

OPENMAT (XIII) ENTRANCE TEST FOR MANAGEMENT PROGRAMMES 2003

TEST I General Awareness

1. What is the minimum age laid down for a person to seek election to the Lok Sabha ?
(1) 18 years (2) 21 years
(3) 25 years (4) 30 years
2. The chronological order of the three dynasties that ruled India is
(1) Slave, Khilji, Tughlaq
(2) Tughlaq, Slave, Khilji
(3) Khilji Tughlaq, Slave
(4) Slave, Tughlaq, Khilji
3. Human Genome Project endeavours to
(1) Decode DNA
(2) Invent AIDS treatment
(3) Study evolution of humans
(4) Study fingerprints
4. Which sport has been nominated for the Nobel Peace Prize 2001 for promoting understanding among nations ?
(1) Basketball (2) Tennis
(3) Soccer (4) Hockey
5. In India, what fraction of the members of the State Legislative Council (Vidhan Parishads) are elected by the local bodies ?
(1) One-third (2) One-fourth
(3) One-sixth (4) One-twelfth
6. The President of the UN General Assembly is elected for a period of
(1) One year (2) Two years
(3) Three years (4) Four years
7. The acid rains usually contain large amounts of
(1) Carbonic acid (2) Hydrochloric acid
(3) Nitric acid (4) Sulphuric acid
8. Seedless fruits are developed by the technique of
(1) Tissue culture
(2) Hybridisation
(3) Clonal selection
(4) Pure-line selection
9. Out of the following, the velocity of sound is maximum in
(1) Water (2) Air
(3) Steel (4) Wood
10. A liquid drop tends to assume a spherical shape because of the
(1) Viscous force (2) Gravitational force
(3) Elastic force (4) Surface tension
11. The stethoscope used by doctors works on the principle of
(1) Interference of sound
(2) Reflection of sound
(3) Refraction of sound
(4) Superposition of sound
12. Modern powerful magnets are made from
(1) Iron compounds
(2) Ferromagnetic materials
(3) Alloys containing aluminium, cobalt and nickel
(4) Alloys containing iron, cobalt and nickel
13. When any foreign body enters in the human blood system then the reaction is initiated by
(1) R.B.Cs. (2) W.B.Cs.
(3) Blood Platelets (4) Plasma
14. 'Athlete's foot' is caused by
(1) Bacterial infection (2) Allergy
(3) Virus (4) Fungus

15. Ethnobotany is a branch of Botany dealing with the study of
 (1) Crop plants
 (2) Old and Extinct plants
 (3) Ether forming plants
 (4) Plants in relation to tribal medicine
16. Which of the following states accounted for the highest share of total Foreign Direct Investment in India between August 1991 and October 2001?
 (1) Tamil Nadu (2) Karnataka
 (3) Delhi (4) Maharashtra
17. Which among the following is the Mascot of the 150th year of Railways in India ?
 (1) Teju, the driver
 (2) Bholu, the guard
 (3) Chintu, the signalman
 (4) Sonu, the securityman
18. What is the first country in the world to adopt Euthansia (mercy killing) legally ?
 (1) Belgium (2) Australia
 (3) Norway (4) The Netherlands
19. Who among the following was the first lady Governor of any state in India ?
 (1) Rajkumari Amrit Kaur
 (2) Padmaja Naidu
 (3) Sarojini Naidu
 (4) Sarla Grewal
20. In India the first Television Programme was broadcasted in
 (1) 1959 (2) 1965
 (3) 1976 (4) 1957
21. Who wrote 'Dragon's Seed' ?
 (1) Pearl S. Buck (2) Shakespeare
 (3) Shelley (4) Keats
22. The largest organ in the human body is
 (1) Brain (2) Liver
 (3) Kidney (4) Heart
23. The Golden Jubilee of the Indian Parliament was celebrated on
 (1) April 26, 2002 (2) May 8, 2002
 (3) May 13, 2002 (4) May 18, 2002
24. Who among the following was the creator of Barbie, the world's most popular doll ?
 (1) Elliot Handler (2) Daniela Ullyett
 (3) Ruth Handler (4) Ann Johnson
25. Names of which of the following airports were changed in 2002 to Raja Bhoj Airport and Veer Sawarkar Airport respectively ?
 (1) Jaipur and Bhopal
 (2) Indore and Bhopal
 (3) Nagpur and Port Blair
 (4) Bhopal and Port Blair
26. During April 2002, the five brightest planets visible from the Earth lined up to form a dramatic celestial array. Which of the following was *not* part of this array ?
 (1) Jupiter (2) Saturn
 (3) Venus (4) Uranus
27. Mohammad Zahir Shah, deposed monarch, returned to Afghanistan in April 2002 after —— years of exile in Italy.
 (1) 26 years (2) 29 years
 (3) 32 years (4) 35 years
28. Who among the following Indians has been elected as Chairman of the UN Panel on Climate Change ?
 (1) Dr. S.R. Nadig
 (2) Narendra Sharma
 (3) Rajendra K. Pachauri
 (4) M. Damodaran
29. Who among the following is the world's second space tourist ?
 (1) Yuri Gidzenka
 (2) Roberto Vittori
 (3) Johnny Koroma
 (4) Mark Shuttleworth
30. On the path of disinvestment, the Government of India has given the management control of IPCL to which of the following companies ?
 (1) Indian Oil Corporation
 (2) Tata Chemicals Ltd.
 (3) IBP
 (4) Reliance Industries

TEST II

ENGLISH LANGUAGE

Directions for Questions 31 to 45. Read the two passages given below carefully. Each passage is followed by questions based on the contents of the passage. Answer the questions by selecting the best alternative from among those given in the questions.

PASSAGE I

Anybody could be excused for slipping over bananas. But fighting over them? Consider the current spat between the EU and USA over the pulpy fruit. The EU imports about 3.75 million tonnes of this commodity every year, but restricts the supply from US companies to 2.35 million tonnes. The remainder is acquired largely from countries from Africa and South-east Asia, mostly from former colonies. US firms would like to increase their share and are prepared to supply bananas nearly 15 per cent cheaper than their competitors. However, they are constrained by banana quotas imposed by the EU.

The US has challenged these restrictions three times before the WTO, winning twice. The new ruling is expected soon. In 1996 and 1997 the WTO's Dispute Settlement Body ruled that the EU's quota barriers be dismantled. To arm twist, or to pre-empt this judgement, the US has declared a trade offensive against the EU. On 3rd March, it announced the use of the controversial Section 301 of the US Trade Act against 16 types of EU exports including biscuits, war products, fine woollen clothing, coffee percolators and more. These goods have been placed under a 100 per cent import duty regime. As it turns out, such EU exports as have been targeted by the US do not amount to much. In 1998, the value of such imports into the US was under \$ 600 million. Not surprisingly, the US administration has held out the threat of extending this regime to a wide range of dairy and agricultural products.

There is baser aspect to the story as well. The EU banana imports from African and Asian countries are primarily in the hands of Western firms who had established themselves as traders in the former colonies. In contrast, almost the entire US exports of bananas to the EU markets are controlled by just one business, Carl Linder's Chiqita Inc., and the two sides have been exerting great pressure on their respective governments.

On a surface view the conflict might mean little for India. While it is the largest producer of bananas involved — it trades little of that commodity internationally. Last year India exported a meagre 28 tonnes to the US, and 18 tonnes to EU. However, analysts and policy makers would do well to consider the spat from three perspectives. First, it sharply highlights the manner in which the industrialised countries violate and stretch the rules of the WTO whenever convenient. This reality is in complete contrast to the impression that these countries are the real upholders of the fine principles of international trade. Second, the US and the EU could use the banana precedent to bypass the WTO, or ignore it altogether, for many more goods and services. The US is also fretting for retaliatory action against the EU's ban on hormone-treated beef from the US, which itself could be extended to other genetically modified foods. It has also been fuming over the manner in which several large European airlines are subsidised by their respective governments. There are also signs of a long-lasting war over steel between the EU and the US, which will have a definite impact on producers in developing countries as well.

The third aspect is perhaps the most important. The arbitrary ways of banana war being used by the big boys of global trade are very often used against the developing countries as well. This is particularly true for imports of commodities, manufactures or services from the developing countries. In lip service to the WTO, the industrialised countries have reduced many of their general tariff barriers to imports from developing countries. In real content, exporters from developing countries repeatedly run non-tariff barriers including discretionary countervailing duties. Many of these barriers have to be combated not at the WTO but in the national courts of US and Western Europe, involving huge legal expenses. Indian exporters will readily testify that these non-tariff barriers are the biggest obstacles that they face in their business.

It is very much in the interest of India and other countries to make efforts to prevail upon the industrialised countries to conduct their trading practices entirely within the ambit of WTO. In this regard, the Indian Government's request to be granted third-party status in the US-EU dispute over bananas is a praiseworthy move.

31. This passage is most likely to be an excerpt from
- (1) a research paper on International Trade trends
 - (2) a communique from the US Trade Consulate
 - (3) the text of the EU Chairman's speech
 - (4) a business publication
32. The author's main aim is to
- (1) highlight the potential that exists for exporting bananas from India
 - (2) portray the grave portents for India and the developing world that conflicts like the one over banana exports to EU carry
 - (3) show that the WTO is an ineffective body
 - (4) show that advanced industrialised nations have scant respect for any international convention
33. The percentage of India's total produce of bananas that is exported is
- | | |
|---------|------------------------------|
| (1) 28% | (2) 18% |
| (3) 21% | (4) not given in the passage |
34. According to the passage, the US is unhappy with the EU for
- (1) the ban that EU has put on hormone-treated American beef
 - (2) the subsidies given by European governments to their airlines
 - (3) the targetting of American exports by the US
 - (4) Both (1) and (2) above
35. The gravest fallout of the banana war could be that
- (1) the banana imports in EU from African countries could be badly hit
 - (2) Chiqita Inc. may bring severe lobbying pressure on the US government
 - (3) the unprincipled ways being used may be used against the developing countries to affect the imports of commodities, products and services from them
 - (4) a long lasting steel war between US and EU may get activated
36. Which is *not* mentioned as a serious trade dispute by the author, between the EU and the US ?
- (1) steel
 - (2) Genetically modified food
 - (3) Euro money
 - (4) Airlines
37. Which option, according to the author, are the industrialised countries using to restrict imports from the developing countries in lieu of tariff barriers ?
- (1) Discretionary non-tariff barriers
 - (2) Ordinance against imports from developing countries
 - (3) Specifying minimum quality criterion
 - (4) Specifying quantity criterion

PASSAGE II

Getting the facts and thinking — that is a fairly good five-word definition of creativity. Every worthwhile thing in the world was created by getting the facts and thinking. Thinking is mental manufacturing. Facts are the raw materials. And the products are ideas, methods and things. Every improvement in civilization began in some man's brain. It was a thought before it became a thing.

The progress of every nation depends upon the development of thinkers — men who have creative thoughts. It does not at all depend on great armies because militarists have only destructive thoughts. An army is only an organization of men who are trained to kill and destroy.

The man who thinks of a better way to do some useful work — he is the man who ought to have the medals and honours. Some day, history will be re-written. It will tell the story of the creative men, not the destructionists. It will tell the story of thinking.

In every nation, in every business form and even in every small shop, success depends more upon ideas than upon any other thing. Every businessman should have more or less thinking time every week. A business that is run only by memory will soon be stuck fast in a rut. We must get facts and ideas from others, by reading and by conversation, and we should try to originate as many ideas as we can.

All this seems self-evident when it is written down, but the last thing that most men do is to get the facts and think. Edison had this sign hung up on the wall of his workshop — "It is remarkable to what lengths people will go to avoid thought." Some of us think, more of us think we think, and most of us don't even think of thinking. How many firms try to stimulate their employees to think — offer rewards for useful suggestions ? Not one out of twenty.

No firm can afford to pay attention only to the automaticity of its routine. Sooner or later, a thinking competitor will push ahead and leave it in the rear. There can be no progress without thought. The firm that wins is the one that gives the most time to getting the facts and thinking.

- 38.** Which of the following is true about thinking ?
- (1) Most people are fond of thinking
 - (2) Thinking improves memory
 - (3) People think only when in trouble
 - (4) Most people avoid thinking
- 39.** Which, according to the passage, is the most important competitive edge for a firm ?
- (1) Mechanisation
 - (2) Market knowledge
 - (3) Ideas
 - (4) Automation
- 40.** Which of the following should be followed by a businessman in order to be successful ?
- (1) Get all the ideas from his people
 - (2) Memorise every detail of his business
 - (3) Keep some time for thinking
 - (4) Try to automate operations
- 41.** According to the passage, when history will be re-written, which of the following will be the hero ?
- (1) Businessman
 - (2) Creative man
 - (3) Politician
 - (4) Military leader
- 42.** Which of the following, in the context of the passage, is a desirable course of action ?
- (1) Organisations should give reward for useful suggestions
 - (2) Routine matters should not be paid any attention
 - (3) Thinking men should hold administrative positions in the firm
 - (4) Irrational ideas should not be encouraged
- 43.** The two basic elements of creativity, as per the passage, are
- (1) Facts and thinking
 - (2) Thinking and rewards
 - (3) Thinking and ideas
 - (4) Facts and analysis
- 44.** According to the passage, which of the following is common among firms ?
- (1) They encourage ideas from all levels of employees
 - (2) All firms look for thinking employees
 - (3) Most of them do not provide incentives for good suggestions
 - (4) They do not pay attention to routine matters
- 45.** The main purpose of the above passage is to
- (1) Highlight the difference between individuals
 - (2) Develop skills of thinking
 - (3) Establish relationship between thinking and creativity
 - (4) Emphasise importance of thinking

Directions for questions 46 to 50. Each of these questions consists of a capitalized word followed by 4 alternatives. From the given alternatives, choose the one that is most similar in meaning to the capitalized word.

- 46.** ABASE
- (1) incur
 - (2) estimate
 - (3) elope
 - (4) humiliate
- 47.** BALEFUL
- (1) doubtful
 - (2) virtual
 - (3) deadly
 - (4) virtuous
- 48.** CHOLERIC
- (1) episodic
 - (2) global
 - (3) hot headed
 - (4) seasonal
- 49.** FULMINATE
- (1) fulfil
 - (2) contemplate
 - (3) talk nonsense
 - (4) protest loudly
- 50.** INDUBITABLY
- (1) flagrantly
 - (2) doubtfully
 - (3) carefully
 - (4) certainly

Directions for questions 51 to 55. These questions consist of a capitalized word followed by four alternatives. Select from among the alternatives, the word which is most nearly opposite in meaning to the capitalized word.

- | | |
|--|---|
| <p>51. LACONIC (1) verbose (2) wicked (3) flagrant (4) derelict</p> | <p>54. DIMINUTION (1) expectation (2) validity (3) appreciation (4) difficulty</p> |
| <p>52. OBDURATE (1) yielding (2) fleeting (3) finite (4) permanent</p> | <p>55. CAPTIOUS (1) tolerant (2) capable (3) frivolous (4) winning</p> |
| <p>53. EXCORIATE (1) scandalize (2) encourage (3) praise (4) vanquish</p> | |

Directions for questions 56 to 60. Each of the questions below consists of a sentence with one or two blank spaces. Each sentence is followed by four alternative sets of words. Choose the words or set of words from among the alternatives given, which when inserted in the sentence best fit(s) the meaning of the sentence.

- | | |
|--|--|
| <p>56. The mind of the bigot is like the _____ of the eye, the more light you pour upon it the more it will _____ (1) cornea, blink (2) eyelid, veer (3) eyeball, reflect (4) pupil, contract</p> | <p>59. No act of _____ was more pronounced than his _____ of any awards for his discovery. (1) abeyance, renunciation (2) submission, avarice (3) egoism, portrayal (4) abnegation, refusal</p> |
| <p>57. A _____ statement is an _____ comparison; it does not compare things explicitly, but suggests a likeness between them. (1) sarcastic, unfair (2) blatant, overt (3) metaphorical, implied (4) sanguine, inherent</p> | <p>60. As _____ head of the company, he attended social functions and civic meetings, but had no _____ in the formulation of the company policy. (1) titular, voice (2) hypothetical, vote (3) actual, say (4) nominal, competition</p> |
| <p>58. We must try to understand his momentary _____ for he has _____ more strain and anxiety than any among us. (1) senility, understood (2) generosity, desired (3) aberration, undergone (4) anger, unvisioned</p> | |

Directions for questions 61 to 65. In each of the following sentences, four words or phrases have been underlined. Choose the underlined word or phrase that has been used inappropriately.

- 61.** A man may like to go alone for a walk but hate to stand alone in his opinions.
 (1) (2) (3) (4)
- 62.** The opposite of to skirt something is address directly or to deal directly.
 (1) (2) (3) (4)
- 63.** Some firms merge to attain economy of scale, others to expand and diversify.
 (1) (2) (3) (4)

64. The plane stood on its belly for a second, flipped down and came to rest on its spine.
 (1) (2) (3) (4)
65. The task of educating children rests in the state, but others can make a contribution towards it.
 (1) (2) (3) (4)

Directions for questions 66 to 70. Find the odd man out among each of the following.

66. (1) connoisseur (2) expert (3) gourmand (4) gourmet
67. (1) garnish (2) paint (3) adorn (4) banish
68. (1) summary (2) gist (3) precis (4) commentary
69. (1) illusive (2) chimeral (3) obvious (4) mirage
70. (1) guffaw (2) smirk (3) laughter (4) merriment

Directions for questions 71 to 75. Each of these questions has a sentence with a highlighted word or phrase which can be correctly substituted by one of the alternative choices that follow the sentence. Choose the alternative which can most appropriately substitute the highlighted phrase, without changing the meaning of the sentence.

71. He is naive, simple and **without deceit**; he cannot be guilty of fraud.
 (1) guileless (2) clueless (3) ignorant (4) artless
72. The man was **hoary** and wrinkled when he was seventy.
 (1) bent over (2) white with age (3) weak and feeble (4) enfeebled
73. The **delicate skill** and adroitness of the surgeon impressed all the observers in the operating room.
 (1) exactitude (2) finesse (3) intricacy (4) sagacity
74. Her great fear was that she might **by oversight** omit a question on the exam and miscalculate her whole answer sheet.
 (1) inalienably (2) inadvertently (3) improperly (4) impulsively
75. From the way the rich get away with everything, you might think we are a **society ruled by the wealthy** rather than a democracy.
 (1) oligarchy (2) plutocracy (3) aristocracy (4) hierarchy

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

76. AVER : AFFIRMATION
 (1) proclaim : objection (2) demur : protest (3) nonplus : resistance (4) refuse : distress
77. DEFLECT : MISSILE
 (1) defend : fortress (2) reflect : mirror (3) distract : attention (4) diversify : portfolio
78. GLINT : LIGHT
 (1) whiff : scent (2) glare : sound (3) shade : colour (4) wave : tide
79. SCOTCH : RUMOUR
 (1) divert : traffic (2) broach : topic (3) quash : riot (4) singe : fire
80. QUALIFY : PARTICULAR
 (1) restrain : effusive (2) flout : arbitrary (3) mollify : agreeable (4) burnish : dull

TEST III
QUANTITATIVE APTITUDE

- 81.** Rs. 275 is required to arrange a party for a cricket team of 11 players. What amount will be required if 2 umpires and 5 extra players are also to be invited to the party?
(1) Rs. 400 (2) Rs. 410
(3) Rs. 440 (4) Rs. 450.
- 82.** 5 men, 3 women and 8 boys share Rs. 580 between them. Each woman gets twice what each boy gets and each man gets what a boy and a woman get. How much does each man get?
(1) Rs. 55 (2) Rs. 60
(3) Rs. 64 (4) Rs. 75.
- 83.** $100.5^2 - 99.5^2 = ?$
(1) 0.50 (2) 1
(3) 100 (4) 200
- 84.** $1 - \left[\frac{3}{4} \times \frac{7}{9} \text{ of } \left\{ 1 - \left(1 - \frac{10}{3} \div 4 \frac{4}{9} \right) \right\} \right] = ?$
(1) 0 (2) 1
(3) 10 (4) $\frac{11}{36}$
- 85.** The compound interest on a certain sum at 5% p.a. for 2 years is Rs. 102.50. What is the compound interest at 4% p.a.?
(1) Rs. 75.00 (2) Rs. 79.60
(3) Rs. 80.00 (4) Rs. 81.60
- 86.** What is the least number when divided by 35 leaves a remainder of 25 and when divided by 46 leaves a remainder of 35?
(1) 115 (2) 210
(3) 305 (4) 345
- 87.** Two equal glasses filled with mixtures of alcohol and water in the proportions of 2 : 1 and 1 : 1 respectively are emptied into a third glass. What is the proportion of alcohol and water in the third glass?
(1) 7 : 5 (2) 7 : 3
(3) 3 : 7 (4) 5 : 7
- 88.** To obtain 30% of a number, the number should be
(1) multiplied by $\frac{10}{3}$ (2) divided by $\frac{100}{3}$
(3) multiplied by $\frac{3}{10}$ (4) divided by $\frac{3}{10}$.
- 89.** The average temperature of all 7 days of the week is 30° that of the first 3 days is 28° and of the next 3 days is 31° . What is the temperature on the last day of the week?
(1) 28° (2) 30°
(3) 31° (4) 33°
- 90.** How much above cost should the marked price be, if even after a discount of 10%, a profit of 10% is to be made?
(1) 20% (2) 21%
(3) $22\frac{2}{9}\%$ (4) $33\frac{1}{3}\%$
- 91.** $\frac{(0.3)^2 + (0.03)^2}{(0.1)^2 + (0.01)^2} = ?$
(1) 27 (2) 9
(3) 3 (4) 0.3
- 92.** If the pass percentage at an examination is 35 and a candidate securing 150 marks fails by 25 marks, what is the maximum number of marks?
(1) 400 (2) 500
(3) 600 (4) 750
- 93.** What part of 1 sq m is 1 sq cm?
(1) $\frac{1}{100}$ th (2) $\frac{1}{1000}$ th
(3) 100^{th} (4) 10000^{th}
- 94.** A's and B's investments in a business are in the ratio of 2 : 1. If A's share of the profit increases by Rs. 400 when the rate of profit increases from 5% to 10%, what is B's capital?
(1) Rs. 4,000 (2) Rs. 6,000
(3) Rs. 7,200 (4) Rs. 9,600
- 95.** When a rebate of 20% was given on cloth, the sales went up by 25%. What was the effect on receipts?
(1) Same as before (2) Increased by 5%
(3) Decreased by 5% (4) Increased by 1%
- 96.** Rs. 180 contained in a box is made up of Rs. 1, 50 p and 25 p coins in the proportion of 2 : 3 : 4. What is the number of 50 p coins?
(1) 60 (2) 100
(3) 120 (4) 150

97. $1 - [8 + \{15 - (6 - 2 - 20)\}] = ?$
 (1) 0 (2) 2
 (3) 4 (4) 5
98. How long will a train 150 m long travelling at 40 kmph, take to pass a man walking in the same direction at 4 kmph ?
 (1) 12.22 sec (2) 15 sec
 (3) 18 (4) 20 sec
99. At how many minutes past 5 p.m. are the hands of a clock at right angles to one another between 5 p.m. and 6 p.m. ?
 (1) 10 mins and 40 mins
 (2) $11\frac{1}{10}$ mins and $43\frac{4}{11}$ mins
 (3) $10\frac{10}{11}$ mins
 (4) $43\frac{7}{11}$ mins and $10\frac{10}{11}$ mins

100. $8.32 \times 0.999 = ?$
 (1) 0.831168 (2) 0.831866
 (3) 8.31618 (4) 8.31168

101. A cricketer has an average score of 30 runs for 42 innings. His highest score exceeds his lowest score by 100 runs. If these 2 innings are excluded, his average is 28 runs. What was his highest score ?
 (1) 120 (2) 125
 (3) 100 (4) 105

102. What is the length of the longest rod which can be accommodated in a room 8 m long, 6 m broad and 10 m high ?
 (1) 10 m (2) $8\sqrt{2}$ m
 (3) $10\sqrt{2}$ m (4) 18 m

103. $\frac{0.1}{0.3} : \frac{0.1}{0.2} :: \frac{1}{6} : ?$
 (1) $\frac{1}{5}$ (2) $\frac{1}{4}$
 (3) $\frac{1}{3}$ (4) $\frac{1}{2}$

104. $\frac{8^2 \times 16^4}{2^{16}} = ?$
 (1) 8 (2) 64
 (3) 512 (4) 1024

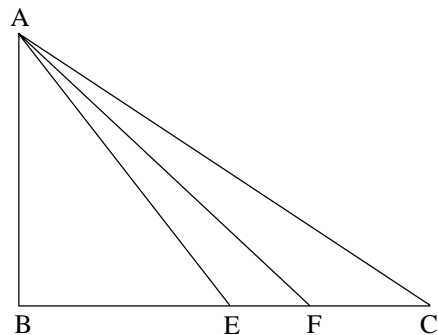
105. Two numbers are respectively 20% and 10% lower than the third. What percentage is the first number of the second ?

- (1) 45 (2) 50
 (3) 66.67 (4) 88.88

106. 10% less students pass in Mathematics than in English. If totally 304 students pass in both the subjects, how many students pass in Mathematics ?

- (1) 112 (2) 114
 (3) 144 (4) 176

107. If the figure below, ABC is right angled triangle with AB = 2 units and BC = 6 units; $\angle CAF = \angle FAE$ and the area of the triangle ABE is equal to 2 sq units. What is the length of AF ?



- (1) 2 units (2) 4 units
 (3) $2\sqrt{5}$ units (4) $\sqrt{41}$ units

108. $\frac{\sqrt{5}}{\sqrt{5} + \sqrt{3}} = ?$

- (1) 0.4845 (2) 0.5635
 (3) 1.581 (4) 4.4365

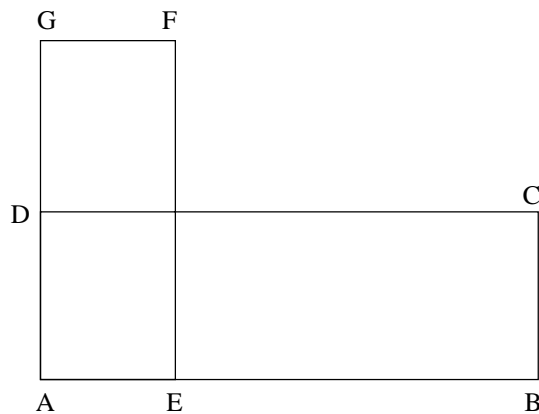
109. $\frac{1848 \times 8604 + 7392 \times 349}{77 \times 24} = ?$

- (1) 100 (2) 500
 (3) 1000 (4) 10000

110. $X^6 = ?$

- (1) $X^2 \cdot X^4$
 (2) $(X^3)^3$
 (3) $X^{2^2} \cdot X^2 \cdot X$
 (4) $X^3 \cdot X^2$

111. In the accompanying figure, $AE = \frac{1}{2} BE$ and $AD = \frac{1}{2} AG$. What is the ratio of the areas of rectangle AEFG and ABCD ?



- (1) 1 : 2 (2) 2 : 3
 (3) 3 : 2 (4) 4 : 9
112. $0.01 \times 0.01 + 0.01 \times 99.99 = ?$
 (1) 0.01
 (2) 0.1
 (3) 1
 (4) 100
113. What is the value of x if $2x - y = 20$ and $x - 2y = 4$?
 (1) $\frac{3}{16}$
 (2) $\frac{16}{3}$
 (3) 6
 (4) 12

114. $\frac{1}{5} \div \frac{1}{5}$ of $\frac{1}{5} = ?$
 $\frac{1}{5}$ of $\frac{1}{5} \div \frac{1}{5} = ?$

- (1) 1 (2) $\frac{1}{25}$
 (3) $\frac{1}{25}$ (4) 25

115. $\frac{\text{Rs.12 paisa } 20}{\text{Rs.36 paisa } 60}$ is equal to

- (1) $\frac{1}{3}$ (2) $\frac{2}{3}$
 (3) $\frac{1}{2}$ (4) $\frac{2}{5}$

116. The wheels of a bus are 1 m in diameter. What is the number of revolutions made by the wheels per minute when the bus is travelling at 33 kmph ?

- (1) 175 (2) 200
 (3) 1050 (4) 1750

117. $0.1 \times 0.1 + 0.99$ is equal to

- (1) 0.01 (2) 2
 (3) 0.109 (4) 1

118. A man covers 'd' miles in 't' hours. At that rate how long (in hours) will it take him to cover 'm' miles ?

- (1) dmt (2) $\frac{mt}{t}$
 (3) $\frac{mt}{d}$ (4) $\frac{dt}{m}$

119. In a right triangle ABC, if $\angle A > \angle B$ and $\angle B > \angle C$ then

- (1) $\angle C > 45^\circ$ (2) $\angle B = 90^\circ$
 (3) $\angle A = 170^\circ$ (4) $\angle A = 90^\circ$

Directions : For questions 120 to 124 refer to the following table.

| Relative sweetness of different substances | |
|--|-------|
| Lactose | 0.16 |
| Maltose | 0.32 |
| Glucose | 0.74 |
| Sucrose | 1.00 |
| Fructose | 1.70 |
| Saccharin | 67.50 |

120. About how many times sweeter than lactose is fructose ?

- (1) 0.09 (2) 0.1
 (3) 1.86 (4) 10.6

121. What per cent increase in sweetness is obtained by substituting equal amounts of maltose for lactose ?

- (1) 16 (2) 50
 (3) 100 (4) 200

122. How many grams of sucrose (to the nearest gram) must be added to one gram of saccharin to make a mixture that will be 100 times as sweet as glucose ?

- (1) 7 (2) 8
 (3) 9 (4) 10

123. What is the ratio of glucose to lactose in a mixture as sweet as maltose ?

- (1) 8 : 21 (2) 21 : 8
 (3) 25 : 9 (4) 29 : 8

124. Approximately how many times sweeter than sucrose is a mixture of glucose, sucrose and fructose in the ratio of 1 : 2 : 3 : ?

- (1) 0.6 (2) 1
 (3) 1.3 (4) 2.9

125. The expression $\frac{6}{x} \div \frac{3}{x}$ is equivalent to

- (1) $\frac{1}{2}$ (2) $2x$
 (3) $\frac{x^2}{18}$ (4) 2

126. Using formulae
 Circumference = $2\pi r$
 Area = πr^2

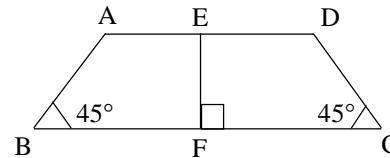
where r = radius, find the area of a circle whose circumference is x .

- (1) πx^2 (2) $\frac{x^2}{4\pi^2}$
 (3) $\frac{x^2}{4\pi}$ (4) πx

127. C is the midpoint of line AE. B and D are on line AE so that AB = BC and CD = DE. What per cent of AC is AD ?

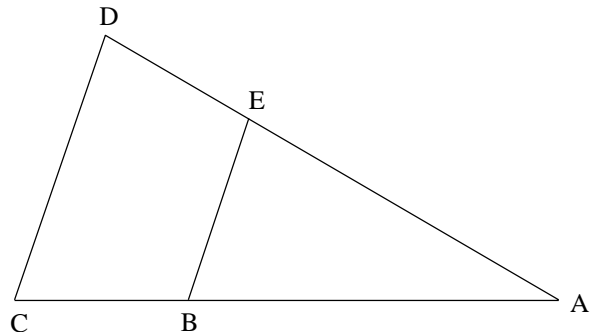
- (1) 33
 (2) 50
 (3) 133
 (4) 150

128. AD = 14, EF = 6, BC = ?



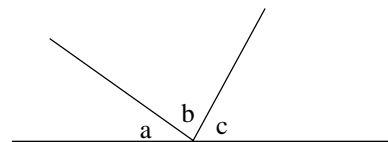
- (1) 8 (2) 12
 (3) 20 (4) 26

129. BA = 2BC
 BE = 14
 EA = 2DE
 DC = ?



- (1) 7 (2) 18
 (3) 21 (4) 24

130. Angles a, b, c are in ratio of 1 : 3 : 2. How many degrees is angle b ?



- (1) 30° (2) 50°
 (3) 90° (4) 100°

TEST IV REASONING

Directions for questions 131-134. Consider the following information

Seven offices in an office building are to be painted. The offices, which are on one side of a hallway, are numbered consecutively, one to seven, from the front of the building to the back. Each office is to be painted one colour only according to the following conditions:

- (i) Two offices must be painted white; two offices must be painted blue; two offices must be painted green; and one office must be painted yellow.
- (ii) The two offices painted green must be next to each other.
- (iii) The two offices painted blue cannot be next to each other.
- (iv) The office painted yellow cannot be next to an office painted white.
- (v) Office 3 must be painted white.

131. If office 2 is painted green, which of the following offices must also be painted green?

- (1) 1
- (2) 3
- (3) 4
- (4) 5

132. If office 5 is painted white, which of the following could be true?

- (1) Office 2 is painted yellow
- (2) Office 4 is painted green
- (3) Office 4 is painted yellow
- (4) Office 6 is painted blue

133. If office 4 is painted white and an office that is painted green is next to an office that is painted white, which of the following must be true?

- (1) Office 1 is painted yellow
- (2) Office 5 is painted blue
- (3) Office 6 is painted yellow
- (4) Office 7 is painted blue

134. Which of the following conditions, when combined with the original conditions, has the consequence of completely determining the colour that each office is painted?

- (1) Office 6 must be painted white
- (2) Office 1 must be painted yellow
- (3) Office 1 must be painted green
- (4) Office 4 must be painted blue

Directions for questions 135–139. Unscramble the letters in the following words and find the odd man out.

135. (1) OLOTLABF (2) YKEOCH
(3) TBAMNDONIO (4) TASL

136. (1) DOLNNO (2) OLMOBOCO
(3) IAFOS (4) LOOHSC

137. (1) RGAEN (2) RDHATE
(3) LCENPI (4) WROOSR

138. (1) SHAPSNI (2) MNALIA
(3) TIINLAA (4) CFENRH

139. (1) RICHA (2) TISHR
(3) BLATE (4) EDB

140. My watch is 8 minutes slow and my train leaves at 10:45, but it is 5 minutes late. I reached the station at 10:45 by my watch.

- (1) I am just in time
- (2) I missed the train by 3 minutes
- (3) I have to wait for 13 minutes
- (4) I have to wait for 3 minutes

141. Which number should replace both the question

marks in $\frac{49}{?} = \frac{?}{64}$

- (1) 28
- (2) 38
- (3) 48
- (4) 56

142. If x is less than 10 and y is less than 30, it follows that

- (1) y is greater than x (2) y is equal to x
(3) x is equal to $\frac{1}{3}y$ (4) $x + y$ is less than 40

143. One number is wrong in the following series. Find out the *wrong* number.

- 4, 10, 28, 82, 243
(1) 10 (2) 28
(3) 82 (4) 243

Directions for questions 144 – 147. In each of the following groups of letters, three follow a particular pattern while one does not. Find the odd one out.

144. (1) MNO (2) NOP
(3) PQR (4) RQP

146. (1) EV (2) IZ
(3) WX (4) AF

145. (1) IF (2) ZX
(3) TR (4) OM

147. (1) QRP (2) IOU
(3) TUS (4) KLJ

Directions for questions 148 – 153. Consider the following information.

The consumer complaint department of a firm employs exactly six people who answer letter : G, H, I, J, K and L. Every complaint letter received by the department is classified as either red or blue. The following procedures for answering the letters are used :

- (a) Red letters are given first to G or H.
(b) Blue letters are given first to any one of the following : G, J or I.

If a letter raises a problem that cannot be resolved by the persons to whom it is given, it must be forwarded until it reaches someone who can resolve the problem and answer the letter. A letter must be forwarded as follow :

- (i) By G to I if the letter is red, but to J if the letter is blue;
(ii) By H to either G or I
(iii) By I to J if the letter is red, but to K if the letter is blue;
(iv) By J to either I or K whether the letter is red or blue;
(v) By K to L whether the letter is red or blue;
(vi) L answers every letter given to him.

148. Any of the following can be true *except*

- (1) G forwards a red letter to I
(2) H forwards a red letter to G
(3) H forwards a red letter to I
(4) I forwards a red letter to K

151. Which of the following could be given to each of the six members of the consumer complaint department in turn ?

- (1) A red letter that is first given to H
(2) A red letter that is first given to G
(3) A blue letter that is first given to G
(4) A blue letter that is first given to I

149. A blue letter could reach L via which of the following sequences of people ?

- (1) G to H to K (2) G to I to J
(3) G to J to K (4) I to H to J

152. Any letter that reaches L must have been given to a minimum of how many members of the consumer complaint department before reaching L ?

- (1) 1
(2) 2
(3) 3
(4) 4

150. Any letter that reaches L must have been previously given to

- (1) K (2) G
(3) H (4) I

153. If a member of the consumer complaint department is given a letter that he or she had previously given to some other member of the department, the person who is given the letter a second time could be

- (1) G (2) H
(3) J (4) K

154. 20% of a number when added to 20 becomes the number itself. Find the number.

- (1) 20 (2) 25
(3) 50 (4) 80

155. A boy was asked to multiply a number by $\frac{5}{7}$

Instead, he divided the number by $\frac{5}{7}$ and got the

answer $\frac{25}{5}$ more than what he should have got if he

had multiplied the number by $\frac{5}{7}$. The number is

- (1) 5 (2) 7
(3) 17 (4) 24

Directions for questions 156–159.

Two children are playing a game with marbles of three colours — white, blue and red. One child calls ‘one’, ‘two’, ‘three’ and ‘four’; when he calls ‘one’ the other child puts one white marble in a box, when he calls ‘two’ one marble of blue colour is put in the box and when he calls ‘three’ one red coloured marble is put in the box. On calling ‘four’ one white and one blue marble is taken out from the box. The numbers called are in the following sequence:

1 2 3 3 2 1 4 2 3 1 4 2 2 3 3 1 4 1 1 3 2 3 4

156. How many marbles will be in the box when all the numbers have been called?

- (1) 8 (2) 9
(3) 10 (4) 11

158. How many white coloured marbles were in the box at the end of the game?

- (1) 2 (2) 5
(3) 7 (4) 9

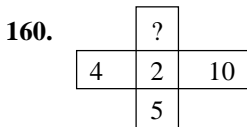
157. How many blue coloured marbles were in the box at the end of the game?

- (1) 1 (2) 2
(3) 3 (4) 4

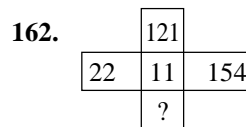
159. How many red coloured marbles were in the box at the end of the game?

- (1) 7 (2) 9
(3) 11 (4) 13

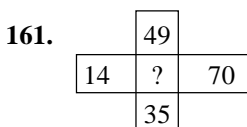
Directions for questions 160–163. Numbers in questions 160 to 163 follow the same arrangement. Find out the missing number. (Study the pattern in all the four questions before attempting the answers)



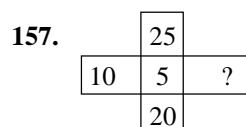
- (1) 12 (2) 4
(3) 6 (4) 7



- (1) 1 (2) 77
(3) 308 (4) 33



- (1) 7 (2) 84
(3) 42 (4) 21



- (1) 20 (2) 15
(3) 30 (4) 40

Directions for questions 176 – 179. Consider the following information.

Seven meetings — J, K, L, M, N, O and P — are to be scheduled, one on each day of a week that begins on Sunday.

- (i) Meeting J must take place on Sunday.
- (ii) Meeting K must take place after both meeting L and meeting M.
- (iii) Meetings N, O and P must take place on three consecutive days, not necessarily in that order.

176. Which is the latest day of the week on which meeting L can take place ?

- (1) Tuesday
- (2) Wednesday
- (3) Thursday
- (4) Friday

177. Which of the following must be true about the order of meetings ?

- (1) L takes place after J
- (2) L takes place after O
- (3) N takes place after O
- (4) N takes place after P

178. If meeting O is on Saturday, then meeting K must take place on

- (1) Monday
- (2) Tuesday
- (3) Wednesday
- (4) Friday

179. Which of the following represents a possible ordering of meetings on three consecutive days ?

- (1) POM
- (2) JMK
- (3) KLO
- (4) MNJ

180. A man moves 4 kms towards east and turns to his right 2 kms. He now turns to west 8 kms and then turns to his right 2 kms. How far is he from the starting point ?

- (1) 16 kms
- (2) 8 kms
- (3) 4 kms
- (4) 6 kms

Directions for questions 181 – 184. Consider the following information.

Eight adjacent offices completely enclose a circular central courtyard. The offices are numbered consecutively, beginning at one for the offices with 1 and proceeding clockwise to 8. Eight junior executives — J, K, L, M, N, O, P and R — are to occupy the offices, one to an office. The assignment of offices is subject to the following restrictions:

- (i) J is allowed first choice of any of the offices.
- (ii) K and P must be assigned to adjacent offices.
- (iii) L and P must be assigned to adjacent offices.
- (iv) M and O must be assigned to adjacent offices.
- (v) M and N cannot be assigned to adjacent offices.
- (vi) O is assigned to office 2 unless J chooses it; in that case, O will be assigned to office 3
- (vii) K is assigned to office 7 unless J chooses it; in that case, K will be assigned to office 5.

181. Which of the following is an assignment of executives to offices, beginning with office 1 and proceeding consecutively to office 8, that conforms to the restrictions above ?

- (1) J, O, M, R, L, P, K, N
- (2) J, R, O, M, L, P, K, N
- (3) M, O, N, K, P, L, R, J
- (4) M, O, R, J, L, K, P, N

182. If J chooses office 8, which of the following must be true ?

- (1) L is assigned to office 5
- (2) M is assigned to office 1
- (3) M is assigned to office 3
- (4) N is assigned to office 1

183. P could be assigned to which of the following offices ?

- (1) 1
- (2) 2
- (3) 3
- (4) 4

184. If N is assigned to office 5, which of the following can be true ?

- (1) M is assigned to office 4
- (2) O is assigned to office 3
- (3) P is assigned to office 1
- (4) R is assigned to office 6

- 192.** What is the code letter for A ?
(1) P (2) R
(3) Y (4) Z
- 193.** What is the code letter for E ?
(1) C (2) F
(3) I (4) L
- 194.** What is the code letter for U ?
(1) O (2) S
(3) C (4) K
- 195.** What is the code letter for N ?
(1) G (2) O
(3) T (4) R
- 196.** What is the code letter for O ?
(1) K (2) O
(3) S (4) E
- 197.** Which of the following could possibly be the code word for WET ?
(1) CXG (2) CUY
(3) PCS (4) RSC
- 198.** Which of the following could possibly be the code word for CURE ?
(1) SCAI (2) CISO
(3) KSCL (4) LOSK
- 199.** Which of the following words could TOS denote ?
(1) NUN (2) RUN
(3) RUT (2) ROT
- 200.** Which of the following words could EPB possibly denote ?
(1) LAW (2) CAT
(3) OWL (4) WOO