

**JMET- 2009 SOLUTIONS (C - SERIES)**  
**SECTION – I (VERBAL)**

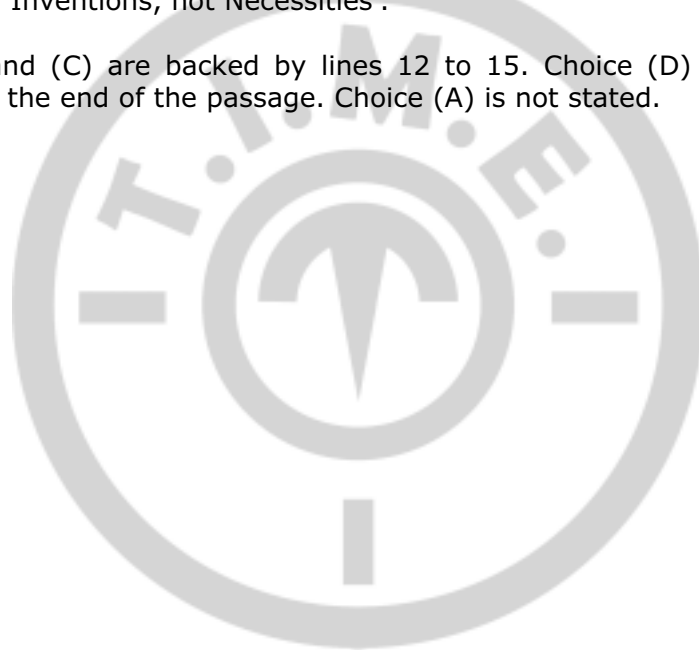
**Solutions for questions 1 to 30:**

- 1.** Statement (B) is the correct sentence and so is the required answer choice. The correct sequence of the groups of jumbled phrases is as follows.  
 (B) Although not quite as liquid an / investment as a money market account / a certificate of deposit is recommended / by financial experts for its high yield.  
 (A) The complimentary expertise of /both these companies will create/and providing a strong platform for/growth and ongoing success.  
 The error is 'providing' and the correction of the is '.....companies will create and provide a strong platform.....'.  
 (C) The rule of law has reestablished/itself as a cultural concept/but not as a panacea once looks like/understanding how countries grow rich.  
 There are two errors – 'once looks' should be 'one looks'. The other error is 'like' in the expression 'One looks like'. It should be replaced by the word 'for' which renders the sentence meaningful.  
 (D) Even present day scholars who have been able/trace the prominent influence of Leonardo's predecessors on/his scientific theories and designs still credit Da Vinci/ a range of skills unique in any age.  
 The sentence has two errors. The preposition 'to' always follows the word able; we say someone is capable 'of' doing something or someone is able 'to' do something. The other error is the omission of the preposition 'with' we 'credit' someone 'with' something.  
 Choice (B)
- 2.** Option (A) has an error and so is the required answer choice. The correct sequence of the jumbled phrases is as follows.  
 Related to these factors affecting diffusion/within continents is a third set/of factors influence diffusion between continents.  
 The error is in the third part of the sentence. The word 'influence' should be 'influencing'.  
 It can also be corrected alternately by inserting a relative pronoun; that is 'of factors that influence.....'.  
 The other statements when sequenced are correct.  
 Choice (A)
- 3.** The two words in option (A) do not render the sentence meaningful. The word 'stereotype' is not congruent with 'followed': it is apt to associate a 'stereotype' with 'repeated'. Option (B) is also ruled out as the word 'rebelled' should be followed by the preposition 'against', a human society cannot be killed, option (C) is erroneous. Option (D) is both logically as well as grammatically correct.  
 Choice (D)
- 4.** The word 'ability' in option (A) rules it out. The expression ability 'in' feeding itself is erroneous; it is correct to say one has the ability 'to do' something. Option (D) is ruled out for the same reason. One has an urge 'to' do something. The preposition 'in' rules it out. The word 'conceals' in the statement means that the 'wealth of some nations' is in fact not enough to feed even themselves. This sense is conveyed only by the pair of words in option (C). Option (B) does not make the sentence meaningful.  
 Choice (C)

5. The subject (in the clause) 'use of these instruments' requires the verb 'is' (is prohibited). This rules out option (A) and (D) which have 'are'. Option (B) is incorrect with 'as being'. Option (C) is grammatically correct. Choice (C)
6. Choice (A) is negated by the last para. Choice (D) is also not true – the author does not say it is wrong to believe in God or to expect reward. Between choices (B) and (C), the latter can be ruled out because the author's tone is not in the defensive. Choice (B) is backed by paras 2 and 4. It is very clear from para 2 that the author is not only very confident of his attitude but he also persuades others to be like him. For example, in the last sentence of para 2, 'The day we find a great number of men and women .....' he is far from being on the defensive. He is advocating to others how to lead a meaningful life. Choice (B)
7. Choices A, C and D are negated by the passage. Only choice B is true – it is the author's view. Choice (B)
8. Choice D is not true, the author's emotions have not been made evident any where. Choice (D)
9. 'Vainglorious' occurs in the third line of the last para. It means proud, the opposite, therefore, is humble. Choice (D)
10. 'Food' is usually an uncountable noun. So is not used in plural form. We use foods only when referring to particular types of food: 'health foods', 'baby foods', etc. So sentence A and D are incorrect. In sentence A, it is inappropriate to use the word 'orders' as the subject is in plural number. In sentence B, it is incorrect to use 'beers'. Only sentence C is a grammatically correct sentence. Choice (C)
11. In sentence A, the use of the verb 'were' is incorrect. 'Each' is generally followed by a singular verb. In sentence C it is inappropriate to use 'between'. 'Between' is used to talk about two, 'among' is used to refer to more than two. In statement D use of 'were' is erroneous. Use of 'choices' also is incorrect as it is a noun. 'Choosing' is more appropriate as it refers to the act of selecting out of a greater number. The correct option is B. Choice (B)
12. In statement A the words 'principal' and 'principle' are interchanged. 'Principal' refers to first in rank or importance while 'principle' would mean a 'personal code of conduct'. In statement B 'further' and 'farther' are interchanged, 'farther' talks about physical distance where as 'further' refers to a 'more advanced point in time or space'. In statement C 'economical' and 'economic' are interchanged. 'Economical' means avoiding waste. 'Economic' relates to the subject dealing with goods their production etc. The grammatically correct statement is D. Choice (D)
13. The most appropriate title for the passage is Growth vs Greenery because this comparison is both explicit and implicit through out the passage. Choice (A) would be appropriate if the author's tone was critical. Choice (B) focuses only on green orthodoxy whereas the author explores all aspects of the subject – what developed and developing countries do or can do, how important is ecology to the will being of people etc. Choice (D) is irrelevant. Choice (C)

- 14.** Choices (A) and (B) can be inferred from lines 6 to 8. Choice (D) is backed by the examples given at the end of the passage. The same examples negate choice (C).  
Choice (C)
- 15.** (A) and (C) are discussed through out the passage and (D) is also mentioned. While good government is mentioned, factors determining it are not mentioned.  
Choice (B)
- 16.** Choice (A) cannot be inferred – while environmental health is important, the passage does not say or imply that it is the 'single biggest variable in determining a country's ranking'. Choice (C) cannot be inferred there is nothing to say that the countries mentioned are the 'most polluted in the world'. (B) cannot be inferred since the question at the beginning of the passage is not the author's but the politician's view (as seen from 'To them' in line 2). The author himself believes it to be essential as when he speaks of diseases like Malaria. (D) can be inferred from the 5<sup>th</sup> line from the end – money can be equated to economic progress.  
Choice (D)
- 17.** The pronoun 'it' renders statement (d) incorrect as the first sentence of the para. Statement (c) talks of both victory and defeat and statement (b) then talks specifically of success; thus (c) and (b) form a pair. Statement (d) necessarily follows statement (a) as (a) talks of what a new encounter is bought with and (d) talks of what 'precedes' the encounter.  
Choice (B)
- 18.** The pronoun 'this' in statement (c) and (d) renders them inappropriate as the opening statement. Thus, option (c) and (d) are ruled out. The pronoun 'this' in statement (d) refers to 'lack of enthusiasm' mentioned in statement (b). Statement (b) being a generalized statement is better as an opening statement and statement (a) is more appropriate as a concluding statement. Thus, option (B) is the most logical sequence.  
Choice (B)
- 19.** 'Tractable' means easily manageable. The word which is opposite in meaning is 'stubborn'.  
Choice (D)
- 20.** 'Fatuous' means 'vacantly silly', 'purposeless'. The word which is opposite in meaning is 'intelligent'.  
Choice (C)
- 21.** 'Moribund' is related to dying. So is 'terminal' as in a terminal disease.  
Choice (A)
- 22.** To 'decimate' something is to 'destroy' that.  
Choice (B)
- 23.** The relationship in the given pair of words is that of the adjective to the corresponding noun. Option (C) is similar to the given pair. Something that is related to 'heaven' is 'ethereal'. 'Chimeral' is related to illusion.. 'Tellurian' is closer to terrestrial which is related to planets.  
Choice (C)
- 24.** The given pair of words have a synonymous relation. The words in option (A) also share a similar relationship. Hence is the required answer choice. Options (B) and (D) are antonyms. The words in option (C) are related but not synonyms.  
Choice (A)

- 25.** The statement when written in the indirect form will read as 'He said that he was upset since his boss was not happy with his performance'. In statement B the use of 'is' is incorrect. In statement C the use of the two conjunctions (as, because) is incorrect. In statement D the meaning of the statement is changed. The correct option A. Choice (A)
- 26.** The sentence which contains an incorrect spelling is (D). The word wrongly spelt is 'mediocre'. Choice (D)
- 27.** Choice (C) is true – refer to the example of Edison's phonograph in the middle of the passage and the last sentence of the passage. Choice (C)
- 28.** Choice (B) can be inferred from the last one and a half lines of the passage. Choice (B)
- 29.** Since the passage refutes the adage, 'Necessity is the mother of invention', an apt title would be 'Inventions, not Necessities'. Choice (D)
- 30.** Choices (B) and (C) are backed by lines 12 to 15. Choice (D) is backed by lines 13 to 11 from the end of the passage. Choice (A) is not stated. Choice (A)



**SECTION – II (LOGICAL REASONING)****Solutions for question 31:**

- 31.** Given that,  
 X came from P to R.  
 Y came from Q to R.  
 Both of them arrived at R at the same time. We have to find out, who among X and Y walked faster.  
 From (1) alone as there is no information about the distance no relation can be made about their speeds.  
 From (2) alone,  
 the distance between Q and R is less than the distance between P and R.  
 As there is no information about the total time taken, no relation between speeds can be made.  
 Combining (1) and (2),  
 there is no data given about the difference in distance between P and R and Q and R.  
 Hence, the question cannot be answered. Choice (B)

**Solutions for questions 32 and 33:**

It is stated that fiber rich diet "may reduce" the risk of cancer. It is suggested to fortify junk food with fiber, because the consumption of junk food, which is low in fiber, has increased.

- 32.** It is stated that junk food, if fortified with fiber may reduce the risk of cancer. "No junk food no cancer", implies that junk food is a reason for cause, which cannot be logically inferred from the passage. Choice (A)
- 33.** The passage is referring to food habit in life. Hence, I cannot be inferred. From the statement it is clear that those who take diet which is rich in fiber are at a lower risk of some types of cancer than those who do not. Hence, II can be inferred. Choice (D)

**Solutions for questions 34 to 36:**

- 34.** Calling for tenders is followed by bidding. Then the acceptability of the bid is checked. The least quote itself is observed to be too high. Hence it is decided to re-tender.  
 $\therefore$  The logical order is (iii) – (ii) – (iv) – (i). Choice (D)
- 35.** Statement (iii) refers to a conclusion. Hence, it has to be the last statement.  
 Statement (iv) starts with the words "The supermodel" hence it cannot be the opening statement.  
 Statement (i) is an assertion, which is strengthened in the further statements.  
 Hence, it is the first statement.  
 Statement (ii) contains the words "also said".  
 Hence, (ii) follows (i).  
 $\therefore$  The logical order is (i) – (ii) – (iv) – (iii). Choice (B)

- 36.** Statement (i) cannot be the first one because the word "It is a record" has no earlier reference.  
Statement (ii) is supported by statement (iii), which is described as a record in statement (i). A count is made about this trend in statement (iv).  
∴ The logical order is (ii) – (iii) – (i) – (iv). Choice (C)

**Solutions for questions 37 to 39:**

- 37.** The implications of the statement are  
(i) Manisha will not eat orange implies Rajesh cooks \_\_\_\_\_ choice (B)  
(ii) Rajesh did not cook implies Manisha eat orange. \_\_\_\_\_ choice (D).  
Choice (B/D)
- 38.** Choice (A): A film critic is an authority to comment on films but not on Internet, web blogs etc.  
Choice (B): RTI (Right to Information) officer in charge is stated to have collecting the data i.e information, which is a part of his job. Hence, (B) is a most reasonable and trustworthy statement.  
Choice (C): The Education correspondent is referring to what a mother said. It is not the statement of the correspondent.  
Choice (D): A Railway Officer is not an authority to talk negatively about airways. It is just his opinion. Choice (B)
- 39.** From (i) and (ii) we get,  
If the contract is valid then he will bankrupt.  
From the above statement and (iii)  
If he goes bankrupt then the bank does not loan him money. Choice (B)

**Solutions for questions 41 and 42:**

Given S is

(iv)

If either B was a compatriot of X or

(iii)

Z was born before A then

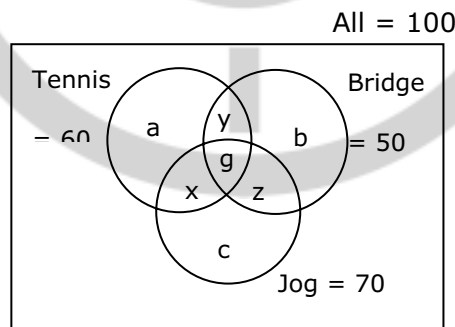
(ii)

Y was born in the sixteenth century.

- 41.** To make S to be true we have to look for the implications.  
(iii) or (ii)  $\Rightarrow$  (ii)  
(iv)  $\Rightarrow$  (ii)  
(iii)  $\Rightarrow$  (ii)  
 $\sim$ (ii)  $\Rightarrow$   $\sim$  (iv) and  $\sim$  (iii). Choice (A)
- 42.** To make S false, we should look for negation.  
The negation is,  
(iv) or (iii) and  $\sim$  (ii). Choice (B)

**Solutions for questions 43 to 48:**

- 43.** The problem brought up in the statement is related to security.  
I refer to financial support. It is irrelevant.  
II does not solve the problem of security.  
 $\therefore$  Neither I nor II follows. Choice (D)
- 44.** The statement is referring one particular region and the competition faced there.  
I is based on the assumption that India has not ventured in to other international markets.  
 $\therefore$  I does not follow.  
Reduction in price and increase in quality would make the product easily marketable.  
Hence, II follows.  
 $\therefore$  Only, II follows. Choice (B)
- 45.** According to the statement, the jury is said to have reached a verdict when all the members of the jury come to a unanimous agreement. But it is given that one member did not agree. Hence the jury has not reached a verdict (choice A). Choice (B) contradicts the passage. Choice (C) and (D) are out of context. Choice (A)
- 46.** What is observed in the known peacocks is being generalised for unknown peacocks also.  
Choice (A) : It is only an assertion. There is no reasoning.  
Choice (B) : Whatever is observed about apple is being generalised for all fruits. Hence, this is not parallel.  
Choice (C) : It is not known whether home remedy can be classified as medicine or not.  
Choice (D) : whatever is observed in the known tutors being generalised for unknown tutors. Hence, this one parallels the reasoning. Choice (D)
- 47.** Let us represent the given values in the following venn diagram.



$$y + g = 20$$

$$x + g = 30$$

$$z + g = 40$$

If it is given that  $g = 20$

then  $y = 0$

$$x = 10$$

$$z = 20$$

$$\therefore a = 30, b = 10, c = 20.$$

If this case, Total is more than 100.

So  $g$  should be more than 20 which is not possible as  $y + g = 20$ .

Hence  $g$  cannot either be equal to 20 not more than 20.

$$\therefore g \text{ is less than } 20.$$

Choice (C)

48. Let the three couples be represented as follows.

$(M_1, F_1), (M_2, F_2), (M_3, F_3)$

The following table represent the steps.

setup	People On the side	People travelled	People travelling from other side	People on the other side
1	$M_1 M_2 M_3 F_3$	$F_1 F_2$	-	-
2	$M_1 M_2 M_3 F_3$	-	$F_2$	$F_1$
3	$M_1 M_3 F_3$	$M_2 F_2$	-	$F_1$
4	$M_1 M_3 F_3$	-	$F_1$	$M_2 F_2$
5	$M_1 F_1$	$M_3 F_3$	-	$M_2 F_2$
6	$M_1 F_1$	-	$F_3$	$M_2 F_2 M_3$
7	$F_3$	$M_1 F_1$	-	$M_2 F_2 M_3$
8	$F_3$	-	$M_3$	$M_1 F_1 M_2 F_2$
9	-	$M_3 F_3$	-	$M_1 F_1 M_2 F_2$

So, 9 steps are required.

Choice (B)

#### Solutions for questions 49 and 50:

49. As, among the given statements, the middle term is not distributed, hence no conclusion can be drawn. Choice (C)

50. From statement (i) and (ii), the possible conclusions are

(a) Some players are human.

(b) Some humans are players.

From statement (ii) and (iii) the possible conclusions are (c) No athletes is ant.

(d) No ant is athlete.

(e) Some athletes are not ants.

(f) Some ants are not athletes combining all the three the possible conclusion is

(g) Some players are not ants.

So conclusion I, II, III, IV follow.

Choice (D)

#### Solutions for questions 51 to 57:

51. Mr. Adani suggests to appoint more managers in the view of expanding business.

The statement is about number of managers, but not about competence. Hence, I is not implicit.

The statement is made after observing the growth in business. Hence, II is not implicit.

If it is assumed that suitable persons are not available, the suggestion would not have been made. Hence III is implicit.

∴ Only III is implicit.

Choice (C)

- 52.** It is evident that (i) is always true.  
 If (ii) is true, then (i) and (iii) must be false.  
 This is not possible because (i) is true.  
 If (ii) is false, then (i) and (iii) must be true.  
 This is possible.  
 Hence, (iii) must be true.  
 There is no suitable answer choice.
- 56.** The question can be answered by elimination.  
 It is given that Diasy stays on floor 2.  
 Hence, (B), (C) and (D) can be eliminated. Choice (A)
- 57.** From the solution of question 56, we know that Amisha and Binaya stay on floor 3.  
 It is given that one of these two is a table tennis player and the other one is a chess player.  
 It is also given that Amisha is a tennis player and Binaya is an engineer.  
 ⇒ Binaya, the engineer, plays chess. Choice (A)

**Solutions for questions 58 to 60:**

From (ii) we get,

Tiger \_\_\_\_\_ Rose \_\_\_\_\_

From (i) and the above arrangement we get,

Tiger Panther Quail Rose Swan

Now if we use any one information among (iii) and (iv), we will get the following arrangement.

Tiger Quail Panther Rose Swan

- 58.** Either (iii) or (iv) is redundant. Choice (B)
- 59.** Swan is on the extreme right and Tiger is on the extreme left. Choice (C)
- 60.** Panther is in the middle and Rose is on its right. Choice (C)

## SECTION – III (QUANT)

## Solutions for questions 61 to 90:

61. We see at a glance that as the inflation rate increases linearly, the BSE sensex linearly decreases. Therefore, the correlation coefficient is  $-1$ . Choice (C)

62. Selling price of each packet (S) =  $10 - \frac{Y}{100}$

Cost of producing  $y$  packets =  $\frac{Y}{10}$

Addition fixed cost (Rs. F) = Rs.100.

Revenue realised by selling  $y$  packets =  $10y - \frac{y^2}{100}$

$\therefore$  Profit (P) =  $\frac{-y^2}{100} + 10y - \frac{y}{10} - F$

For P to be maximum,  $\frac{dP}{dy} = 0$

i.e.  $\frac{2y}{100} + 10 - \frac{1}{10} = 0$

$\Rightarrow \frac{990}{100} = \frac{2y}{100} \Rightarrow y = 495$ .

Choice (A)

63. In the above question if  $F = 200$ , instead of 100, there would be no change in the value of  $y$  for which P is maximum. Choice (C)

64. Let the area of the painting be  $4x \text{ cm}^2$ .  
Given  $x + 100 = 3x \Rightarrow x = 50$  and the area is  $200 \text{ cm}^2$ .  
As the breadth is 10cm, the length is 20cm. Choice (B)

65. The number of shoppers entering a retail store is a good example of Poisson distribution. Choice (C)

66. The amounts to be invested in the first and second bonds are  $x_1$  and  $x_2$ . The total interest has to be Rs.1800.

$\therefore x_1 + x_2 = 30,000$  and  $0.05x_1 + 0.06x_2 = 1800$

These two equations are given in the matrix form in option C.

Choice (C)

67. Given that  $0.01\$ = 1Y$   
 $\therefore 1\$ = 100Y$   
Also  
 $100\$ = 5000Rs.$   
 $\therefore 1\$ = 50Rs.$   
 $\therefore 50Rs = 100Y$   
and  $100Rs = 200Y$

Choice (C)

68. Every year the value of the vehicle depreciates by Rs.2000.  
 $\therefore$  In 5 years it depreciates by Rs.10,000. The salvage value, i.e. the value at the end of 5 years is Rs.1,000.  
 $\therefore$  The original value is Rs.11,000. Choice (C)

- 69.**  $PO = 5.3C^2L^{1.5}$   
C increase by 20%, i.e to 1.2C.  
 $\therefore$  PO increases to 1.44 PO or it increase by 44%. Choice (D)
- 70.** The third term of the AP = 28.  
The sum of the first 3 term is 54, i.e. the average (which is the second term) is 18.  
 $\therefore$  The first term is 8. Choice (A)
- 71.** We need to minimize the total set up and production time. One interpretation is that we try to produce a total of 25 units at the earliest. We first consider this interpretation.  
Let's say x units are produced by manual process and 25 - x, by automated process. The time taken for the manual process ( $T_m$ ) and that for the automatic process ( $T_a$ ) are given  $T_m = 10 + x$  and  $T_a = 25 + \frac{25 - x}{2}$   
 $\therefore$  If the 25 terms are to be produced at the earliest  
 $T_m = T_a$ , i.e  
 $10 + x = 25 + \frac{25 - x}{2} \Rightarrow \frac{3x}{2} = \frac{55}{2} \Rightarrow x \cong 18.$   
We find that this option is not available among the choices. We should read the question again. and consider if another interpretation is possible. The key words are "----- the total set up and production time".  
Instead of thinking of getting 25 units at the earliest (and deploying the two processes concurrently) we think of the total time required for the two processes taken sequentially. (This quantity is also a significant indication of the cost to the manufacturer)  
Once we consider this interpretation, we can solve the question as shown in the table below.

Choice	Manual x	Automatic 25 - x	$T_m$	$T_a$	$T_m + T_a$
A	0	25	0	37.5	37.5
C	10	15	20	32.5	52.5
B	15	10	25	30	55
D	25	0	35	0	35

We see that  $T_m + T_a$  in minimum for Choice D Choice (D)

- 72.** The data is tabulated below  
Amounts are in thousands of rupees.  
Investment A      B      R      Total  
Profit share 40      25      35      100  
To get the investment of any person, we multiply the profit share by 0.6  
 $\therefore$  The respective investments of A, B, R are 24, 15, 21 (in thousands of rupees).  
Choice (C)

**Solutions for questions 73 and 74:**

The data in the 3 statements is represented in the venn diagram below. The numbers given are percentage figures.

	IPL	ICL	
T40	<u>16</u>	<u>14</u>	30
T20	64	<u>6</u>	70
	80	<u>20</u>	

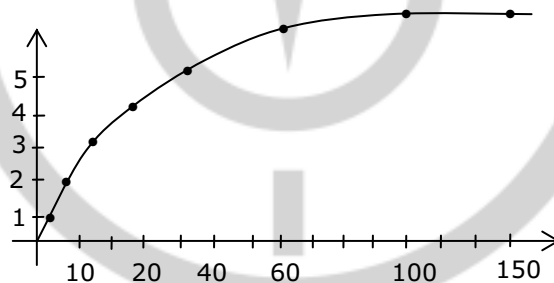
The underlined figures follow as conclusions.

**73.** The number of respondents who prefer both T20 and ICL is 6% of 1000 or 60.  
Choice (B)

**74.** The number of respondents who prefer both T40 and IPL is 16% of 1000 or 160.  
Choice (A)

**75.**  $\frac{d}{dx}(\log \sin x) = \frac{1}{\sin x} \frac{d(\sin x)}{dx}$   
 $= \frac{\cos x}{\sin x} = \cot x.$   
Choice (B)

**76.** We should try to draw a fairly accurate graph.



We see that O varies  
as  $\log E$  or  $O = a \log E$  and  $a \geq 0$

Choice (B)

**Solutions for questions 77 and 78**

There are two independent subsystems, C and E. (The events are not independent!)  
The data is tabulated below.

	$\bar{E}$	E	
C	0.15	<u>0.65</u>	0.8
$\bar{C}$	0.15	<u>0.05</u>	0.2
	<u>0.3</u>	<u>0.7</u>	

The underlined figures follow as conclusions.

77. The probability that C fails when E has failed =  $P\left(\frac{\bar{C}}{\bar{E}}\right) = \left(\frac{\bar{C} \cap \bar{E}}{P(\bar{E})}\right)$

$$\frac{0.15}{0.15+0.15} = 0.5$$

Choice (A)

78. The probability that C fails alone is 0.05.

Choice (D)

79. The price per barrel, t days from now is  $p(t) = 20 + 0.2t^{0.5}$   
The daily production is 200 barrels.

$$\begin{aligned} \therefore R(t) &= \int_0^t 200 (20 + 0.2t^{1/2}) dt \\ &= 4000t + 40t^{3/2} + \text{constant} \end{aligned}$$

Choice (A)

80.  $\frac{y^7 y^5}{y^6} = y^{\sqrt{x^2 - 5x}}$

$$\Rightarrow y^6 = y^{\sqrt{x^2 - 5x}}$$

If  $y \neq -1, y \neq 0, y \neq 1$

$$\text{It follows that } y^6 = y^{\sqrt{x^2 - 5x}}$$

$$\text{or } x^2 - 5x - 36 = 0$$

$$\text{or } (x + 4)(x - 9) = 0$$

i.e  $x = -4$  to  $9$ .

Choice (A)

81. The probability distribution  $f(w)$  is a constant between a and b.

$$f(w) = \frac{1}{b-a} \text{ for } a \leq w \leq b$$

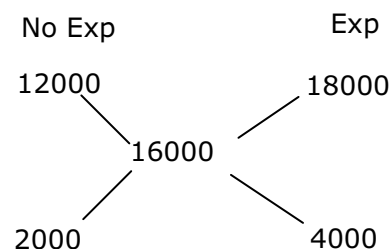
$$\text{Expected waiting time} = \int_a^b w f(w) dw$$

$$= \int_a^b \frac{w}{b-a} dw = \frac{1}{2} \left[ \frac{w^2}{b-a} \right]_a^b$$

$$= \frac{1}{2} \frac{b^2 - a^2}{b-a} = \frac{b+a}{2}$$

Choice (A)

82.



Therefore, the ratio of the number of graduates without and with experience in 1 : 2.  
Percentage of students with work experience = 66.67% and percentage of students without experience = 33.33%.

Choice (A)

- 83.** Let the initial cost be 100. It increased by 20% to 120. It then increased by 30% to 156.  
 $\therefore$  Net increase = 56%. Choice (B)
- 84.** Let  $s = \frac{1}{3} - \frac{1}{9} + \frac{1}{27} - \frac{1}{81} \dots$  is an infinite GP with common ratio  $r = -\frac{1}{3}$   
 $\therefore s = \frac{a}{1-r} = \frac{1/3}{1 + \frac{1}{3}} = \frac{1}{4}$ . Choice (A)
- 85.** The arithmetic mean is  $\frac{2+5+7+8+y}{5}$  or  $\frac{25+x}{5}$ . the median is 7 ( $\because x \geq 8$ )  
 $\therefore \frac{22+x}{5} = 7$   
 $\Rightarrow x = 13$ . Choice (C)
- 86.** The probability that a customer who entered the store makes a purchase is 0.4. As the event of one customer making a purchase is independent of the event of any other customer making a purchase, the probability that 2 customers make a purchase and one doesn't is  $(0.4)^2 (0.6)$   
 The two of the three people can be selected in  ${}^3C_2$  or 3 ways.  
 $\therefore$  Required probability is  $3 (0.4)^2 (0.6) = 0.288$ . Choice (D)
- 87.** To assess the 3 specific choices we need to consider the following two key sentence. "The bank earns interest on the loan amount. However some portion of the loan amount cannot be recovered and is classified as bad debt".  
 We will consider whatever is not bad debt to be good debt. Let the principal for the good and bad debts be P and Q and the corresponding interest be I and J. We can tabulate the 3 options in terms of these quantities.  
 A.  $I - Q$   
 B.  $I + J - Q$   
 C.  $I$   
 We have to decide from the wording whether bad debt means only the principal (Q) is lost or even the corresponding interest (J) is also lost.  
 Here, we consider that as Q cannot be recovered, even J cannot be recovered.  
 So, A seem to be the best choice. Choice (A)
- 88.** The total amount available for disbursement is Rs.10, 00,000.  
 $\therefore x_1 + x_2 + x_3 \leq 10,00,000$  is one of the constraint. Choice (C)
- 89.** For car loans, the percentage of bad debts in the minimum and the interest that the bank gets is the maximum.  
 $\therefore$  The bank should maximize the allocation to car loans. Choice (B)
- 90.** The centre of the circle is (2,0)  
 The radius is 1.  
 $\therefore$  It passing through (2 -1) (2, 1) (3, 0) but not (2, 2). Choice (D)

**SECTION – IV (DI)****Solutions for questions 91 to 95:**

- 91.** The first two statements can be readily observed to be true, while the share of employment in services has increased by 8 (23 – 15) while its share of GDP has increased by 9 (42 – 33). ∴ Statement C is false.  
Choice (C)
- 92.** As Indian GDP in rupee terms has increased from approximately 42,000 crores to 570,000 crores, services and Industry whose shares increased in this period have risen by more than 15 times.  
Choice (C)
- 93.** The GDP of India in agriculture in 1970 =  $\frac{45}{100} \times 42,000 \approx 18,900$   
The GDP of India in agriculture in 1994 =  $\frac{30}{100} \times 57000 = 171000$   
∴ It has increased by about 9 times  
Choice (B)
- 94.** In 1970, the contribution of GDP from services was about  $\frac{33}{100} \times 42000$   
 $\approx 14000$  crores  
Choice (C)
- 95.** Had the share been 30%, in rupee terms it would have been  $\frac{30}{100} \times 570000$   
 $= 171000$   
Choice (C)

**Solutions for questions 96 to 100:**

- 96.** It can be easily observed that all of statements (A), (B) and (C) are true.  
Choice (D)
- 97.** From the graph it is clear that the largest number of out of school children has been in the South Asian region.  
Choice (C)
- 98.** The ratio which was nearly 2 in 2001 has become approximately 1, i.e. nearly became half.  
Choice (B)
- 99.** All the statements (A), (B) and (C) can be observed to be true from the given graph.  
Choice (D)
- 100.** The total number of out of school children has increased from around 112,000 in 2001 to little over 120000 in 2006  
Choice (A)

**Solutions for questions 101 to 106:**

- 101.** The modal range or the range in which the maximum number of students is present is 21-30.  
Choice (A)
- 102.** The subject in which the maximum number of candidates scored more than 30 marks is Science.  
Choice (D)

- 103.** The total number of candidate, adding up in any of the four rows is exactly 27000  
Choice (D)
- 104.** The average marks scored in Arts, rounded off to the tenth place would be 20 as majority of the students have scored in the range of 11-20 and 21-30  
Choice (B)
- 105.** It can be clearly seen from the table that the candidates have scored the highest average marks in science.  
Choice (B)
- 106.** Students who qualified in Maths --  $199 + 6 = 225$   
Students who qualified in Arts --  $220 + 2145 + 10140 = 12505$   
The ratio is approximately 1 : 61.  
Choice (D)

**Solutions for questions 107 to 110:**

- 107.** The average calling cost in 1999 = \$ 4  
The average calling cost in 2004 = \$ 1.40  
 $\therefore$  The percentage reduction =  $\frac{4 - 1.40}{4} \times 100 = 65\%$   
Choice (A)
- 108.** The contracted capacity for internet connections for developing economies in 2006 = 150  
The contracted capacity for internet connections for high income countries = 5000.  
 $150 = 3\%$  of 5000  
Choice (B)
- 109.**  $20 = \frac{0.4}{100} \times 5000$ , i.e internet capacity was 0.4% of the capacity of high income countries in per capita terms.  
Choice (A)
- 110.** Access to telephones in 2000 = 3 per thousand  
Access to telephones in 2006 = 150 per thousand  
Percentage increase =  $\frac{150 - 3}{3} \times 100 = 4900\%$   
Choice (D)

**Solutions for questions 111 to 115:**

- 111.** Though infant mortality rate and under 5 mortality rate have been following the same trend, DPT immunization incidence has not been following any trend similar to the other two.  
Choice (C)
- 112.** The contraception prevalence in India in 1990 was 43 which is close to the South Asia average in 1990  
Choice (A)
- 113.** Under 5 mortality for low income countries in 1990 (143) is more than that of South Asia in 1990 (123) by 20 per thousand births  
Choice (D)
- 114.** The growth rate of population in India between 1990 and 2006 was approximately 30% which is much less than that for low income countries in the same period.  
Choice (D)

- 115.** In 2006, infant mortality rate in South Asia, which was 62, was approximately 75% of the under 5 mortality rate of 83. Choice (C)

**Solutions for questions 116 to 120:**

- 116.** Amongst all the high income countries, Europe has the maximum share of FDI flows in each of the given years. Choice (B)
- 117.** Except Oceania, for other high income countries, the net inflow is negative. ∴ Oceania is the required answer. Choice (D)
- 118.** Eastern Europe has seen its share in net FDI inflow increase from 0 to 3% in the given period. Hence statement (D) is false Choice (D)
- 119.** The outflow from Oceania was always less than the inflow into that region. ∴ Oceania never become a net FDI provider to the world. ∴ Statement (D) is false Choice (D)
- 120.** The total value of world outflows and that of inflows have increased at nearly the same rate in the given period. For developing and transition countries outflows have increased from 1.2 to 12.6 percentage while inflows have increased from 23.9 to 34.4 percentage. ∴ Though inflows have increased, outflows have increased at a much faster rate. Choice (D)