

IIFT Paper-2013 (All Sets)

Key & Explanations

Question No.s					Explanations
Set C	Set A	Set B	Set D	Ans	
1	62	26	90	C	Going according to the options A) Services Sector = $20.8 - 18.2 = 2.6$ B) Construction = $10.5 - 7.6 = 2.9$ C) Automobile = $4.9 - 1.9 = 3$ D) Power = $3.2 - 1.3 = 1.9$ Thus, the Highest increase in FDI share is for Automobile Industry.
2	63	27	91	B	The Simple average share of FDI in flows can be calculated as = $\frac{\text{Sum of values for all years}}{6}$ But since, we need to calculate the lowest value, so calculating only the sum of values will be sufficient. By totaling, it can be checked that the lowest value is for Drugs & Pharmaceuticals, while the second lowest is for Automobile Industry.
3	64	28	92	D	By visual inspection, it can be verified that only option (D) is FALSE.
4	65	29	93	B	By doing ranking for the given options, it can be visually checked that (i) & (ii) are true while (iii) is false. Thus, correct answer is (B).
5	66	30	94	A	A) Telecommunications sector (2007 & 2008) = $8.3 - 5.5 = 2.8$ B) Computer Software & Hardware (2009 & 2010) = $4.7 - 2.5 = 2.2$ C) Automobile Sector (2011 & 2012) = $4.9 - 2.5 = 2.4$ D) Power Sector (2007 & 2008) = $3.9 - 1.3 = 2.6$ Thus, the highest figure for increase in FDI inflow share is for Telecommunication Sector.
6	67	31	95	D	Decline in absolute terms: ASEAN region = $ 10.10 - 9.98 = 0.12$ South Asian region = $ 5.51 - 5.38 = 0.13$ West Asia (GCC) = $ 17.21 - 17.06 = 0.15$ North African region = $ 1.59 - 1.75 = 0.16$ Thus, the highest year-to-year decline in absolute terms is for North African region for the given period.
7	68	32	96	C	It can be visually checked that there are 6, 6, 7 and 6 declines respectively for the given options. Thus, maximum no. of times, the export shares declined for North America.
8	69	33	97	A	Growth rate for North Africa = $\frac{1.59 - 1.75}{1.75} \times 100 = -9.14\%$ Growth rate for North East Asia = $\frac{14.83 - 16.12}{16.12} \times 100 = -8.0\%$ Growth rate for North America = $\frac{10.98 - 11.89}{11.89} \times 100 = -7.65\%$ Growth rate for EU Countries = $\frac{18.33 - 20.16}{20.16} \times 100 = -9.08\%$ Thus, the lowest growth rate is for North Africa.
9	70	34	98	C	Average export share for North Africa = $\frac{1.84 + 1.75}{2} = 1.79$ Average export share for East Africa = $\frac{1.37 + 2.58}{2} = 1.97$ Average export share for Latin Africa = $\frac{2.06 + 2.15}{2} = 2.10$ Average export share for West Africa = $\frac{2.13 + 1.71}{2} = 1.92$ So, the highest figure for average export share is for Latin America.
10	71	35	99	D	Visually, it can be checked that options A, B, C are true while D is false. Thus, the correct answer is option D.
11	72	36	100	B	Average Managerial Wage = $\frac{\text{Total emoluments} - \text{Total wage to workers}}{\text{Total persons engaged} - \text{Total number of workers}}$ Industry 5 = $\frac{9284 - 5800}{9088 - 7508} = 2.205$

					<p>Industry 6 = $\frac{6084 - 3117}{4271 - 3333} = 3.163$</p> <p>Industry 3 = $\frac{6479 - 3706}{6830 - 5656} = 2.362$</p> <p>Industry 7 = $\frac{15053 - 6966}{19159 - 15670} = 2.318$</p> <p>Thus, the highest average managerial wage is for industry 6.</p>
12	73	37	101	A	<p>Industry 6 = $\frac{\text{Profit}}{\text{Net Value added}} = \frac{31219}{42434} = 0.73$</p> <p>Industry 7 = $\frac{45392}{72290} = 0.63$</p> <p>Industry 4 = $\frac{3990}{5831} = 0.68$</p> <p>Industry 5 = $\frac{34943}{71739} = 0.49$</p> <p>Thus, the highest ratio is for Industry 6.</p>
13	74	38	102	C	<p>ATQ, Gross Value added = Net value added + Depreciation</p> <p>A) Industry 6 and 3 = $\frac{42434 + 3515}{3333} - \frac{23640 + 6667}{5656} = 13.79 - 5.36 = 8.43$</p> <p>B) Industry 7 and 1 = $\frac{72290 + 11246}{15670} - \frac{3178 + 41}{9066} = 5.33 - 0.35 = 4.98$</p> <p>C) Industry 5 and 2 = $\frac{71739 + 25674}{7508} - \frac{2284 + 149}{877} = 12.97 - 2.77 = 10.2$</p> <p>D) Industry 6 and 4 = $\frac{42434 + 3515}{3333} - \frac{5831 + 1044}{1099} = 13.79 - 6.25 = 7.54$</p> <p>Thus, the maximum difference in gross value added per worker is for industry 5 and industry 2.</p>
14	75	39	103	B	<p>Required Percentage = $\frac{\text{Expense on Fuel Consumption}}{\text{Input Cost}} \times 100$</p> <p>Industry 3 = $\frac{10817}{80283} \times 100 = 13.5\%$</p> <p>Industry 7 = $\frac{32178}{171246} \times 100 = 18.8\%$</p> <p>Industry 2 = $\frac{762}{5990} \times 100 = 12.7\%$</p> <p>Industry 6 = $\frac{6461}{138780} \times 100 = 4.6\%$</p> <p>Thus, the highest percentage is for industry 7.</p>
15	76	40	104	D	<p>A is false as number of workers per factory is third highest for industry 5 and are 96</p> <p>B is false as expense on Material consumption expressed as a percentage of Input cost is second highest for Industry 5 i.e. 88.1%</p> <p>C is false as Profit earned as a percentage of emolument is second highest for Industry 4 and is 38%</p> <p>D is True as emolument as a percentage of net value added is lowest for industry 5 and is 12.94%</p>
16	77	41	105	C	<p>The ranking in terms of numbers of days to start a business as defined in the question happens to be Paraguay-rank 1, UK-rank 2, Chile-rank3. Now out of these the least cost to per capita income ratio will be the same as the percentage given. It is 2.6 for Paraguay, 4.1 for UK and 35.8 for Chile. Hence answer will be Paraguay.</p>
17	78	42	106	A	<p>For UK = No. of days for export to import = 13: 17 = 0.76</p> <p>UAE = 11: 14 = 0.78</p> <p>Chile = 23:25 = 0.92</p> <p>Georgia = 22:23 = 0.96</p> <p>Thus, the least ratio for export to import is for UK.</p>
18	79	43	107	B	<p>By observing the information in the given graph, it can be checked that in Gerorgia, the no. of days required for exporting is lower than the number of days required for importing.</p>

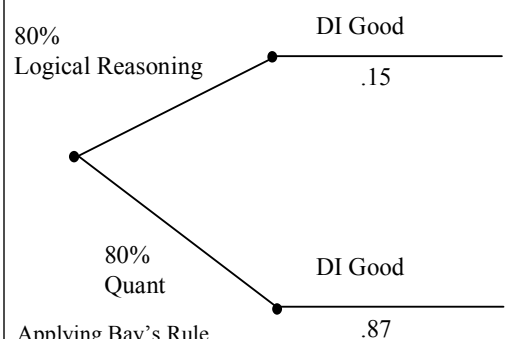
19	80	44	108	C	As we need to check the false statement in the question. Each statement should be checked one by one. In the first statement the number of days happens to be 15 for Chile and 16 for Tanzania. So this statement is true. Similarly second statement is also true. When we check the time for import in Georgia it is 23 days. The time for export in Niger is 25 days. The time in Georgia is less, whereas in the third statement that is given to be higher. Hence 3rd statement is False.																																																																													
20-25					<p>With the statement given in the question :</p> <p>With statement j : MERCURY __ PLUTO __ MARS</p> <p>With statement i = Mercury is at the odd position hence Mercury can only be at room number 201</p> <p>With statement d : Uranus and professor in room 206 is compared , hence Uranus cannot be in 206 , and with k statement Jupiter cannot be in room number 206 , hence Neptune is in room number 206</p> <p>Professor in 202 published twice journals then the professor who donated to 8 institution i.e. Pluto hence professor in 202 published 24 journals.</p> <p>If the journals published by Uranus is 24 then by statement D then the number of journals published by Neptune would be $40 - 24 = 16$ and by statement H the journals denoted by Neptune would be 16. Hence following tables can be drawn.</p> <table><tr><td></td><td>201</td><td>202</td><td>203</td><td>204</td><td>205</td><td>206</td></tr><tr><td>Mars</td><td>×</td><td>×</td><td>×</td><td>×</td><td>√</td><td>×</td></tr><tr><td>Jupiter</td><td>×</td><td>×</td><td>×</td><td>√</td><td>×</td><td>×</td></tr><tr><td>Uranus</td><td>×</td><td>√</td><td>×</td><td>×</td><td>×</td><td>×</td></tr><tr><td>Pluto</td><td>×</td><td>×</td><td>√</td><td>×</td><td>×</td><td>×</td></tr><tr><td>Mercury</td><td>√</td><td>×</td><td>×</td><td>×</td><td>×</td><td>×</td></tr><tr><td>Neptune</td><td>×</td><td>×</td><td>×</td><td>×</td><td>×</td><td>√</td></tr></table> <table><tr><td></td><td>Mercury</td><td>Uranus</td><td>Pluto</td><td>Jupiter</td><td>Mars</td><td>Neptune</td></tr><tr><td></td><td>201</td><td>202</td><td>203</td><td>204</td><td>205</td><td>206</td></tr><tr><td>Journal Published</td><td></td><td>24</td><td>12</td><td>4</td><td>8</td><td>16</td></tr><tr><td>Donated to institution</td><td>x</td><td></td><td>8</td><td>18</td><td>x-2</td><td>24</td></tr></table>		201	202	203	204	205	206	Mars	×	×	×	×	√	×	Jupiter	×	×	×	√	×	×	Uranus	×	√	×	×	×	×	Pluto	×	×	√	×	×	×	Mercury	√	×	×	×	×	×	Neptune	×	×	×	×	×	√		Mercury	Uranus	Pluto	Jupiter	Mars	Neptune		201	202	203	204	205	206	Journal Published		24	12	4	8	16	Donated to institution	x		8	18	x-2	24
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20	81	45	109	C	Hence Mars is in Room No. 205. Option C.																																																																													
21	82	46	110	C	Hence Jupiter professor donate 18. Option C.																																																																													
22	83	47	111	D	Hence the professor of Neptune institute stay in room number 206. Option D.																																																																													
23	84	48	112	D	Hence the professor of Uranus institute donated to 24 institutions last year. Option D.																																																																													
24	85	49	113	B	Hence the professor of Uranus institute published in the maximum number of journals. Option B.																																																																													
25	86	50	114	B	Hence the Jupiter professor published 4 journals. Option B.																																																																													
26-27					As per Statements																																																																													
26	87	51	115	D	<p>If the first letter is consonant and last letter is vowel, both are coded as O.</p> <p>N F R S C A</p> <p>↓ ↓ ↓ ↓ ↓ ↓</p> <p>5 3 % 2</p> <p>↓</p> <p>O</p> <p>Hence the correct answer is option D.</p>																																																																													
27	88	52	116	A	<p>A R F T H E</p> <p>If Both the First and last letter and vowel, then both are coded as last letter</p> <p>A R F T H E</p> <p>↓ ↓ ↓ ↓ ↓ ↓</p> <p>% 3 5 8 # %</p> <p>Hence the answer is option A.</p>																																																																													

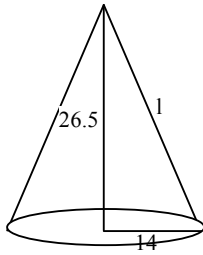
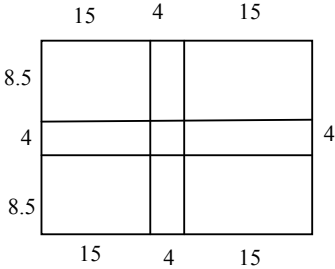
28	89	53	117	D	The Best Approach to check the option M is to be the grand father of T If $P - Q \rightarrow Q$ is the Father of P. All other option defined the one generation Relation i.e. Sister, Wife, Brother None of the option have two symbols (-) Hence answer is option D.
29	90	54	118	A	By Question S Q P T R Hence the House in the middle is P i.e. option A.
30	91	55	119	C	As stated in the passage 'Asatra Vriksh has a fleshy and Poisonous Fruit, hence people should not eat the fruit of the Asatra Vriksh i.e. option C.
31	92	56	120	B	Comparing the first two sentence given, the code for 'poisonous' (the only common word) happens to be 'crenia' (the only common code). For the remaining words from these two sentences the code can be found. For the word 'spider' the code will become 'agnos' and for the word 'snake' the code will become 'delano'. On the same logic from the third sentence the code for the word 'brown' can be found as 'deery'. Now for answering the question the code for "black widow spider" the code known is only for the word 'spider'. So the answer must have the code 'agnos' in it. Now out of second and third options it cannot be third, as that contains the code 'delano', which is the code for the word 'snake'. Hence the answer has to be option 2 nd .
32	93	57	121	C	The given argument is flawed because of the 'percentage fallacy', according to which, merely equating the numbers, one cannot judge the efficiency/inefficiency of the conclusion drawn. So here also the number of youth in both the areas is given and it is not given 'out of how many or total number of 'youth in the respective areas. Therefore unless we are given percentage of both the areas studied. We cannot comment upon the usefulness of the 'getting education'.
33-35					P&S are unmarried ladies T is the husband that means (he is Male) Q is the brother of R. Hence Q is male and R is the wife of T. Hence <div style="text-align: center;"> </div>
33	94	58	122	D	By above. The ladies in the group – PSR – Hence D is correct.
34	95	59	123	B	Tennis Player – R – Married lady. Hence correct answer is option B.
35	96	60	124	D	Wife of T – R. Hence correct answer is option D.
36	97	61	125	B	Angle between clock is 50°. Hence answer B.
37	98	62	126	D	Substituting options :- 4th c a b b a c c a b b a c c a b b a c is the repetitive pattern of c a b b a c
38	99	63	127	A	B ₂ C D , _____ BC D ₄ _____ BC ₆ D As we can see the Number in the next is increasing and changing the position alphabetically. B ₂ C D, BC ₃ D, BCD ₄ B ₅ CD, BC ₆ D Hence Answer is option 1
39	100	64	128	D	P3, M8, _____ G24, D35 we can see that Number are increasing = 3 8 _____ 24 35 The space should contain 15 as difference is increasing 8-3 = 5 15-8 = 7 24-15 = 9 35-24 = 11 Similarly Position of M and P has the difference 3 Hence J 15 i.e. option is the correct answer
40	101	65	1	C	
41	102	66	2	A	
42	103	67	3	B	
43	104	68	4	D	

44	105	69	5	A	
45	106	70	6	B	
46	107	71	7	A	
47	108	72	8	C	
48	109	73	9	B	
49	110	74	10	B	
50	111	75	11	A	
51	112	76	12	C	
52	113	77	13	C	
53	114	78	14	B	
54	115	79	15	C	
55	116	80	16	D	
56	117	81	17	C	
57	118	82	18	D	
58	119	83	19	B	
59	120	84	20	A	
60	121	85	21	D	
61	122	86	22	D	
62	123	87	23	A	
63	124	88	24	B	
64	125	89	25	C	
65	126	90	26	A	
66	127	91	27	A	
67	128	92	28	C	
68	1	93	29	C	Anthromorphous means To resemble human form (c) Anchronistic comes from an- chron , where chron means time , Therefore it will mean occurring in wrong time (d) Anthology; logy means study and antho means collection of extracts from the writings of various authors (b) Ascension means moving upwards (a)
69	2	94	30	B	Caco is root which indicated words/sounds therefore option (d) Ethology is study of human behavior, therefore option (a) Miso indicates hatred therefore option (d) Cryo means icy cold therefore option (b)
70	3	95	31	B	The word 'envisages means 'To contemplate; visualize, imagine, conceive, envision''. In all the sentences future is being talked about so option B fits the best in all the sentences
71	4	96	32	D	The word 'provide' has following meanings: to make available; furnish: to supply or equip: to afford or yield. to arrange for or stipulate beforehand, as by a provision to prepare or procure beforehand. To make arrangements for supplying means of support to the family/anybody Therefore option D can fill all the blanks
72	5	97	33	C	Statement (ii) is a general statement introducing the topic "singing Bengali songs". Moreover it uses proper name. Then Statement (i) is extension as it mentioned the kind of songs she sings. (iii) and (iv) are mandatory pair in which usage of "instead" tells (iii) will follow (iv)
73	6	98	34	B	The code here is "the sequence of day & activities. Statement (iii) is a general statement which tells about an "afternoon" and it mentions "we in a room" Then statement (i) will come as it talks about dusk and "Adele runs away". Logically (iv) will follow as "after adele runs away....left alone" And then the day progress and "twilight" is mentioned.
74	7	99	35	A	Alleviate means "to reduce" whereas aggravate means "to enhance" These are opposites and hence opposite of elastic is rigid
75	8	100	36	D	Benevolent means "well meaning and kindly" thus it is same meaning as kind. Therefore the same meaning of unclear will be "muddy"
76	9	101	37	A	A person who knows or can speak many languages is polyglot. Plebiscite is "the direct vote of all the members of an electorate on an important public question" Paramour means "a lover, esp. the illicit partner of a married person"
77	10	102	38	B	Culpable is one who "deserves blame/guilty". Hedonist is "a pleasure-seeker". Misanthrope is "one who hates mankind" Regicide is "to kill a king"
78	11	103	39	A	To have a jaundiced eye means to "to be prejudiced/biased"
79	12	104	40	D	One's bearing is one's position; Hence to lose one's bearings is to be uncertain of one's position.
80	13	105	41	D	As per the nearest subject rule, if two different subjects are joined with the conjunctions 'neither-nor', then the form of the verb depends on the second/ nearest subject. Here the

					second subject is 'shikha', which is singular, therefore singular helping verb 'is' in place of plural helping verb 'are'.
81	14	106	42	C	A is incorrect because of 'they' in the second half. We will use 'she' with each as each of is treated to be singular. B is incorrect because of 'their' and 'they' in second half as the reason given above (each of is treated as singular) D is incorrect because abandoning is a one time process and ill treatment can be continuous. we can only use 'had been' with a continuous process. Therefore only C is correct
82	15	107	43	D	As busy as a bee is a simile because it is a comparison..bee is very hard working and that implies comparison.
83	16	108	44	D	Amelioration is spelled with only one 'm' Others are correct
84	17	109	45	A	Gazette has only one 't'
85	18	110	46	A	Apocryphal means fictitious Authentic means real Audacious means adventurous Blasphemous means speaking ill against a religion Therefore the correct antonym is authentic which is opposite of fiction
86	19	111	47	D	Capricious means fickle minded Crafty means smart or calculative Erratic means abnormal Consistent means dependable So the answer is consistent which means constant
87	20	112	48	B	It is a past continuous tense and while converting it into passive. That is why the one with 'were being' is correct. C and D are incorrect as there is no need of 'had been' B is incorrect as it has 'were' which is incorrect as we need continuous passive.
88	21	113	49	D	The family had every means to flee the country, so option B is rejected. Option c is rejected as it was the assumption made by some hostile theorist. Option A is rejected as it has nothing to do his family staying or leaving the country.
89	22	114	50	C	No mention of option A, in the passage, so rejected. Option b is out of scope, therefore rejected. They did not approach the media to confess their crime, so option D is also rejected. They even didn't the media, so option B is also rejected.
90	23	115	51	C	As per the passage. 'Madoff's case was sharp departure from the reality as his family was also criticized for their involvement in crime. In fourth Para, also the author says that 'the treatment, over the years of organized -crime defendants, is instructive , Even though the court did not find anything against the madoff's family, yet the media right from the start pointed fingers at Madoff's family.
91	24	116	52	A	The lines 'from the beginning, however, there were facts in the Madoff's case that just didn't seem to be consistent with the family's guilt. So it is clear that media tends to run parallel trial court.
92	25	117	53	C	From the last lines of the 1 st paragraph it is clear that 'Grey Poupon was magic' because it could make several people switch over to using its product, which was almost impossible to achieve.
93	26	118	54	C	7 th line of the 1 st paragraph talks about the period of early 1970s when Grey Poupon was not popular. Then 4 th line of the 3 rd paragraph states that by end of 1980s it became a successful brand. So this span roughly comes out to be of 15- 20 years.
94	27	119	55	D	There are a lot of hints in the paragraph that the ads focused on upscale customers. For instance 4th line 2nd paragraph states " the company ran tasteful print ads in upscale food magazines".
95	28	120	56	C	The line of the last paragraphs clearly justifies the answer. "The ratio of tomato solids to liquid in world's"
96	29	121	57	B	For A refer to last few lines of first passage and also Adam smith calls it rational self interest.to be human is self interested , self interest is like carrying umbrella when it rains.these lines support the idea in B For B Refer to passage 2 line 4 , it clearly written that "greed entails ahimsa whose opposite is ahimsa" ..not greed entails both A & C are out of context.
97	30	122	58	A	Refer to 3rd last line of second paragraph "here lies the conundrum" which means the mystery or enigma That is why A is correct.
98	31	123	59	B	Refer to last two lines of second last paragraph "Mass wealth....." It is clearly given that mass wealth is distributing but once there is enough , India might return to old character of renunciation.
99	32	124	60	B	Last 3 lines of the 6 th paragraph states that "crony Capitalism exists in India today because of the lack of reforms in sectors such as mining and real estate. To get rid of" Thus option 2 is incorrect because it states the opposite.

100	33	125	61	D	<p>Option A is a major concern as it is mentioned in paragraph 9 “Brazil’s economy is badly out of balance.....brazil is closed economy....total imports & exports account for only 15% of GDP.</p> <p>Option B is also a concern as mentioned in paragraph 10 “jacked up taxes.....businesses do not have money to invest in new technology”</p> <p>Option C is mentioned in para 4 “it spends too little on road”</p>
101	34	126	62	A	<p>It is the only reason directly mentioned in paragraph 6 “ Brazil has sought security at any cost.....the hyperinflation” Rest of the options are mentioned but are not the direct reason for need for stability.</p>
102	35	127	63	A	<p>Option B is right as mentioned in paragraph 1 “Foreign money inflow.....climbed heavenward.....from \$5 billion in 2007 to more than \$50 billion ...in march 2011” Hence \$45 billion in 4 years.</p> <p>Option C is right as mentioned in 10th para “Between 1980 and 2008 Brazil’s productivity grew at an annual rate of 0.2 % compared to 4 % of china” it Makes it 20 times. Option D is right as mentioned in 7 para “Brazil has battled inflation by maintaining one of the highest interest rates”</p>
103	36	128	64	C	<p>All the products mentioned Except Croissants and bikes are explicitly mentioned as exports in the passage. While talking of Croissants and bikes in Para 3, author tells only about the fact that these are highly priced items as compared to their foreign counterparts.</p>
104	37	1	65	D	<div style="text-align: center;"> $\begin{array}{r} \text{1 Black} \\ \hline a^2 - 6a + 9 \text{ Red} \end{array}$ </div> <p>Required Probability</p> $= \frac{1}{4} \times \frac{1}{a^2 - 6a + 9 + 1} + \frac{1}{4} \times \frac{3}{a^2 - 6a + 7 + 3} + \frac{1}{4} \times \frac{5}{a^2 - 6a + 5 + 5} + \frac{1}{4} \times \frac{7}{a^2 - 6a + 3 + 7}$ $= \frac{1}{4} \left[\frac{1+3+5+7}{a^2 - 6a + 10} \right] = \frac{4}{a^2 - 6a + 10}$
105	38	2	66	B	<p>If the product of bc is 91 then we have $bc = 7 \times 13$. Also in this case $ad = 34$ so that $a \times d = 2 \times 17$</p> <p>\therefore the order of a, b, c and d is 2, 7, 13, 17.</p>
106	39	3	67	B	<p>As no definite number is being given, the question is to be answered by taking each of the options one by one. Taking the first option, the total expenditure happens to be $21 \times 3.30 + 57 \times 2.90 = 234.6$. Trying the second option the expenditure happens to be $57 \times 3.30 + 21 \times 2.90 = 249$. Hence second option is the answer.</p>
107	40	4	68	*	<p>Answer should be Data inconsistent as sum of two sides of triangle should be greater than third side and none of the options satisfies this criteria.</p>
108	41	5	69	C	<p>Total number of words that can be made = ${}^8C_4 \times {}^8C_3 \times 7! = 70 \times 10 \times 5040 = 3528000$</p>
109	42	6	70	C	<p>$\frac{x^2 + 3x - 10}{}$ is factor of $3x^4 + 2x^3 - ax^2 + bx - a + b - 4 = 0$</p> <p>Find the value of a & b</p> $x^2 3x - 10 = 0 = x^2 + 5x - 2x - 10 = 0$ $x(x+5) - 2(x+5) = 0$ $(x-2)(x+5) = 0$ $x = 2, -5$ <p>Substituting: $x = 2$ in</p>

					$3x^4 + 2x^3 - ax^2 + bx - a + b - 4 = 0$ $3(2)^4 + 2(2)^3 - a(2)^3 - a(2)^2 + b(2) - a + b - 4 = 0$ $48 + 16 - 4a + 2b - a + b - 4 = 0$ $-5a + 3b = -60$ Substituting: $x = -5$ $3(-5)^4 + 2(-5)^3 - a(-5)^2 + b(-5)^2 - a + b - 4 = 0$ $1875 - 250 - 25a - 5b - a + b - 4 = 0$ $-26a - 4b = -1621$ (2) $-5a + 3b = -60$ (1) Solving equation 1 and 2 $A = 52, b = 67$ Hence answer is option 3.
110	43	7	71	D	Let the nos are 1, 3, 9 so that their product is 27 i.e. 3^3 . Now sum of 1, 3, 9 is 13 which more than 3^2 let us take another example of nos. 1, 2, 8, 16 so that their product is $4^4 = 256$ and sum is $1 + 2 + 8 + 16 = 27$ which is more than $4^2 = 16$.
111	44	8	72	C	Total distance travelled $= 180 + \frac{3}{5} \times 180 + \frac{3}{5} \times 180 + \frac{3}{5} \times \frac{3}{5} \times 180 + \frac{3}{5} \times \frac{3}{5} \times 180$ $= 180 + 2 \left[\frac{\frac{3}{5} \times 180}{1 - \frac{3}{5}} \right], = 180 + 2 \left[\frac{108}{\frac{2}{5}} \right]$ $= 180 + 2 \times 108 \times \frac{5}{2}, = 180 + 540, = 720 \text{ m}$ (As after 1st term each term will be repeated)
112	45	9	73	A	Total number of ways $= {}^9C_2 \times {}^7C_2 \times 2 = 1512$
113	46	10	74	B	Prob (P late) $= \frac{7}{9} \Rightarrow$ Prob (Q late) $= \frac{11}{27}$ Prob (Q late given plate) $= \frac{8}{9}$ \Rightarrow Prob (P \cap Q) both P & Q late $= \frac{7}{9} \times \frac{8}{9} = \frac{56}{81}$ Prob (either P or Q or both late) $= \frac{7}{9} + \frac{11}{27} - \frac{56}{81} = \frac{63 + 33 - 56}{81} = \frac{40}{81},$ Prob (Neither is late) $= 1 - \frac{40}{81} = \frac{41}{81}$
114	47	11	75	B	 Applying Bay's Rule Prob(Applicant is strong in Quant Aptitude given that applicant is strong in DI) $= \frac{0.2 \times 0.87}{0.8 \times 0.15 + 0.2 \times 0.87}$ $= \frac{0.174}{0.294} \approx 0.6$

115	48	12	76	D	$l^2 = \sqrt{26.5^2 + 14^2}$ $l = 29.9$ <p>Total area of sheet = $7 \times 5 \pi$</p> $= 7 \times \frac{22}{7} \times 14 \times 29.9 = 9240$ 
116	49	13	77	C	<p>Required area $= 4 \times 8.5 \times 15$ $= 510 \text{ sq.m.}$</p> 
117	50	14	78	A	<p>We have $70 - \frac{x}{100} 70 = 60 + \frac{x}{100} \times 60$</p> $\Rightarrow \frac{130}{100} x = 10 \Rightarrow x = \frac{100}{13}$ <p>Now $x\%$ of 50 = $\frac{100}{13} \times \frac{1}{100} \times 50 = \frac{50}{13} = 3.84$</p>
118	51	15	79	B	<p>LCM of 12, 18 and 32 is 288 So each length should be multiple of 288. So Minimum length of rod is $3 \times 288 = 864 \text{ cms.}$</p>
119	52	16	80	D	<p>$\log_{10} x - \log_{10} \sqrt[3]{x} = 6 \log_x 10$ Putting $x = 1000$ we get $\log_{10} 1000 - \log_{10} \sqrt[3]{1000} = 6 \log_{1000} 10$</p> $3 - 1 = 6 \times \frac{1}{3}; 2 = 2$ <p>Hence option D is the answer.</p>
120	53	17	81	B	<p>In the first case they finish half the work in 30 min. or they will finish the work in one hour. So they work one hour each in the first case. In the second case, they work the elder for 1 hour and the younger for 4 hours. Equating the two cases implies whatever younger son does in three hours the mother does in one hour. The time taken by younger son is thrice the time taken by the mother. Now if mother takes M hours, younger son will take 3M hour and the elder son will take M+1 hours, as given in the question. Now they are finishing the work in one hour implies the following equation.</p> $\frac{1}{M} + \frac{1}{3M} + \frac{1}{M+1} = 1$ <p>Solving this equation, we get $M = 2$. So mother takes 2 hours, elder son takes 3 and younger son takes 6 hours. Thus in one hour mother does 50% of work.</p>
121	54	18	82	C	<p>Total travel time = 5 hours – 48 minutes</p> $= 5h - \frac{4}{5}h = \frac{21}{5}h$ <p>Average speed of whole journey = $\frac{2 \times 30 \times 12}{30 + 12}$</p> <p>Total Distance = $\frac{2 \times 30 \times 12}{42} \times \frac{21}{5} = 72 \text{ km}$</p> <p>So, distance on one side = $72/2 = 36 \text{ km}$</p>
122	55	19	83	C	<p>Let "x" % of aluminium is there in first alloy. And "y" of aluminium is there in second alloy. And z is the weight of each cut off piece. As per the Question:- Percentage of New two alloys are equal after two alloys are mixed. i.e.</p>

					$\frac{x\% \text{ of } 8 \text{ Kg} - x\% \text{ of } z + y\% \text{ of } z}{8} \times 100$ $= \frac{y\% \text{ of } 16 + x\% \text{ of } z - y\% \text{ of } z}{16} \times 100$ $= \frac{\frac{x.8}{100} - \frac{x.z}{100} + \frac{y.z}{100}}{8} \times 100$ $= \frac{\frac{y.16}{100} + \frac{x.z}{100} - \frac{y.z}{100}}{16} \times 100$ <p>Cancelling 100 both sides</p> $\frac{16x}{100} - \frac{2zx}{100} + \frac{2yz}{100} = \frac{16y}{100} + \frac{xz}{100} - \frac{yz}{100}$ <p>Taking $\frac{1}{100}$ common</p> $16x - 2zx + 2yz = 16y + xz - yz$ $16x - 16y - 3zx + 3yz = 0$ $16(x-y) - 3z(x-y) = 0, (x-y)(16-3z) = 0$ <p>Hence either $x-y=0$ or $16-3z=0$ but $x-y \neq 0$ because they are different as given in the question.</p> <p>Hence $16-3z=0$, $3z=16$, $z=5.33\text{kg}$</p>
123	56	20	84	C	<p>Money spent on flat = 40 lakhs. Money spent on car = 20 lakh Money spent on shares = 10 lakh Total money = 1 crore = 100 lakh Money deposited in Bank = $100 - 40 - 20 - 10 = 100 - 70 = 30$ lakh Final amount in Bank after 3 years = $30 \times (1.12)^3 = 42.14$ lakh Net worth after 3 years = 105 lakh \therefore Worth of Flat + Car + Shares after 3 years = $105 - 42.14 = 62.85$ So closest worth of three items = $\frac{62.85}{70} \times 100 = 90\%$</p>
124	57	21	85	D	$\log_{13} \log_{21} \left\{ \sqrt{x+21} + \sqrt{x} \right\} = 0$ $\Rightarrow \log_{21} \sqrt{x+21} + \sqrt{x} = 13^0 = 1$ $\Rightarrow \sqrt{x+21} + \sqrt{x} = 21^1$ <p>None of the option satisfies this. Hence option D is the answer.</p>
125	58	22	86	D	$Y = 3x^2 - 4x + 7, \frac{dy}{dx} = 6x - 4, \frac{d^2y}{dx^2} = 6$ <p>Hence it's a point of minima For minimum value $6x - 4 = 0, 6x = 4, x = \frac{4}{6} = \frac{2}{3}$ Putting $x = \frac{2}{3}$ in $3x^2 - 4x + 7$ We get $3 \times \frac{(2)^2}{3} - 4 \times \frac{2}{3} + 7 = \frac{17}{3}$ Hence D option is the answer.</p>
126	59	23	87	C	<p>Average of 7 consecutive numbers will be $\frac{7+1}{2} = \frac{8}{2} = 4$th number. Average of 10 number will be midpoint of $\frac{10}{2}$ i.e. 5th and $\frac{10}{2} + 1$ i.e. 6th numbers i.e. So average increases by 1.5.</p>

127	60	24	88	B	<p>Given as per Question</p> $\text{Duration} \propto \frac{\text{Dis tan ce}}{\text{Velocity}}$ $\text{Velocity} \propto \frac{\text{Dis tan ce}}{\text{Duration}} \text{ -----1}$ $\text{Also Velocity} \propto \frac{\frac{\sqrt{\text{Diesel Consumption}}}{\text{Total Dis tan ce Travelled}}}{\text{Number of Carriages}} \text{ -----2}$ <p>Substituting value of velocity—in equation</p> $\frac{\frac{\sqrt{\text{Diesel Consumption}}}{\text{Total Dis tan ce Travelled}}}{\text{Number of Carriages}} \propto \frac{\text{Dis tan ce Travelled}}{\text{Duration}}$ <p>Let k is the factor</p> $\frac{\frac{\sqrt{\text{Diesel Consumption}}}{\text{Dis tan ce Travelled}}}{\times \text{No. of Carriages}} = k \times \frac{\text{Dis tan ce Travelled}}{\text{Duration}}$ $= \frac{\sqrt{\text{Diesel consumption}}}{\text{Dis tan ce travelled}} \times \frac{\text{Duration}}{\text{Dis tan ce travelled} \times \text{No. of carriages}} = k$ <p>Using Chain rule “k” constant is “x” litres</p> $\frac{\sqrt{10}}{70} \times \frac{45}{70 \times 15} = \frac{\sqrt{x}}{50} \times \frac{30}{50 \times 18}$ $\frac{\sqrt{10}}{70} \times \frac{45}{70 \times 15} \times \frac{50 \times 18}{30} = \frac{\sqrt{x}}{50}$ $\frac{\sqrt{10}}{70} \times \frac{90}{70} = \frac{\sqrt{x}}{50}$ <p>Squaring both sides</p> $\frac{1}{7} \times \frac{81}{49} \times 50 = x, \quad x=11.8 \text{ lites}$
128	61	25	89	B	<p>Let the work done by x is 5 unit/hr and by y = 8 unit/hr. So in one hour they will do 13 unit/hr. Since the work is done in 40 hours.</p> <p>= The total capacity of tank = 40 × 13 = 520 litre</p> <p>∴ so Y alone will take 520/8 = 65 hours.</p>