

OPENMAT (XXI) Entrance Test for Management Programmes 2007

Total No. of Questions = 200

Time : 180 Minutes

- All questions are compulsory.
- Use of calculator is not allowed. Rough work may be done in the space provided at the back of the Test booklet.
- The Test booklet has the following 4 tests :

Test-I	General Awareness	No. of Questions 30
Test-II	English Language	No. of Questions 50
Test-III	Quantitative Aptitude	No. of Questions 50
Test-IV	Reasoning	No. of Questions 70

Read the instructions given on the OMR Response Sheet carefully before you start.

**How to fill up the information on the OMR Response Sheet
(Examination Answer Sheet)**

1. Write your complete enrolment no. in 9 digits. This should correspond to the enrolment number indicated by you on the OMR Response Sheet. Also write your correct name, address with pin code in the space provided. Put your signatures on the OMR Response Sheet with date. Ensure that the Invigilator in your examination hall also puts his signatures with date on the OMR Response Sheet at the space provided.
2. On the OMR Response Sheet student's particulars are to be filled in by pen. However use HB pencil for writing the Enrolment No. and Examination Centre Code as well as for blackening the rectangle bearing the correct answer number against the serial number of the question.
3. Do not make any stray remarks on this sheet.
4. Write correct information in numerical digit in Enrolment No. and Examination Centre Code columns. The corresponding rectangle should be dark enough and should be filled in completely.
5. Each question is followed by four probable answers which are numbered 1, 2, 3 & 4. You should select and show only one answer to each question considered by you as the most appropriate or the correct answer. Select the most appropriate answer. Then by using HB pencil, blacken the rectangle bearing the correct answer number against the serial number of the question. If you find that answer to any question is none of the four alternatives given under the question you should darken the rectangle '0'.
6. If you wish to change your answer, ERASE completely the already darkened rectangle by using a good quality eraser and then blacken the rectangle bearing your revised answer number. If incorrect answer is not erased completely, smudges will be left on the erased rectangle and the question will be read as having two answers and will be ignored for giving any credit.
7. No credit will be given if more than one answer is given for one question. Therefore, you should select the most appropriate answer.
8. You should not spend too much time on any one question. If you find any particular question difficult, leave it and go to the next. If you have time left after answering all the questions, you may go back to the unanswered ones. There is no negative marking for wrong answers.

GENERAL INSTRUCTIONS

1. No cell phones, calculators, books, slide-rules, note-books or written notes, etc. will be allowed inside the examination hall.
2. You should follow the instructions given by the Centre Superintendent and by the Invigilator at the examination venue. If you violate the instructions you will be disqualified.
3. Any candidate found copying or receiving or giving assistance in the examination will be disqualified.
4. The Test Booklet and the OMR Response Sheet (Answer Sheet) would be supplied to you by the Invigilators. After the examination is over, you should hand over the OMR Response Sheet to the Invigilator before leaving the examination hall. Any candidate who does not return the OMR Response Sheet will be disqualified and the University may take further action against him/her.
5. All rough work is to be done on the test booklet itself and not on any other paper. Scrap paper is not permitted. For arriving at answers you may work in the margins, make some markings or underline in the test booklet itself.
6. The University reserves the right to cancel scores of any candidate who impersonates or uses/adopts other malpractices or uses any unfair means. The examination is conducted under uniform conditions. The University would also follow a procedure to verify the validity of scores of all examinees uniformly. If there is substantial indication that your performance is not genuine, the University may cancel your score.
7. In the event of your qualifying the Entrance Test, the hall ticket should be enclosed with your admission form while submitting it to the University for seeking admission in Management Programme along with your testimonials and programme fee. Admission forms received without hall ticket in original will be summarily rejected.

TEST IV
REASONING

131. In a certain apartment building exactly $\frac{1}{3}$ of the apartments have two bedrooms and exactly $\frac{1}{7}$ of the two bedroom apartments are front apartments. Which of the following could be the total number of apartments in the building ?

- (1) 42
- (2) 50
- (3) 56
- (4) 57

132. The sum of n different positive integers is less than 100. What is the greatest possible value of n ?

- (1) 10
- (2) 11
- (3) 12
- (4) 13

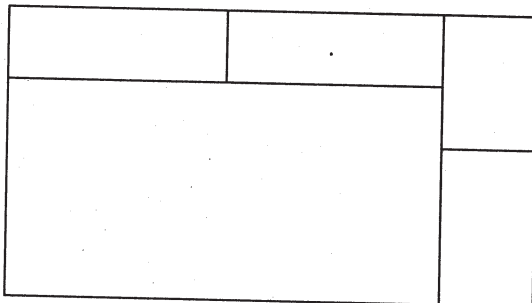
133. A graduating class of 356 votes to choose a president. With 5 candidates seeking office, what is the least number of votes a successful candidate could receive and yet have more votes than any other candidate ?

- (1) 71
- (2) 72
- (3) 89
- (4) 179

134. The size of the smaller angle between the hands of the clock at half past six, expressed in degrees, is

- (1) $7\frac{1}{2}$
- (2) 10
- (3) 15
- (4) $22\frac{1}{2}$

135. What is the number of rectangles in the following figure ?



- (1) 6
- (2) 7
- (3) 8
- (4) 9

Directions for Questions No. 136 to 143 : Find the number that comes next in the sequence.

136. 1, 6, 13, 22, 33, _____

(1) 44

(2) 46

(3) 40

(4) 55

137. 45, 75, 105, 165, 195, 255, _____

(1) 315

(2) 345

(3) 285

(4) 300

138. 4, 16, 80, 480, _____

(1) 3360

(2) 960

(3) 980

(4) 3160

139. 9, — 7, 18, — 18, 31, _____

(1) — 33

(2) 31

(3) — 18

(4) — 29

140. 1, 4, 2, 8, 6, 24, 22, 88, _____

(1) 352

(2) 188

(3) 84

(4) 86

141. 5, 16, 49, 104, _____

(1) 159

(2) 137

(3) 181

(4) 204

142. 2, 5, 9, 19, 37, _____

(1) 73

(2) 75

(3) 55

(4) 74

143. 1, 9, 17, 33, 49, 73, _____

(1) 97

(2) 89

(3) 105

(4) 93

Directions for Questions No. 144 to 147 : Consider the following information.

A mail carrier must deliver mail by making a stop at each of 6 buildings : K, L, M, O, P and S. Mail to be delivered is of two types, ordinary mail and priority mail. The delivery of both types of mail is subject to the following conditions :

- (i) Regardless of the type of mail to be delivered, mail to P and mail to S must be delivered before mail to M is delivered.
- (ii) Regardless of the type of mail to be delivered, mail to L and mail to K must be delivered before mail to S is delivered.
- (iii) Mail to buildings receiving some priority mail must be delivered, as far as the above conditions permit, before mail to buildings receiving only ordinary mail.

144. If K is the only building receiving priority mail, which of the following lists the buildings in an order, from first through sixth, in which they can receive their mail ?

- (1) L, K, P, S, O, M
- (2) L, K, S, P, M, O
- (3) K, P, L, S, O, M
- (4) O, K, L, P, S, M

145. If L, M, and S are each receiving priority mail, which of the following lists the buildings in an order, from first to sixth, in which they must receive their mail ?

- (1) K, L, P, S, O, M
- (2) L, K, S, P, M, O
- (3) M, L, S, P, K, O
- (4) S, L, M, P, K, O

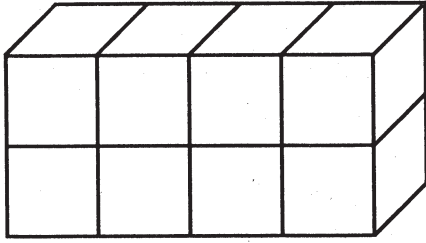
146. If the sequence of buildings to which mail is delivered is O, P, L, K, S, M and if S is receiving priority mail, which of the following is a complete and accurate list of buildings that must also be receiving priority mail ?

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

147. If only one building is to receive priority mail, and, as a result, O can be no earlier than fourth in the order of buildings, which of the following must be the building receiving priority mail that day ?

- (1) L
- (2) M
- (3) P
- (4) S

148. The rectangular solid below is made up of eight cubes of the same size, each of which has exactly one face painted blue. What is the greatest fraction of the total surface area of the solid that could be blue ?



- (1) $\frac{1}{6}$
(2) $\frac{1}{4}$
(3) $\frac{2}{7}$
(4) $\frac{1}{3}$

Directions for Questions No. 149 to 153 : In each of these questions, four words have been given, out of which three are alike in some manner and the fourth one is different. Find the odd one out.

149. (1) Poland (2) Greece
(3) Spain (4) Japan
150. (1) Copper (2) Tin
(3) Brass (4) Zinc
151. (1) Eagle (2) Kiwi
(3) Penguin (4) Ostrich
152. (1) Ear (2) Eye
(3) Kidney (4) Heart
153. (1) Cotton (2) Nylon
(3) Jute (4) Silk

Directions for Questions No. 154 to 158 : Study the following information.

A, B, C, D, E and F are students of a class. Each one has topped in one of the six different subjects : Maths, English, Hindi, History, Geography and Science. Each one has got a different overall rank.

- (i) The highest ranker has topped in Science.
- (ii) D, who is higher in rank than E but lower than A, has topped in History.
- (iii) The lowest ranker among them has topped in Maths.
- (iv) A and E have topped in neither Science nor Geography.
- (v) F has topped in Geography.
- (vi) F in order of rank is lower than E who has topped in Hindi and is higher than C.

154. Who among the following has topped in science ?

- (1) A
- (2) B
- (3) C
- (4) E

155. Who has the lowest rank ?

- (1) A
- (2) B
- (3) C
- (4) D

156. In which subject has A topped ?

- (1) English
- (2) Hindi
- (3) Maths
- (4) Science

157. Which rank does F hold among the six students ?

- (1) First
- (2) Third
- (3) Fourth
- (4) Fifth

158. In which subject has E topped ?

- (1) English
- (2) Hindi
- (3) Geography
- (4) History

159. At a luncheon table where 12 men are seated, one-half of the men belong to Club A, one-third belong to Club B, and one-fourth belong to both clubs. How many men belong to neither ?
- (1) 3 (2) 4
(3) 5 (4) 6
160. There are 200 questions in a 3-hour examination. Among these questions are 50 mathematics problems. It is suggested that twice as much time be allowed for each mathematics problem as for each of the other questions. How many minutes should be spent on mathematics problems ?
- (1) 36 (2) 60
(3) 72 (4) 120
161. A child ranked sixteenth from the top and twenty-ninth from the bottom among those who passed an examination. Six children did not participate and five failed in it. How many children were there in the class ?
- (1) 40 (2) 50
(3) 53 (4) 55

Directions for Questions No. 162 to 165 : Consider the following information.

- (i) A, B, C, D, E, F, and G are sitting on a bench and all of them are facing east.
(ii) C is at the immediate right of D.
(iii) B is at the extreme end and has E as his neighbour.
(iv) G is between E and F.
(v) D is sitting third from the south end.

162. Who is sitting to the right of E ?

- (1) A (2) C
(3) D (4) G

163. Who are sitting at the two ends ?

- (1) A, B (2) A, E
(3) C, B (4) F, B

164. The person sitting at the third position from the north end is

- (1) E (2) F
(3) G (4) D

165. Between which of the following pairs is D sitting ?

- (1) A, C (2) C, F
(3) D, F (4) C, E

166. If the seventh day of a month is three days earlier than Friday, what day will it be on the nineteenth day of the month ?

- (1) Sunday
- (2) Monday
- (3) Thursday
- (4) Friday

Directions for Questions No. 167 to 170 : Consider the following information.

Seats on a small plane are being assigned to six passengers — N, P, Q, R, S and T. The eight seats on the plane are in four rows, numbered 1 through 4, and each row has two seats. Seat assignments are made according to the following conditions :

- (i) N must sit alone in a row.
- (ii) P must sit in the same row as R.
- (iii) Q cannot sit in the same row as S.
- (iv) The rows with only one passenger must be row 1 and row 3.

167. Which of the following passengers could be assigned to sit in the same row as Q ?

- (1) P
- (2) R
- (3) S
- (4) T

168. If P and R are in row 2, which of the following must be true ?

- (1) N is in row 1
- (2) T is in row 4
- (3) Q is in row 1
- (4) S is in row 3

169. Which of the following is the total number of passengers eligible to be the passenger(s) assigned to sit in the same row as T ?

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

170. If Q and T are assigned to sit together in a row, which of the following passengers could be assigned to sit in row 3 ?

- (1) Q
- (2) R
- (3) S
- (4) T

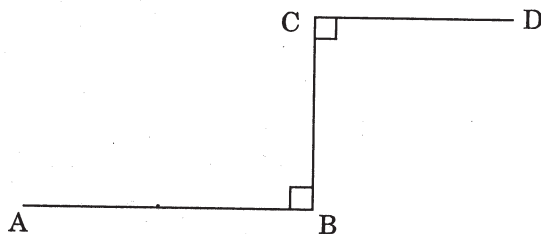
Directions for Questions No. 171 to 175 : Unscramble the letters in the following words and find the odd one out.

171. (1) UNG (2) EIRFL
(3) OPSTIL (4) WROSD
172. (1) EHDLI (2) MBIUMA
(3) AKLDNA (4) OIHCCN
173. (1) NRU (2) ELPSE
(3) LBICM (4) UPMJ
174. (1) YOHKCE (2) KRICCET
(3) HECSS (4) ENTNIS
175. (1) UBCE (2) QREASU
(3) RTAGINEL (4) ENGETRCAL

Directions for Questions No. 176 to 185 : A solid cube of each side 8 cm, has been painted red, blue and black on pairs of opposite faces. It is then cut into small cubical blocks of each side 2 cm.

176. How many small cubes are there in all ?
(1) 32 (2) 40
(3) 56 (4) 64
177. How many cubes have no face painted ?
(1) 0 (2) 4
(3) 8 (4) 12
178. How many cubes have only one face painted ?
(1) 16 (2) 24
(3) 36 (4) 48

179. How many cubes have only two faces painted ?
- (1) 8 (2) 16
(3) 20 (4) 24
180. How many cubes have three faces painted with different colours ?
- (1) 0 (2) 8
(3) 10 (4) 12
181. How many cubes have two faces painted red and black and all other faces unpainted ?
- (1) 8 (2) 4
(3) 0 (4) 12
182. How many cubes have only one face painted red and all other faces unpainted ?
- (1) 4 (2) 8
(3) 12 (4) 16
183. How many cubes have two faces painted black ?
- (1) 2 (2) 4
(3) 8 (4) 0
184. How many cubes have one face painted blue and one face painted red ? (The other faces may be painted or unpainted)
- (1) 4 (2) 8
(3) 16 (4) 20
185. How many cubes have three faces painted ?
- (1) 8 (2) 16
(3) 20 (4) 24
186. In the figure below, $AB \perp BC$, $BC \perp CD$, $AB = 8$, $BC = 5$, $CD = 4$. What is the shortest distance from A to D ?



- (1) 12 (2) 13
(3) 15 (4) 16

87. In June a baseball team that played 60 games had won 30% of its games played. After a phenomenal winning streak this team raised its average to 50%. How many games must the team have won in a row to attain this average ?
- (1) 12 (2) 20
(3) 24 (4) 30
188. In a row of ten boys, when a boy was shifted by two places towards the left, he became seventh from the left end. What was his earlier position from the right end of the row ?
- (1) Second (2) Third
(3) First (4) Fifth
189. In a chess tournament each of six players will play every other player exactly once. How many matches will be played during the tournament ?
- (1) 8 (2) 15
(3) 30 (4) 36
190. A clock is so placed that at 12 noon its minute hand points towards north-east. In which direction will its hour hand point at 1 : 30 p.m. ?
- (1) North (2) South
(3) West (4) East
191. If the above clock is turned through an angle of 135° in the anticlockwise direction, in which direction will its minute hand point at 8 : 45 pm ?
- (1) North (2) South
(3) East (4) West

Directions for Questions No. 192 to 193 : Select an appropriate letter to replace the question mark (?) to continue the series.

192. W U R N I ?

- (1) H (2) F
(3) G (4) C

193. C H K P S ?

- (1) X (2) Z
(3) T (4) V

Directions for Questions No. 194 to 200 : Consider the following information.

At a symposium on the possible dangers of the industrial chemical PBX, three pro-industry spokespersons are to be seated to the left of the moderator and three critics of PBX to the right of the moderator. The speakers are A, B, C, D, E and F.

- (i) The person delivering the paper "Epidemiological Aspects of PBX" is seated immediately between A and D
- (ii) The persons delivering "Public Health and PBX" and "Radiological Aspects of PBX" are close friends and insist on sitting together.
- (iii) F is placed two seats to the left of the moderator.
- (iv) As heavy smoking is repugnant to the moderator, she insists that the person delivering "PBX : Benign or Malignant," a heavy smoker, be seated at one end of the table
- (v) C, delivering "The Impact of PBX on the Environment", is seated to the left of F.
- (vi) A, a critic of PBX, is seated to the left of E.

194. The pro-industry spokespersons are

- (1) A, F, D
- (2) F, B, A
- (3) C, F, B
- (4) C, F, E

195. The person seated immediately to the left of the moderator is

- (1) A
- (2) B
- (3) C
- (4) D

196. Assuming it is one of the papers delivered at the symposium, "PBX and the Digestive Tract" must be by

- (1) A
- (2) B
- (3) E
- (4) F

197. Given the seating rules as stated, which of the numbered statements are logically sufficient to establish the position of E and the title of the paper she delivers ?

- (1) i, iii
- (2) i, vi
- (3) i, iii, vi
- (4) i, iv, v, vi

198. The symposium is expanded to include a seventh speaker. If he is seated exactly midway between C and the moderator, he will sit

- (1) to the left of the author of "Radiological Aspects of PBX"
- (2) one seat to the right of the moderator
- (3) two seats to the right of D
- (4) three seats to the left of A

199. The symposium is expanded to include two more speakers. The seventh speaker is seated at one end of the table. If the eighth speaker is seated exactly midway between D and the author of "Public Health and PBX", which of the following must be true ?

- (1) The eighth speaker must be seated at one end of the table
- (2) B must be the author of "Radiological Aspects of PBX"
- (3) The eighth speaker must be seated on the same side of the moderator as F
- (4) The eighth speaker must be seated immediately to the left of E

200. Which of the following *cannot* be determined on the basis of the information given ?

- I. The author of "Public Health and PBX"
 - II. The title of the paper delivered by D
 - III. The identity of the two friends who insist on being together
- (1) I only
 - (2) II only
 - (3) III only
 - (4) I and II only

SPACE FOR ROUGH WORK