CETking

MockEngineering

Program

CET 2006

Solutions

IANSWERS I

1	2	3	4	5	6	7	8	9	10
(a)	(a)	(e)	(e)	, (e)	(e)	(e)	(e)	(e)	(a)
11	12	13	14	15	16	17	18	19	20
(e)	(b)	(e)	(e)	(b)	(a)	(a)	(b)	(e)	(d)
21	22	23	24	25	26	27	28	29	30
(a)	(b)	(e)	(b)	(e)	(d)	(e)	(e)	(e)	(d)
31	32	33	34	35	36	37	38	39	40
(a)	(d)	(a)	(b)	(a)	(e)	(e)	(c)	(a)	(a)
41	42	43	44	45	46	47	48	49	50
(d)	(a)	(e)	(a)	(e)	(a)	(e)	(e)	(b)	(d)
51	52	53	54	55	56	57	58	59	60
(b)	(e)	(b)	(e)	(d)	, (a)	(e) ,	(a)	(b)	(e)
61	62	63	64	65	66	67	68	69	70
(a)	(a)	(e)	(e)	(d)	(e)	(b)	(e)	(d)	(a)
71	72	73	74	75	76	77	78	79	80
(e) ,	(b)	(a)	(e)	(d)	(d)	(a)	(ei	(e)	(e)
81	82	83	84	85	86	87	88	89	90
(a)	(b)	(e)	(e)	(d)	(d)	(e)	(b)	(e)	(a)
91	92	93	94	95	96	97	98	99	100
(e)	(d)	(b)	(e)	(b)	(d)	(a)	(e)	(e)	(d)
101	102	103	104	105	106	107	108	109	110
(e)	(a)	(e)	(e)	(e)	(e)	(d)	(a)	(b)	(e)
111	112	113	114	115	116	117	118	119	120
(e)	(e)	(d)	(c)	(d)	(e)	(b)	(e)	(d)	(e)
121	122	123	124	125	126	127	128	129	130
(b)	(e)	(b)	(b)	(d)	(e)	(b)	(d)	(a)	(b)

131	132	133	134	135	136	137	138	139	140
(d)	(e)	(b)	(d)	(e)	(e)	(e)	(e)	(e)	(b)
141	142	143	144	145	146	147	148	149	150
(e)	(d)	(a)	(d)	(e)	(d)	(d)	(b)	(a)	(e)
151	152	153	154	155	156	157	158	15~.	160
(a)	(b)	(c)	(a)	(b)	(c)	(e)	(a)	(e)	(e)
161	162	163	164	165	166	167	168	169	170
(e)	(d)	(a)	(d)	(d)	(d)	(e)	(b)	(b)	(b)
171	172	173	174	175	176	177	178	179	180
(c)	(e)	(b)	(d)	(a)	(c)	(d)	(c)	(d)	(a)
181	182	183	184	185	186	187	188	189	190
(b)	(a)	(e)	(d)	(a)	(e)	(c)	(c)	(b)	(e)
191	192	193	194	195	196	197	198	199	200
(a)	(d)	(e)	(a)	(e)	(e)	(d)	(e)	(c)	(e)

SOME SELECTED• EXPLANATORY ANSWERS

1. 3 is opposite 5, 2 is opposite 4, 1 is opposite 6.

4. 1 B 3, 2 B 5 or 6, 4 B 6 or 5.

5. xcj> y + z => x < y ;{o Z =>x y z or x yz

   =>xcj> y x z or x <I> y Ll z

6. xcj> y - z => x < y = z => x ;{o y => x + y x z

7. x - y + z ..j x= y;{o z => x = y < z => x.- y cj> z

8. x - y = z => x = y > z => x y z => x Ll y x z Also x-y=z=x=y>z => x = Y z => x - y x z

9. xLl y - z => x y = z # x = Y z # x - Y Ll z

10. x= y Ll z => X > Y z => x;{o y < Z => x + y cj> z:

11. x + Y Ll z => x ;{o y z => x > y z => x = Y Ll z

12. If B is chose, E cannot be chosen.

(l) If A is chosen, D cannot be chosen.

:. Mathematicians chosen are A, Band C. Physicists chosen should be (F, H), or (G, H).

(2) If D is chosen, A cannot be chosen.

:. Mathematicians chosen are B, C and D. Physicists chosen should be (G:~).

13. (1) If A is chosen, Mathematicians chosen are A, Band C.

:. Physicists chosen are F and H or G and H.

(2) If D is chosen, Mathematicians chosen are B, C and D. Physicists chosen are G, H. Therefore F or G has to be chosen, whatever the case may be.

14. If A is chosen, then the group is ABC F H.

15. (1) If A is chosen, then the group is ABC F H or AB CGH.

(2) If D is chosen, then the group is BCD G H.

16. Simply number the letters and use in the other word.

17. The series is +2:

18. The sequence in the given series is -22, _32, -42, -52.

19. The sequence in the given series is +22, +32, +42, +52•

20. The sequence in the given series is -45, -35, -25, -15.

24. The sequence in the given series is +1, +2, +1, +2, +1.

25. Alternate terms are consecutive. natural numbers.

27. Some pens are not blue.

28. The middle term 'trees' is not distributed in any of the premises, hence no conclusion can be drawn.

101. From the question,

A's age = (B + CI2) + 3 years

From I, B + 4 = 40 From II, A + B + C = 40

or, A + B + B + 4 = 40 or, A + B + B + 4 = 40

or, (B + B + 4/2) +B + B + 4 = 40 - 3

124. Sale of mopeds in 96-97

= 2,75,9000 x 1201100 x 120/100 ~ 2,42,000

131. Increase in the number of candidates passed under Finance from 1992 to 1993

= 2021 - 1864 = 157.

Hence% increase = 157/1864 x 100 ~ 8%

132.

Year	1991	1992	1994	1995	1996
% passed	14.66%	15.20%	13.91%	15.42%	13.68%

Percentage of Personnel candidates passed in 1991.

134.

Year	1991	1992	1994	1995	1996
% value	18.59%	19.28%	14.72%	16.03%	13.27%

Percentage of candidates appeared in Marketing discipline.

135.

Year	1992	1993	1994	1996
% value	2.69%	2.13%	2.29%	2.69%

Percentage of candidates appeared in Marketing discipline.

137. Total sale % = 609 x 1001720 = 86.75%

138. Average sale of product C = 2636/4 = 659

140.

	April		May		June		July	
	P	S	P	S	P	S	P	S
	2936	2600	2858	2870	3122	2909	3461	3298
Ratio SIP		0.89		1.004		0.93		0.95

146. 3W = 2M 15 W = 10M M1 D1 T1 =M2 D2 T2

=> 15 x 12 x 8 = 10 X D2 X 6

=> D2 = 15 x 12 x 8/10 x 6 = 24 days

147. Let the Principal = 100 x Interest = 100 x 3 x 6.5/100 = 19.5

Amount = 119.5

.: 119.5 is yielded by lOQ.

:. 2868 is yielded by 100/119.5 x 2868 = Rs. 2400

Direct Formula:

P = 100AllOO + (Time x Rate)

= 100 x 2868/1 00 + 6.5 x 3 = Rs. 2400

148. Area of four walls = 2x 12 (16 + 12) = 672 sq ft.

Cost of covering with wall paper = 672/2 x 2.50 = Rs. 840

149. Number ofbricks

= Volume of wall/Volume of bricks = 10 x (10 x 12) x (8 x 12)/10 x 4 x 2.5 = 1152

150. Relative speed = 60 - 45 = 15 km/h = 15 x, 1000/60 x 60 = 25/6 m/sec

Distance covered in 48 sec = 25/6 x 48 = 200 m . Length of other train = 200 - 115 '= 85m

160. The passage states the contrary: things are in a "mess".

161. A + A= A gives conclusion I. Conclusion II follows from conclusion I itself. Conclusion III follows directly from the second statement while IV follows directly from the first.

162. I + A = I gives conclusion I. Conclusion III follows directly from the second statement.

163. I + E = 0, hence conclusion II follows.

Conclusion .IV follows directly from the second statement by converting it.

Directions (Qs, No. 166 to 170): What is the logic here? In what fashion are the words arranged? They are arranged on the basis of the number of letters: first a two-letter. word, then a three-letter one followed by a four-letter word, then a three-letter one followed by a four-letter, and so on in ascending order. When two words have the same number of letters, the priority is decided on an alphabetical basis. Hence 'man' comes before 'the' and 'lose' before 'will'.

166. Input: With his government facing a crisis

Step I: A with his government facing crisis

Step II: A his with government facing crisis

Step III: A his with crisis government facing

167. On is already arranged; so step I arranges to. In step II, last is arranged; in step III, year; in step IV, early; in step V, power. Now, coming gets automatically arranged. Thus, five steps.

168. Input: Bankers expectations were running high today.

Step I: High bankers expectations were running today.

Step II: High were bankers expectations running today.

169. We have to see the number of steps for each choice: Choice: 1 : I-next 2-next; 2-week; 4-contain Choice 2 : 1- of; 2- h); 3- the; 4 -

flow; 5-speed; 6-credit. I

Choices (c) and (d) No need to go through arranging. Arranging words will never take more than (n - 1) steps. So, at most there maybe 4 steps for choice (c) and (e) steps for choice, (d), both of which are lesser than the 6 steps for clioice (b).

Choice e : I - of; 2- for; 3- growth. Thus, choice 2 takes the maximum no. of steps-6.

171. P > Q ... (i); Q.< R ... (ii); R = T ... (iii)

Now, we cannot establish a relationship between P and R from the given equations. But note the conclusions :

I. P > R; II. P < R

At least one of the two mustbe true for any two numbers P and R.

172. N = M ... (i); C > N ... (ii); M = D ... (iii) From (i), (ii) and (iii), C> D: thus I is true From (i) and (iii), N = D; thus I is true

173. Q < L ... (i); Q ~ R ... (ii); T < P ... (iii)

No relationship can be established between L and P from the above equations.

So (i) is not true.

From (i) and (ii), we get L > Q z R ::::>R < L. Thus (ii) is true.

174. X.s Y ... (i); Y = Z ... (ii); A> Z ... (iii)

From (i) and (ii), X.s Z, thus is false.

From (ii) and (iii), Y < A. Thus (ii) is false.

175. S < T ... (i); S > M ... (ii); M = P ... (iii)

From (ii) and (iii), S > P. Thus (i) is true.

From (i) and (ii), T> M. Thus (ii) is false.

180. I alone is sufficient to give the answer. Since one-fourths must be boys. which gives a boy-girl ratio of 3 : 'I. The information in II is redundant. At the same time, II alone is not sufficient.

186. The letters are A, I, T and L and the word formed by them is TAIL..

187. No. of primary colour = 3 (red, blue, yellow).

No. of secondary colours = 3 (violet = red + blue; green = blue + yellow; orange = red + • yellow). Now, we have six primary and secondary colours. Combining them two at a time, we get (by applying the ncz = 6!/2! (6 _

2)! = 6!/2!4! = 6 x 5 x 4 x 3 x 2 x 1/(2 x l) x

(4 x 3 x 2 x I) =]5 Note that this includes secondary as well as tertiary colours. If we

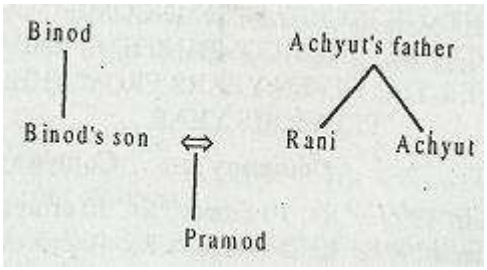
add the three primary colours, the no. of

colours =]5 + 3 = 18

Note: What does the "C, formula mean? If we have to combine 11 things taking r at a time, this is given by IICt n!/r !(n -r)!

Where n ! = nin -1) (n - 2) ....3 x2 x I. For example,S! = 5 x 4 x 3 x 2 x] ,

188. It is clear' from the diagram below



189. A> R (i), B > R (ii),

A> M (iii), M> B (iv)

Combining them we get A > M > B > R. Since the other two are fatter than A, obviously R is the thinnest.

190. 18 x 9 + 2 - 36 + 6 = 18- 9 x 2 + 36 + 6 = 18 - 18 + 6 = 6

191. 9th to the right of 15th from the right

= (IS -9) = 6th from the right = D Note: Since 6th from the righ falls in the second half, a reversal of the first half will not have any effect On it.

197. When the second half (24 +2 = 12 character) is reversed, 6th from the right = (I 2 - 6 +] =) 7th from the right in the original series = C.

198. 16th from right = (24 - 16 + l) 7th from the right in the original series = C.

199. The first characters from the series = 2,4,6,8 The second characters = 4, 8, 12, 16

The third characters = 5, 10, 15, 20

200. Since there are four Greek letters (a, 13, y and &) and three digits (2, 3 and I) in the original series, the new series will have only (24 - 4 -3 =) 17 characters. Now, 16th character from right = (24 - 16 + 1) 2nd character from left. But there can be no letter between the 2nd character from left and 'the 3rd character from left.