Thursday at 6 p.m.

102. What is the value of

$$\frac{\sqrt{98} - \sqrt{72} + \sqrt{50}}{\sqrt{18}}?$$

(1) 6   (2) $\dfrac{\sqrt{38}}{\sqrt{3}}$

(3) $-\dfrac{4}{3}$ (4) 2

103. If a + b + c = 0 then the value of a (c + a) (b+a) – b (a + b) (b + c) is equal to

(1) 1   (2) abc

(3) $\dfrac{a + b}{c}$ (4) 0

104. A company dealer sells home appliances on instalments and claims to make only 15% compound interest, interest being compounded annually. A man buys a geyser from the dealer and agrees to pay in two equal yearly instalments of Rs. 1058.00 each. What is the price of the geyser ?

(1) Rs. 1,800

(2) Rs. 2,000

(3) Rs. 1,820

(4) Rs. 1,720

105. If $p^2 + \dfrac{1}{p^2} = a$ and $p - \dfrac{1}{p} = b$ then which of the following is correctly expressed ?

(1) $a - b^2 - 2 = 0$ (2) $a^2 + b = 2$

(3) $a^2 - b^2 = 1$ (4) $a^2 = b^2$

106. The denominator of a rational number is one more than its numerator. In case the numerator is increased by 2 and the denominator is decreased by 2, we obtain the value 2. What is the rational number ?

(1) 5/6   (2) 4/5

(3) 3/4   (4) 2/3

107. A person sells a TV set costing him Rs. 9,000 to a trader at a loss of 10%. After a few days, he buys the same TV set back from the trader, where the trader gains 10%. The net result is

(1) no profit no loss to anyone

(2) Trader gains Rs. 900

(3) Person loses Rs. 90

(4) Person loses Rs. 810

108. In a recruitment test, 80% of the applicants qualified in Mathematics and 70% qualified in English while 10% of them failed in both the subjects. If a total of 30 applicants qualified in both the subjects, what was the total number of applicants who appeared in the test ?

(1) 400   (2) 540

(3) 600   (4) 630

109. The ratio of the area of a square to that of the square drawn on it diagonal is always

(1) 4 : 5   (2) 3 : 4

(3) 1 : 2   (4) 2 : 3

110. How many bricks 20 cm x 10 cm will be needed to pave the floor of a room 25 m long and 16 m wide ?

(1) 23000   (2) 25000

(3) 20000   (4) 15000

111. When the income tax is 3%, a man's net income is Rs. 2425. What will it be when the tax rate is raised to 4% ?

(1) Rs. 2,300
(2) Rs. 2,350
(3) Rs. 2,400
(4) Rs. 2,415

112. Find the least number which is exactly divisible by 4, 5, 6, 15, 18.

(1) 600
(2) 900
(3) 500
(4) 800

113. The area of four walls of a room is 660 sq. m and the length is twice the breadth. If the height is 11 m, find the area of the ceiling.

(1) 200 sq. m
(2) 150 sq. m
(3) 250 sq. m
(4) 300 sq. m

114. Charlie, Jack and Ram started a business by investing Rs. 2,700, Rs. 8.100 and Rs. 7,200 respectively. At the end of one year the profit was distributed. If Jack's share was Rs. 3,600, what was their total profit ?

(1) Rs. 11,000
(2) Rs. 8,000
(3) Rs. 7,000
(4) Rs. 5,000

115. If $\tan\grave{e} = \dfrac{3}{4}$ find the value of $\dfrac{4\sin\grave{e} - 2\cos\theta}{4\sin\theta + 3\cos\theta}$

(1) $\dfrac{1}{6}$
(2) $\dfrac{1}{3}$
(3) $\dfrac{1}{4}$
(4) $\dfrac{1}{8}$

116. If an isosceles triangle has base of 6 cm and the length of each equal side is 5 cm, its area is

(1) $12\ cm^2$
(2) $14\ cm^2$
(3) $16\ cm^2$
(4) $25\ cm^2$

117. The perimeter of a triangle field is 144 m and the ratio of the sides is 3 : 4 : 5, the area of the field will be

(1) $1864\ m^2$
(2) $864\ m^2$
(3) $432\ m^2$
(4) $216\ m^2$

118. If the diameter of the driving wheel of a bus is 140 cm, how many revolutions per minute must the wheel make in order to achieve a speed of 66 km per hour ?

(1) 300
(2) 240
(3) 100
(4) 250

119. If $x + \dfrac{1}{x} = 5$, what will be the value of $x^3 + \dfrac{1}{x}$?

(1) 125
(2) 110
(3) 1025
(4) 975

120. The value of $2 \times 27^{1/3} \times 216^{-2/3}$ is

(1) -3
(2) -6
(3) $\dfrac{1}{6}$
(4) 8

121. If 8 labourers, digging 8 hours a day can dig a pond in 8 days, then how many days will 3 labourers digging 3 hours a day take in digging the same pond ?

(1) 72 days
(2) $56\dfrac{8}{9}$ days
(3) $80\dfrac{8}{9}$ days
(4) $70\dfrac{8}{9}$ days

122. Rakesh sold his old dining table and chairs to Mohan for Rs. 950. If he loses 24%, what was the purchase cost of tables and chairs ?

(1) Rs. 1,500
(2) Rs. 1,300
(3) Rs. 1,240
(4) Rs. 1,250

123. If $x + y + z = 1$, $xy + yz + zx = -1$, $xyz = -1$, then $x^3 + y^3 + z^3$ is equal to

(1) 11
(2) 10
(3) 1
(4) 7

124. If the price of tea is increased by 20%, find by how much % a lady must reduce consumption of tea so as to not increase her expenditure.

(1) 14.67 %
(2) 16.67%
(3) 15.67%
(4) 20%

125. The diameter of a cone is 14 cm and its slant height is 9 cm. Find the area of its curved surface.

(1) $256\ cm^2$
(2) $298\ cm^2$
(3) $198\ cm^2$
(4) $49\ cm^2$

Directions for Q. Nos. 126 to 130. Answer these questions on the basis of the following information.

The value of net housing finance to various customers is given below :

Year	Rs. in crores
1996-97	4038
1997-98	3996
1998-99	2545
1999-2000	3987
2000-2001	6403
2001-2002	4823
2002-2003	5496

126. What is the difference between the maximum and minimum loan to customers ?

    (1) 3768   (2) 3858

    (3) 3758   (4) 3407

127. Keeping in view the loan in 1996-97 and 2002-03, find the annual increase.

    (1) 245.7   (2) 234.5

    (3) 243   (4) 234

128. What is the % Increase of Loan in 2002 03 from 2001-02?

    (1) 14   (2) 12

    (3) 13   (4) 11

129. What is the % decrease of loan in 1998-99 from that in 1997-98 ?

    (1) 15

    (2) 29

    (3) 33

    (4) 36

130. Maximum loan is what % of minimum loan ?

    (1) 159

    (2) 239

    (3) 129

    (4) 151

TEST IV
REASONING

Directions for Q. Nos. 131 to 133. Find the number that comes next in the sequence.

131. 8, 12, 24, 60, _____

    (1) 168   (2) 120

    (3) 90   (4) 144

132. 0, 6, 24, 6-, _____

    (1) 90   (2) 72

    (3) 120   (4) 100

133. 7, 5, 12, 17, 29, _____

    (1) 30

    (2) 41

    (2) 49

    (4) 46

Directions for Q. Nos. 134 to 136.

The cast of a benefit programme will consist of exactly four actors to be selected from the seven actors P, Q, R, S, T, U and V according to the following conditions :

    (i) Either P or T must be in the case; but they cannot both be in the cast.

    (ii) If T is in the cast, then Q must be in the cast.

    (iii) If U is in the cast, then neither P nor R can be in the cast.

134. If U is in the cast, which of the following must also be in the cast ?

    (1) P   (2) Q

    (3) R   (4) S

135. If P is in the cast, any of the following groups of three could make up the rest of the cast *except*

    (1) Q, R and S   (2) Q, R and V

    (3) R, S and V   (4) S, U and V

136. If S is in the cast but needs to be replaced, which of the following actors, if not in the cast, is eligible to replace S regardless of the composition of the rest of the cast ?

    (1) R

    (2) P

    (3) T

    (4) V

Directions for Q. Nos. 137 to 141.

The office staff of the XYZ Corporation presently consists of three book-keepers (A, B and C) and five secretaries (D, E, F, G and H). Management is planning to open a new office in another city using three secreatries and two book-keepers of the present staff. To do so they plan to separate certain individuals who do not function well together. The following guidelines were established to set up the new office :

(i)   Book-keepers A and C are constantly finding fault with one another and should not be sent as a team to the new office.

(ii) C and E function well alone but not as a team. They should be separated.

(iii) D and G have not been on speaking terms for many months. They should not go together.

(iv) Since D and F have been competing for promotion, they should not be a team.

137. If A is to be moved as one of the book-keepers, which of the following *cannot* be a possible working unit ?
(1) A B D E H   (2) A B D G H
(3) A B E F H   (4) A B E G H

138. If C and F are moved to the new office, how many combinations are possible ?
(1) 1   (2) 2
(3) 3   (4) 4

139. If C is sent to the new office which member of the staff *cannot* go with C ?
(1) B   (2) D
(3) F   (4) G

140. Under the guidelines developed, which of the following *must* go to the new office ?
(1) B   (2) D
(3) E   (4) G

141. If D goes to the new office which of the following is (are) true ?
I.   C cannot go.
II. A cannot go.
III. H must also go.

(1) I only   (2) II only
(3) I and II only   (4) I and III only

Directions for Q. Nos. 142 to 146.

(i)   A, B, C, D, E and F are six members of a family.
(ii) There are two married couples among them.
(iii) C is the mother of A and F.
(iv) E is the father of D.
(v)   A is the grandson of B.
(vi) The total number of female members in the family is three.

142. Which of the following pairs is one of the married couples ?
(1) EF   (2) BD
(3) EB   (4) AF

143. Who is the wife of E ?
(1) B   (2) C
(3) D   (4) F

144. How is B related to F ?
(1) Sister   (2) Grandmother
(3) Wife   (4) Daughter

145. How is F related to A ?
(1) Sister
(2) Brother
(3) Daughter
(4) Mother

146. Which of the following is a group of female members ?
(1) BDE   (2) AFB
(3) DCF   (4) BCF

147. One number is twice the second number, seconds if twice the third and the third is twice the fourth. How many times is the first number of the fourth number ?

(1) 8 times

(2) 4 times

(3) 6 times

(4) 2 times

148. Dormitories range from two to six stories in height. If a dormitory room is above the second-floor, it has a fire escape.

If the statements above are true, which of the following must also be true ?

(1) Second-floor dormitory rooms do not have fire escapes

(2) Third-floor dormitory rooms do not have fire escapes

(3) Only dormitory rooms above the second-floor have fire escapes

(4) Fourth-floor dormitory rooms have fire escapes

Directions for Q. Nos. 149 to 152.

(i) D, R and M have some number of apples, mangoes and oranges.

(ii) D has two more apples than M.

(iii) R has the same number of apples, mangoes and oranges.

(iv) The number of M's applies and D's mangoes is the same.

(v) The total number of fruits is 58.

(vi) R has two more fruits than D while M has three less than R.

(vii) M has three oranges.

(viii) The total number of mangoes is 22.

(ix) D has two oranges less than R.

(x) R has one more mango than D.

149. Who has the maximum number of mangoes and how many ?

(1) M – 11   (2) R – 8

(3) M – 9   (4) D – 9

150. What is the total number of apples ?

(1) 21   (2) 23

(3) 19   (4) 20

151. D has how many oranges more/less than apples ?

(1) 3 more   (2) 2 less

(3) 2 more   (4) 3 less

152. How many oranges does R have ?

(1) 6   (2) 7

(3) 8   (4) 9

Directions for Q. Nos. 153 to 157. Unscramble the letters in the following words and find the odd man out.

153. (1) UBS   (2) RCTUK

(3) HPIS   (4) ACR

154. (1) RNTIALGE   (2) QERUSA

(3) RAGETNCLE   (4) CCRIEL

155. (1) NOOTTC   (2) KLSI

(3) ETUJ   (4) OOKB

156. (1) LABKC

(2) ORULCO

(3) THIEW

(4) BULE

157. (1) WOTN   (2) RRVEI

(3) YITC   (4) ILAEVLG

The recipe for Hearty Noodle Soup calls for six ingredients — noodles, onions, potatoes, rosemary, sage, and tomatoes — to be added one at a time into a potful of water. The ingredients must be added according to the following directions :

(i)   The sage is added fourth.

(ii) The onions are added immediately before the tomatoes are added.

(iii) The noodles are added sometime before the sage is added and sometime before the rosemary is added.

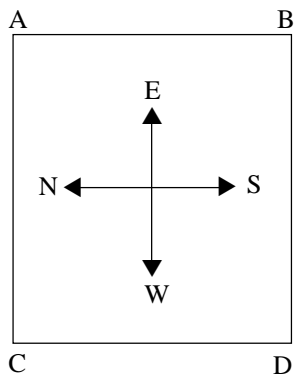(iv) The potatoes are added sometime before the rosemary is added.

158. Which of the following is an acceptable order, from first to last, in which the ingredients could be added ?
    (1) Noodles, Onions, Tomatoes, Sage, Potatoes, Rosemary
    (2) Noodles, Potatoes, Rosemary, Sage, Tomatoes, Onions
    (3) Noodles, Rosemary, Potatoes, Sage, Onions, Tomatoes
    (4) Potatoes, Onions, Tomatoes, Sage, Noodles, Rosemary

159. If the potatoes are added fifth, which of the following must be true ?
    (1) The noodles are added first
    (2) The noodles are added second
    (3) The onions are added first
    (4) The rosemary is added sixth

160. If the tomatoes are added sixth, which of the following can be true ?
    (1) The noodles are added third
    (2) The onions are added second
    (3) The potatoes are added first
    (4) The potatoes are added fifth

161. If the noodles are added third, which of the following must be true ?
    (1) The potatoes are added first
    (2) The potatoes are added second
    (3) The rosemary is added fifth
    (4) The tomatoes are added second

162. If the onions are added sometime before the sage is added, which of the following must be true ?
    (1) The noodles are added first
    (2) The noodles are added third
    (3) The potatoes are added third
    (4) The potatoes are added fifth

163. Which of the following is a complete and accurate list of the ingredients any one of which could be the first ingredient added ?
    (1) Noodles, Tomatoes
    (2) Onions, Rosemary
    (3) Noodles, Onions, Potatoes
    (4) Noodles, Potatoes, Tomatoes

164. A rope is to be cut into six pieces. First it has been doubled. How many times does it have to be cut now?

(1) One   (2) Two

(3) Three   (4) Four

165. Today is Thursday. On the Monday last the date was 30th December 1974. The date today is

(1) 26 December 1974   (2) 2nd January 1975

(3) 3rd January 1975   (4) 1st January 1975

Directions for Q. Nos. 166 to 168.

In a square field four persons A, B, C, D are standing on the four corners as shown below:

A   B

E

N ◄——► S

W

C   D

Now they start walking in an anti-clockwise direction and occupythe position at the next corners.

166. Who is in the North-East position ?

(1) A   (2) B

(3) C   (4) D

167. Who is in the North-West position ?

(1) A   (2) B

(3) C   (4) D

168. Who is in the South-West position ?

(1) A

(2) B

(3) C

(4) D

Directions for Q. Nos. 169 to 174.

The art director of an advertising company is pereparing a sales brochure for a boat-manufacturing company. To represent her client's line of products, she wants a separate full-page colour advertisement in the brochure for each of the following five types of boats : kayak, motorboat, pedal boat, raft, and sailboat. Thus, there will be exactly five printed pages, numbered consecutively one through five, in the brochure. Because she also wants to show the range of colours that the manufacturer uses, one of the boats pictured must be green, one must be orange, one must be tan, one must be white, and one must be yellow. In designing the brochure, she has made the following decisions :

(i) The motorboat will be advertised on a lowwer-numbered page than the pedal boat.

(ii) The sailboat will be advertised on a lower-numbered page than the kayak.

(iii) The white boat will be advertised on a lower-numbered page than the yellow boat.

(iv) The orange boat will be advertised on page three.

(v) The pedal boat advertised will be tan.

169. Which of the following could be the colours of the boats advertised on pages 1 through 5 respectively ?

(1) White, tan, orange, green, yellow

(2) Green, orange, white, yellow, tan

(3) Green, tan, orange, yellow, white

(4) Orange, yellow, white, tan, green

170. Any of the boats could be advertised on page 3 *except* the
(1) kayak
(2) Motorboat
(3) pedal boat
(4) raft

171. If the kayak is advertised on a lower-numbered page than the orange boat, which of the following must be true ?
(1) The kayak is advertised on page 1
(2) The pedal boat is advertised on page 5
(3) The raft is advertised on page 3
(4) The sailboat is advertised on page 1

172. If the kayak is green, the boat advertised on page 1 must be
(1) green
(2) orange
(3) tan
(4) white

173. If the motorboat is green and is advertised on page 4, which of the following must be true ?
(1) The raft is advertised on page 3
(2) The sailboat is advertised on page 1
(3) The white boat is advertised on page 1
(4) The tan boat is advertised on page 2

174. If the sailboat is advertised on page 2 and the green boat is advertised on page 5, the sailboat must be
(1) yellow
(2) orange
(3) tan
(4) white

Directions for Q. Nos. 175 to 177. Find the odd man out.

175. (1) Jainism
(2) Buddhism
(3) Communism
(4) Hinduism

176. (1) Gujarat
(2) Kerala
(3) Haryana
(4) Orissa

177. (1) Edible oil
(2) Groundnut oil
(3) Coconut oil
(4) Sunflower oil

Directions for Q. Nos. 178 to 183. Given below are seven number series :

I.   4, 64, 5, 125, 6, x

II.   6, 37, 7, 50, 8, 65, 9, x

III. 5, 25, 125, 7, 49, 343, 9, 81, x

IV.   9, —7, 18, —18, 31, x

V.   4, 16, 80, 480, 3360, x

VI.   25, 24, 22, 19, 15, 10, x

VII. 100, 81, 64, 49, 36, x

178. In which of the above number series is the third power of a number the determining factor ?
(1) I and III
(2) I, IV and V
(3) I, III and VII
(4) II, III and VI

179. In which of the above number series is $n^2 + 1$ the determining factor ?
(1) I
(2) II
(3) III
(4) V

180. In which of the above number series is it necessary to consider a pattern of three elements ?
(1) I
(2) II
(3) III
(4) IV

181. In which of the above number series is the use of powers of a number *not* a determining factor ?
(1) V
(2) VII
(3) I
(4) II

182. In which of the above number series is the determining factor the addition and subtraction of squares?
(1) II
(2) IV
(3) VI
(4) VII

183. In which of the above number series is the recognition of increasing multiples significant ?
(1) II
(2) V
(3) VI
(4) II and IV

184. 'A' can type 500 words in ten minutes and 'B' can type 400 words in ten minutes. In how many minutes can they together type 3,600 words ?

(1) 40   (2) 60

(3) 30   (4) 45

185. Five books marked A, B, C, D and E are lying on a table. D is to be left of C; B is to the left of E; A is to the right of C. If A is to the left of B, the book in the middle will be

(1) A   (2) B

(3) C   (4) D

Directions for Q. Nos. 186 to 189.

Classroom assignments are being made for 5 teachers — F, G, H, I and J — and 5 assistants — K, L, M, N and O. The classrooms are all in a line on one side of a corridor and are numbered consecutively from 1 to 6. One teacher and one assistant will be assigned to each of the 5 classrooms, and one classroom will remain unassigned. The assignments must conform to the following conditions :

(i) F is assigned to the same room as K.

(ii) G is not assigned to the same room as O.

(iii) I is assigned to either Room 2 or Room 3.

(iv) J is assigned to Room 5.

(v) M is assigned to a room next to F's room.

(vi) The unassigned room is not either one of the end rooms.

186. M *cannot* be assigned to which of the following rooms ?

(1) 2   (2) 3

(3) 5   (4) 6

187. If G is assigned to Room 3, which of the following must be true ?
(1) F is assigned to Room 1
(2) I is assigned to Room 2
(3) L is assigned to room as 3
(4) N is assigned to Room 4

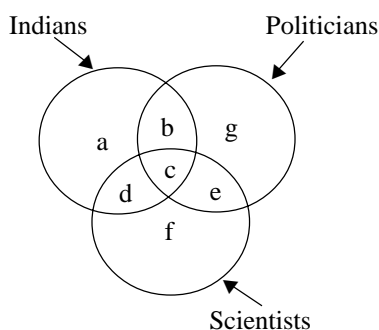**188.** If Room 2 is the unassigned room, which of the following could be true ?
(1) G is assigned to an end room
(2) M is assigned to an end room
(3) M is assigned to the same room as H
(4) M is assigned to a room next to I'sroom

189. If G is assigned to a room next to H's room, which of the following must be true ?
(1) L is assigned to Room 2
(2) O is assigned to Room 3
(3) Room 3 is the unassigned room
(4) Room 4 is the unassigned room

Directions for Q. Nos. 190 to 194.

Given below is a diagram in which the figures are interlocking each other. Each figure represents a certain section of people as indicated thereon. Different regions of the diagram are lettered from 'a' through 'g'. Read the statements of the questions given and answer which region represents the statement.

190. Scientists who are politicians but not Indians

    (1) a   (2) e

    (3) f   (4) c

191. Indians who are politicians but not scientists

    (1) b   (2) c

    (3) d   (4) g

192. Scientists who are Indians but not politicians

    (1) f   (2) b

    (3) c   (4) d

193. Non-Indian scientists who are not politicians

    (1) f   (2) d

    (3) e   (4) c

194. Indians who are scientists as well as politicians

    (1) a

    (2) b

    (3) c

    (4) d

Directions for Q. Nos. 195 to 200.

A gallery owner is preparing to exhibit examples of an artist's paintings and sculptures. The artist has submitted one large sculpture, one small sculpture, two large paintings, and three small paintings. The gallery owner plans to show at least three, but no more than five works selected according to the following conditions :

(i)   At least one sculpture must be selected.

(ii) At least one large work must be selected.

(iii) The three large works cannot all be selected.

(iv) The four small works cannot all be selected.

(v) If the small sculpture is selected, at least one small painting must also be selected.

195. Which of the following could be a complete selection for the exhibit ?

    (1) Three small paintings

    (2) The two large paintings and two small paintings

    (3) The small sculpture, a large painting and two small paintings

    (4) The small sculpture and two small paintings

196. If the only sculpture selected for the exhibit is the large sculpture, which of the following must be true ?

    (1) Exactly three additional works are selected

    (2) The additional works selected are all small paintings

    (3) One of the large paintings is selected alongwith exactly three small paintings

    (4) Either two or more small paintings are selected, or one large painting and at least one small painting are selected

197. If five works are selected for the exhibit, which of the following must be true ?

    (1) Exactly two of the works selected are large

    (2) Exactly three small paintings are selected

    (3) Exactly four of the works selected are small

    (4) Both sculptures are selected

198. If three small paintings are selected for the exhibit, which of the following must also be selected ?

    (1) The small sculpture   (2) The large sculpture

    (3) One large painting   (4) One large painting and the large sculpture

199. If the small sculpture and one of the large paintings are selected, an acceptable exhibit can be made by the addition of each of the following selections *except* :

    (1) One small painting   (2) Two small paintings

    (3) The other large painting   (4) The other large painting and one small painting

200. If both sculptures are selected, an acceptable exhibit can be made by the addition of each of the following selections *except* :

    (1) One small painting   (2) Two small paintings

    (3) Three small paintings   (4) One large painting and one small painting