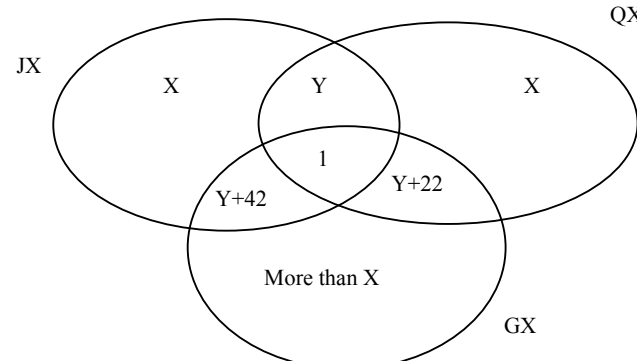
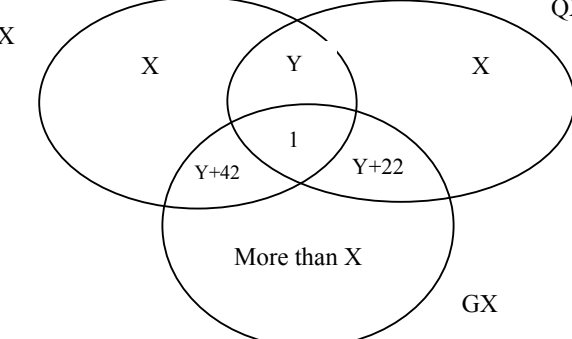
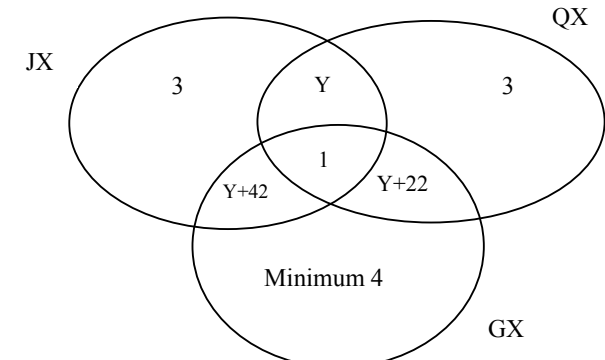


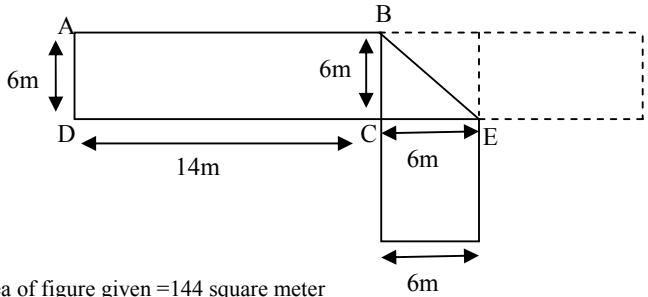
XAT Paper-2015 (All Sets)

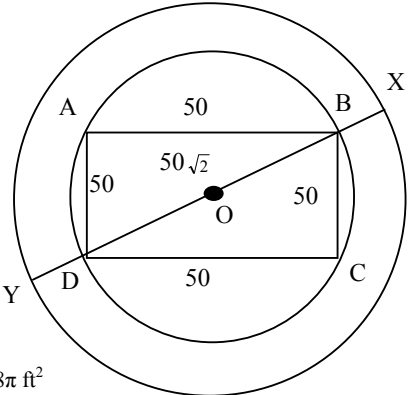
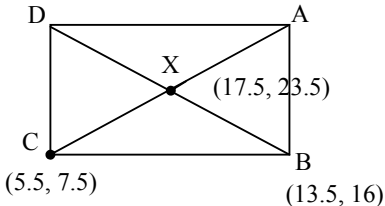
Set A	Set B	Set C	Set D	Key	Explanations
3.	1.	2.	1.	C	S and P are a mandatory pair because they in S refers to optimists in P. Further S should come immediately before statement 6 because 6 talks about positive outlook, which is the subject of discussion in S. Opening statement, should be R only as it very well explains why the world of cinema as mentioned in statement 1, is strange and baffles a critic.
14.	2.	3.	2.	D	Infantile is an unacceptable childish behavior; similarly charlatan, which means, deception is also unacceptable; imbecile, meaning idiot, is also unacceptable; awful means unacceptable; The only positive word is childlike that means an innocent behavior as of a child.
5.	3.	4.	3.	B	3 should be followed by 2, as 3 talks about loyal and effective allies and 2 talks about 'this marriage' which is referring to loyal and effective allies. So we are left with answer choices A and B. Out of the two B is better as the opening statement 4 is more appropriate than 5.
6.	4.	5.	4.	A	The key line/words is/are 'has not been eternal.... So the next line will hint at 'limited lifespan'. This is reflected in option A.
7.	5.	6.	5.	B	The paragraph talks about two different formulations, which were responsible for the genesis of a common theory. The only sensible option is B because it talks about how they both complemented each other and were used together by somebody else who might have used the combined theory to generate a new one.
8.	6.	7.	6.	B	We have to prove that Ranu is a god sportsperson. Option A, C, D and E are talking about Ranu's running/sprinting skills at different levels but does not clearly indicate her superior skills in sports. But B clearly states that she is national champion.
1.	7.	1.	8.	D	Calamitous, catastrophic and Cataclysmic – all mean disastrous. Cacophonous means harsh sounds; cacographic means bad handwriting; contraindicative means to indicate the inadvisability of something, such as a medical treatment.
2.	8.	8.	7.	C	Speakers can be eminent- meaning outstanding and well recognized; immanent means inherent, permanent etc and this can be filled in the second blank as 'the belief in permanent justice' makes sense. 3 rd blank can be filled with Imminent as it means something about to happen. Last blank will surely take eminence.
10.	9.	10.	11.	E	The paragraph is talking about a technique to interpret dreams. Dreams are definitely covert entities and the interpretation can be termed as overt. E fits in this explanation very well as dreams- the covert causes- according to the passage can lead to overt interpretations.
9.	10.	11.	9.	C	The last blank will surely take proscribe- meaning to forbid- as it starts from 'however, despite repeated requests.....'; this structure clearly reflects that the court rejected the appeal i.e. the court proscribed a lie detector test. In the second last blank only demeanor- can fit in as it means outlook/ behavior/ appearance whereas deportment means expulsion and of course cannot be filled in here. That's why answer is C.
11.	11.	9.	10.	E	It is difficult for us to understand that how come 'murali' topped inspite of not working hard and to understand this we need to understand the causes that existed in past. This is reflected in the option E.
20.	12.	20.	12.	E	it is clearly mentioned in the third paragraph that the protagonist decides to get out of his confinement by getting in the place of the dead as it is only the dead that can pass freely from this dungeon. (Read the first line of 3 rd para). The subsequent lines mentions the way he executes his plan.
21.	13.	21.	13.	B	As per the passage first he decided to end his life and was searching ways to end life but somehow at the time of final decision he decided not to go for. This can be understood, as per the passage by the phrase 'sarcasm of destiny that if it is not there in destiny, then it will not happen. So if it is not in the destiny of a person to commit suicide to end sufferings then it will not happen and instead he will live and fight against the sufferings of life. In other words to give way to the sarcasm of life.
22.	14.	22.	14.	C	In the first paragraph the protagonist is thinking about suicide but in the subsequent paras he decides not to play in the hands of destiny and plans and finally daringly executes his way out of the prison and escapes from his miserable life. That's why answer is from depression to daring.
23.	15.	23.	15.	A	Counterpane is given in 7 th sentence last paragraph; the sentence says 'covered it with his counterpane.....'. The only option that fits in this context is bed as he made the corpse made sit on the couch and covered it with his beddings/bed. Dungeon means 'cell' according to the context of the last statement of 2 nd paragraph 'paced twice or thrice round the dungeon and then paused abruptly by the bed'. Guillotine means execution/killing according to the 8 th line of the 1 st paragraph, wherein it is stated that 'I will remain here...rush on the first person.... And they will guillotine'.
12.	16.	12.	16.	A	it is clearly mentioned in the very last paragraph's 1 st line that 'in early stages of learning,

					neural circuits areweakly' and in the subsequent paras it is mentioned that neural connections lead to learning. S it is clear that in the younger age because the neural connections happen in a piecemeal manner, the learning is also piecemeal.
13.	17.	13.	17.	B	Statement 1 is wrong because there is no mention that the two hemispheres learn autonomously. Instead its suggested in the 4 th line that it is not clear how the two sides learn things. Statement 2 is right as the 3 rd para suggests that the neurons and circuits keep forming connections among themselves, a phenomenon that suggests that simultaneous activation f circuits can take place. Statement 3 is right as it is clearly mentioned in the 3 rd line of the 1 st para. Statement 4 is not mentioned anywhere Statement 5 is absolutely opposite to the idea mentioned in the paragraph that learning is the result of the neuron connection.
14.	18.	14.	18.	E	The entire passage is based on the fact that learning is based on the connections between the neurons and forming of circuits between different parts of the brain. The only phrase that captures this essence is E because it means that many small things make up a huge thing; a fact similar to many small connections between neurons leading to huge thing as learning.
15.	19.	15.	19.	B	
16.	20.	16.	20.	D	The lines 'and even when they lead in ...' show that they possibly thrive in anaesthetized (ADVERSE/controlled) conditions... The critical element is the meaning of the word 'anaesthetised', which has an implied meaning of controlled in the given sense. We can infer from the passage that orchids survive in a controlled environment.
17.	21.	17.	21.	D	In the third paragraph the lines 'recently, however...'' suggest that it is not always true that children born with genetic vulnerability will be sociopaths etc.
18.	22.	18.	22.	A	The means 'susceptible to disease'.
19.	23.	19.	23.	E	It is not possible to conclude about 'children typology' about the situation given as there could be changes in the behavioral pattern, while growing up, due to environmental surroundings.
26.	24.	26.	24.	C	As 'AIR' is not a private commodity so markets will not be efficient in this case. Remember, the paragraph states that public goods are ones for which no individual can be excluded. Air is the only example for which an individual cannot be excluded. It is required by all.
27.	25.	27.	25.	A	In the passage it is mentioned that public intervention is needed when market fails. But it cannot be concluded that 'public intervention 'is remedy for all ills related to market failure. As there is not fact to support this conclusion.
28.	26.	28.	26.	C	Statement 1 is a clear market problem and statement 2 provides a possible solution for it. By introducing such a measure, the government is effectively pushing industries not to dump their waste.
24.	27.	24.	27.	E	The first thing that you need to identify here is that the two paragraphs do not contradict each other and they are talking of the same subject. Thus, the first three options are ruled out. In the first paragraph, the author talks about the technique of brainstorming and in the second paragraph he explains its benefits.
25.	28.	25.	28.	D	As per the last line of the passage 'involvement of the people with different perspectives enriches the idea generation. This is reflected in option 4.
36.	29.	39.	32.	E	Mr. Patel has been given notice on behavioral grounds. Hence, he must focus on his performance to avoid being too vulnerable to be dismissed.
37.	30.	40.	33.	E	As the offer made Is comparable to the present job in terms of salary so he should accept this offer with some hike (at least 10%, as per the passage). There is no point in explaining his point as he is still doubtful that it will work.
38.	31.	41.	34.	D	The HR should first talk to individual parties involved and then have a joint meeting of all to sort out differences
49.	32.	46.	45.	D	Option D is the best in this case as keeping separate cut-off would help in selecting students with entrepreneurial mind set. Giving extra incentive for attempting 'application based' problem will definitely encourage/attract students with entrepreneurial mind -set.
50.	33.	47.	46.	E	Option III & VI are irrelevant to his achieving the desired score.
51.	34.	51.	51.	C	First energy audit should be conducted to find out where IIB can reduce carbon footprints. Course of action Stated in the statement I can be immediately done without waiting for energy audit report. Finally existing buildings should be replaced with environmental friendly buildings.
29.	35.	42.	47.	C	As Mr. Loyal is important resource for the party, expelling him will have most adverse effect on the party.
30.	36.	43.	48.	D	By suspending Mr. prodigal from the party will save the image of the party. By promising, that he will taken back in party if he is proved innocent by the court , party will be able to take care of ego of father(one of the prominent leaders) of Mr. Prodigal.
31.	37.	44.	49.	B	Mr. Opportunist wants himself to be in place of Mr. Loyal. Hence a combination of events, which removes Mr. loyal and supports his chances of replacing him, is the best.
32.	38.	45.	50.	A	Immediate political career can be understood as winning the elections, which is only supported

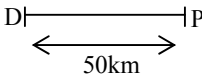
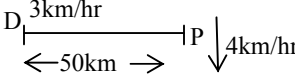
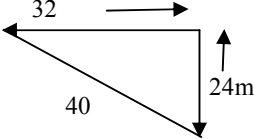
33.	39.	32.	29.	B	<p>by A</p> <p>As per the statements the following figure can be arrived at with the help of variables. The total is given to be 20 and all common is given to be 1.</p>  <p>Now based on this the question states to find the possible values of G type electives. Taking the value of Y as 1, there are three values of G that will be generated which will be 13, 15 and 17. Similarly taking the value of Y as 2, the number of G electives is 14 and 16. On the same logic taking the value of Y as 3, the G electives generated are again 15, which is previously obtained. Hence in total there are five values of G electives possible which are 13, 14, 15, 16 and 17.</p>
34.	40.	33.	30.	C	<p>As per the statements the following figure can be arrived at with the help of variables. The total is given to be 20 and all common is given to be 1.</p>  <p>Based on this information in this question along with the number of Only J type given to be 3, the diagram will be</p>  <p>Now in this case the only value of Y satisfying this will be 1 so that the other two values become 3 and 5 and the total becomes 20. Now Simran can take 3 only J and 5 both J and G. Similarly Raj can take All Gs and after that Qs. Now the 5 courses which are common to J and G they both can have and that is the maximum number which can be common to both.</p>

35.	41.	34.	31.	A	<p>As per the statements the following figure can be arrived at with the help of variables. The total is given to be 20 and all common is given to be 1.</p> <p>Based on this information in this question along with the number of Only G type given to be 2, the diagram will be</p> <p>If only G is given to be 2 only J and Only Q will become 1 each. Now the remaining total of 15 will be assigned to all the variables of Y. Solving that the value of Y becomes 3 and then 5 and 7. It can be seen that Vijay can take 1 course of Only J and Raj take can so many other courses and hence they will not share any common electives. Secondly Vijay can have 1 and 5 common and then Raj can take Only G and then both G and Q. Even in this case, they will not have any common electives. Hence first option is the answer.</p>
39.	42.	48.	35.	A	A can reduce enthusiasm of Mr. Arbit as there the benefits =Costs in the case.
40.	43.	49.	36.	C	Only C reduces uncertainties as it promises 85 % success. B option is uncertain.
41.	44.	50.	37.	B	As per Mr. Arbit estimate he would have earned Rs. 100000 mn extra for the next five years extra. This foregone earring would be fetch an interest of 10% compounded annually. As per Mr. Boring he would earn Rs. 100000 mn for 2 years only. Now for the first two years as they will earn same and invest at the same rate this amount would not create any difference. But for the remaining three years earnings of Mr. Arbit would create a difference in principal as well in the interest earned. His third year earning of Rs. 100000 mn will earn an interest @ 10% for two years and will become $100000 \times 1.21 = 121000$ mn. His fourth year earning of Rs. 100000 mn will earn interest for 1 year and would become $100000 \times 1.1 = 110000$ mn. His last year earning of Rs. 100000 mn will be earned at the end of fifth year only. Hence there is a total difference of $121000 + 110000 + 100000 = \text{Rs } 331000$ mn.
42.	45.	35.	38.	D	As outside India the sale is more than 50% i.e. option D is right answer.
43.	46.	36.	39.	A	IV choice is irrelevant as one, it does not go together with the idea of cutting cost, and second, it does not face competition is rural markets. Hence choices I , III and II
44.	47.	37.	40.	B	Going by option 2, first balance can be maintained between personal life and professional and also they both can be together.
45.	48.	38.	41.	E	Work –life balance can be maintained if Mr. Khan stays back OR She should find equivalent position in LSP USA and should go along with Mr. Khan.
46.	49.	29.	42.	C	Only statement II is not related to the question asked rest all the statements speak in favour Ram.
47.	50.	30.	43.	D	As customers are happy with Ram and business is going well so changing name of Panipat branch to Ram’s will not affect the reputation of Mohan’s at Delhi. In case Ram’s starts losing business then the name of the food joint can be changed to Mohan’s to capitalize on brand value.
48.	51.	31.	44.	B	For the future it will be better if Mohan himself takes care of the business in the Panipat as he knows that how to handle and establish a brand.

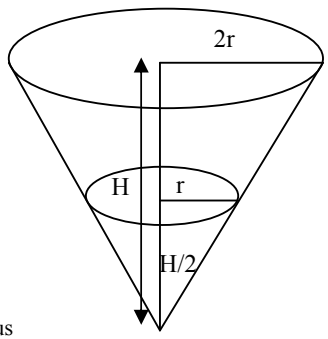
52.	52.	52.	52.	B	<p>First term, $a_1 = -64$ Last term, $l = -100$ Common difference, $D = -66 - (-64) = -2$ So applying formula for nth term we get $-100 = -64 + (n-1) \times (-2)$ $\Rightarrow -100 = -64 - 2n + 2$ $\Rightarrow -36 - 2 = -2n$ $\Rightarrow n = \frac{-38}{-2} = 19$ \therefore Sum of 19 terms $= \frac{19}{2} (-64 - 100) = -19 \left(\frac{164}{2} \right) = -19 \times 82 = -1558$.</p>
55.	53.	56.	54.	E	<p>The probability that his friend receives the gift in time will be when his friend receives even one gift. That can be calculated as the probability of his friend receiving at least one gift. The probability that none of the retailers sends in time will be $0.4 \times 0.2 \times 0.1 \times 0.5 = 0.004$. Now the probability of his receiving at least one gift will be $1 - 0.004 = 0.996$.</p>
56.	54.	57.	55.	C	 <p>Area of figure given = 144 square meter As per said in question BCE becomes square when we will unfold it, so to find the complete area of the figure shown as dotted after unfolding we need to add the area of triangle BCE. \therefore Area of $\triangle BCE = \frac{1}{2} \times 6 \times 6 = 18$ So the final area of whole figure will become = $144 + 18 = 162$ square meter.</p>
54.	55.	59.	53.	D	<p>Let Manufacturing Cost of the product = Rs.100 \therefore Maximum Retail Price (MRP) $= 100 + \frac{55}{100} \times 100 = \text{Rs.}155$ Retailer gives 10% discounts. Therefore, \therefore Retailer's selling price $= 155 - \frac{10}{100} \times 155 = 139.5$ As per question, The retailer earned 23% profit on his purchase price (say Rs. x). $\therefore \frac{123}{100} \times x = 139.5$ $x = \frac{139.5}{123} \times 100$ $x = \frac{13950}{123} = 113.41$ Now, the purchase price of retailer = x = selling price of Manufacturer \therefore Profit earned by Manufacturer $= 113.41 - 100 = 13.41$ i.e. 13.41%</p>
53.	56.	58.	57.	D	<p>Volume of Cylinder $= \pi \times 49 \times 10 = 490\pi$ Now, The solid metal cylinder is re-cast into two cones in the proportion 3 : 4 i.e. the volumes of cone 1 and cone 2 is 210π and 280π respectively. So, Flat Surface area of cylinder before melting $= 2\pi \times 49 = 98\pi$ Volume of cone 1 $= (1/3)\pi r_1^2 h = 210\pi$, where $h = 10$ $\Rightarrow r_1 = 3\sqrt{7}$ Volume of cone 2 $= (1/3)\pi r_2^2 h = 280\pi$, where $h = 10$ $\Rightarrow r_2 = 2\sqrt{21}$ Flat surface area of cones $= \pi r_1^2 + \pi r_2^2 = \pi(r_1^2 + r_2^2) = 147\pi$ Now, percentage change in surface area $= \frac{147 - 98}{98} \times 100 = 50\%$</p>
59.	57.	55.	58.	B	<p>Perimeter of square ABCD = 200ft $\therefore AB = \frac{200}{4} = 50$ $\therefore DB = 50\sqrt{2}$ B X = D Y = $7\sqrt{2}$ ft (width of road is given as $7\sqrt{2}$ ft)</p>

					<p>$BO = 25\sqrt{2}$</p>  <p>$\therefore BO + BX = 25\sqrt{2} + 7\sqrt{2} = 32\sqrt{2}$ Take R as radius of bigger circle. \therefore Area of bigger circle = $\pi (32\sqrt{2})^2 \text{ ft}^2 = 2048\pi \text{ ft}^2$ And Area of smaller circle = $\pi (25\sqrt{2})^2 = 1250\pi \text{ ft}^2$ \therefore Area of Road = $2048\pi - 1250\pi = 798\pi = 798 \times \frac{22}{7} = 2508 \text{ ft}^2$ But we have to calculate cost of construction of 50% road. Required Construction = $\frac{2508}{2} = 1254 \text{ ft}^2$ Cost of 1ft = 100 Cost of 1254 ft = $1254 \times 100 = \text{Rs. } 125400$</p>
58.	58.	54.	59.	B	<p>M \rightarrow</p> $\begin{array}{r} 5 \\ X \end{array} : \begin{array}{r} 4 \\ Y \end{array}$ <p>As final product contains M = 864 units $\therefore X = 480$ and $Y = 384$ \therefore 480 units of X and 384 units of Y.</p> <p>X \rightarrow</p> $\begin{array}{r} 1 \\ A \end{array} : \begin{array}{r} 3 \\ B \end{array}$ $120 : 360$ <p>Y \rightarrow</p> $\begin{array}{r} 2 \\ B \end{array} : \begin{array}{r} 1 \\ C \end{array}$ $256 : 128$ <p>\therefore total quantity of B in the final product M = $360 + 256 = 616$ As final product contains M = 864 units and B is 616 units, therefore Remaining part of M is $864 - 616 = 248$ units As concentration of B in the final mixture is 50% or half in the final mixture, therefore $\therefore 616 = B = \text{Remaining part of M} + \text{quantity of water (say W)}$ $616 = 248 + W \Rightarrow W = 368$ units</p>
57.	59.	53.	56.	E	<p>Going by options, it is clear from figure that For only value of x, there are two values of y. \therefore Options A, B and D are eliminated. Check option C by putting $y = 0$ $x = 2y^2 - 40 = 2 \times (0)^2 - 40 = -40$ But x is -19, so, option C is false. Now, put $y = 0$ in option E, we get $x = 2y^2 + 3y - 19 = 2(0)^2 + 3(0) - 19 = -19$. \therefore Only option E satisfies it.</p>
61.	60.	60.	60.	D	 <p>\therefore Using distance formula Distance, $CX = \sqrt{(17.5 - 5.5)^2 + (23.5 - 7.5)^2} = \sqrt{144 + 256} = 20$ \therefore Distance AC = $2 \times CX = 40$</p>

					<p>Distance, $BX = \sqrt{(17.5 - 13.5)^2 + (23.5 - 16)^2} = \sqrt{16 + 56.25} = \sqrt{72.25} = 8.5$ \therefore Distance $BD = 2 \times BX = 17$</p>																				
60.	61.	61.	61.	D	<p>In $\triangle ABF$</p> $\tan 60^\circ = \frac{P}{B} = \frac{AB}{10}$ $\Rightarrow 10\sqrt{3} = AB$ <p>Similarly, $ED = 10\sqrt{3}$</p> <p>Similarly in $\triangle BFC$, $\tan 60^\circ = \frac{P}{B} = \frac{10}{BC}$</p> $\Rightarrow BC = \frac{10}{\sqrt{3}}$ <p>\therefore Height, $AD = 10\sqrt{3} + 10 + \frac{10}{\sqrt{3}}$</p> $= \frac{30 + 10\sqrt{3} + 10}{\sqrt{3}} = \frac{40 + 10\sqrt{3}}{\sqrt{3}}$ <p>Required area of triangle $AED = \frac{1}{2} \times 10\sqrt{3} \times \left(\frac{40 + 10\sqrt{3}}{\sqrt{3}} \right) = 50 \times (4 + \sqrt{3})$</p>																				
64.	62.	62.	64.	A	<table border="1"> <thead> <tr> <th>Income Slab(Rs.)</th> <th>Tax rate</th> <th>Min Case</th> <th>Max Case</th> </tr> </thead> <tbody> <tr> <td>≤ 500</td> <td>Nil</td> <td>5</td> <td>3</td> </tr> <tr> <td>>500 to ≤ 2000</td> <td>5%</td> <td>4</td> <td>3</td> </tr> <tr> <td>>2000 to ≤ 5000</td> <td>10%</td> <td>3</td> <td>4</td> </tr> <tr> <td>> 5000 to <10000</td> <td>15%</td> <td>3</td> <td>5</td> </tr> </tbody> </table> <p>Case 1- Minimum Value \therefore Tax of 5 employees in case 1 (Minimum case) = 0 $(3+3) = 6$ employees are having salaries more than Rs.2000, So, Tax paid by them upto Rs. 2000 = $1500 \times \frac{5}{100} \times 6 = \text{Rs. } 450$ 3 employees are having salaries more than Rs. 5000 So, Tax paid by them upto Rs. 5000 = $3000 \times \frac{10}{100} \times 3 = \text{Rs. } 900$ \therefore Minimum total tax paid by 15 persons = $900 + 450 = \text{Rs. } 1350$ We have taken salaries of some employees more than 500, i.e. 501 to calculate the minimum tax. \therefore Actual Value exceeds by some margins.</p> <p>Case 2- Maximum Value \therefore Tax of 3 employees in case 2 (Maximum case) = 0 $(3+4+5) = 12$ employees are having salaries more than Rs.2000 So, Tax paid by them upto Rs. 2000 = $1500 \times \frac{5}{100} \times 12 = \text{Rs. } 900$ 9 employees are having salaries more than Rs. 5000 So, Tax paid by them upto Rs. 5000 = $3000 \times \frac{10}{100} \times 9 = \text{Rs. } 2700$ 5 employees are having salaries more than Rs. 5000 but less than Rs. 10000, So to calculate maximum tax, take salary as Rs. 10,000 So, Tax paid by them upto Rs. 10,000 = $5000 \times \frac{15}{100} \times 5 = \text{Rs. } 3750$ \therefore Maximum total tax paid by 15 persons = $900 + 2700 + 3750 = \text{Rs. } 7350$ We have taken salaries of some employees as maximum of that group \therefore Actual Value will be less by some margins.</p>	Income Slab(Rs.)	Tax rate	Min Case	Max Case	≤ 500	Nil	5	3	>500 to ≤ 2000	5%	4	3	>2000 to ≤ 5000	10%	3	4	> 5000 to <10000	15%	3	5
Income Slab(Rs.)	Tax rate	Min Case	Max Case																						
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65.	63.	63.	65.	C	<p>To maximize, we have to reduce denominator, So we can make $a + b + c = 26$ and $d = 25$ (as maximizing d will give denominator the least value).</p> <p>So required maximum value = $\frac{a + b + c + d}{a + b + c - d} = \frac{26 + 25}{26 - 25} = 51$</p>																				

62.	64.	64.	62.	C	$f(x^2 - 1) = x^4 - 7x^2 + k_1$ \therefore Put $x^2 = 1$ to make it zero $\Rightarrow f(0) = 1 - 7 + k_1 = -6 + k_1 \dots (1)$ $f(x^3 - 2) = x^6 - 9x^3 + k_2$ \therefore Put $x^3 = 2$ to make it zero $\Rightarrow f(0) = (2)^2 - 9(2) + k_2 = -14 + k_2 \dots (2)$ Equating (1) and (2), we get $-6 + k_1 = -14 + k_2$ $\therefore k_2 - k_1 = 14 - 6 = 8$
63.	65.	65.	63.	C	In three years period from 2004 to 2006. The interest earned is Rs. 10000 on the principal. Now again three more years from 2007 to 2009, the total accumulated interest is given to be Rs. 25000. This 25000 will be including the interest of first three years on the principal i.e. Rs. 10000 for the years 2004 - 2006 and the interest on the original principal for the next three years will be again the same i.e. Rs. 10000. This means the balance interest of Rs. 5000 (i.e. $25000 - 10000 - 10000$) is interest on the Interest earned till 2006 end or 2007 beginning. That implies the rate of interest is $100 \times 5000/10000 = 50\%$ for three years combined. Now for the first three years the interest earned is given to be 10000, which has to be 50% of the principal. Hence principal is $10000 \times 100/50 = 20000$.
69.	66.	70.	66.	A	Scenario I   After 6 hours, the distance would be minimum as 40 km between D and P.  Scenario II & Scenario III are ruled out as minimum distance in that case would be 50 kms as after that distance will keep on increasing between the two.
70.	67.	71.	67.	E	6, 8, 12, 13, 14, 15, 20, 22 Statement 1 Four smallest = $6+8+12+13 = \frac{39}{4} = 9.75$ Average four largest - Average of four smallest = 13.25 Avg. four largest = $13.25 + 9.75 = 23$ \therefore total of four numbers = 92 So we can easily allocate other three numbers different minimum values but more than 15 as 15 is median and maximize the remaining one value \therefore Statement I can answer Statement 2 Avg. of these 8 no.s = $\frac{110}{8} = 13.75$ Avg. of 11 integers is 16 \therefore Sum of 11 integers = $16 \times 11 = 176$ Remaining Three integer will have sum = $176 - 110 = 66$ So we can easily allocate other three numbers different minimum values but more than 15 as 15 is median and maximize the remaining one value \therefore Statement II can answer

71.	68.	66.	70.	A	<p>When $\angle BAP = \angle ABP$ as triangle ABP is isosceles $\therefore \angle ABC = 180 - 2x + x = 180 - x$ $\sin \angle ABC = \sin (180^\circ - x) = \sin x$ (second quadrant) \therefore As perimeter of PBCD is $10y = 1000$ (Given) $\Rightarrow y = 100$</p> <p>And perimeter of ABCD = $AB + 10y = 1120 \Rightarrow AB = 120$ In $\triangle ABP$, applying cosine rule, we get $\cos x = \frac{(120)^2 + (100)^2 - (100)^2}{2(120)(100)} = \frac{120}{2 \times 100} = \frac{6}{10}$ $\therefore \sin x = \sqrt{1 - \frac{36}{100}} = \sqrt{\frac{64}{100}} = \frac{8}{10} = \frac{4}{5}$</p>																		
66.	69.	69.	69.	C	<p>As the number when divided by 3, 4, 5, 6 leaves remainder 2. \therefore Number will be of the form, $60k_1 + 2$(i) When divided by 11 it leaves 0 remainder so number will also be of the form, $11k_2$(ii) Hence equating (i) and (ii), we get, $60k_1 + 2 = 11k_2$ $60k_1 - 11k_2 = -2$ or $11k_2 - 60k_1 = 2$(iii) It means $60k_1$ will leave remainder 9 when divide by 11. In (iii) 60 leaves 5 as remainder when divided by 11 \therefore By remainder root $\frac{5k_1}{11}$ should leave remainder as 9 or -2 \therefore Possible values of $K_1 = 4, 15, 26, 37, 48, 59$. So, required value will be, $60 \times 59 + 2 = 3540 + 2 = 3542$</p>																		
67.	70.	67.	71.	A	<table border="1"> <thead> <tr> <th></th> <th>Marks</th> <th></th> </tr> </thead> <tbody> <tr> <td>Rank 1 \rightarrow</td> <td>30</td> <td>All questions correct</td> </tr> <tr> <td>Rank 2 \rightarrow</td> <td>28.75</td> <td>1 wrong of 1 mark</td> </tr> <tr> <td>Rank 3 \rightarrow</td> <td>28.5</td> <td>1 left unattempted of 1 mark</td> </tr> <tr> <td>Rank 4 \rightarrow</td> <td>27.66</td> <td>1 left unattempted of 2 mark</td> </tr> <tr> <td>Rank 4 \rightarrow</td> <td>27.5</td> <td>2 wrong of 1 mark</td> </tr> </tbody> </table> <p>As 1 wrong of 2mark would result in 2.33 deduction (As negative in 2 marks question is 1/3 of a mark for every wrong answer) 1 wrong of 1 mark lead to deduction of 1.25 1 unattempted of 1 mark lead to deduction of 1.5 1 unattempted of 2 mark lead to deduction of 3 marks</p>		Marks		Rank 1 \rightarrow	30	All questions correct	Rank 2 \rightarrow	28.75	1 wrong of 1 mark	Rank 3 \rightarrow	28.5	1 left unattempted of 1 mark	Rank 4 \rightarrow	27.66	1 left unattempted of 2 mark	Rank 4 \rightarrow	27.5	2 wrong of 1 mark
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68.	71.	68.	68.	E	<p>$f(x+a) = f(a \times x)$ Also, $f(1) = 4$ (given) Now, $f(1003) = k$ $\therefore f(1002+1) = f(1002 \times 1)$ $\Rightarrow f(1003) = f(1002)$ Similarly, $f(1002) = f(1001) = f(1000) = \dots = f(1) = 4$ So, $f(1003) = k = 4$</p>																		
73.	72.	75.	72.	B																			
74.	73.	76.	73.	B	<p>$M! - N! = 999000$ $M \times (M - N)$ Going by option A) $25 \times 6 = 150$ $M = 25! \rightarrow 6$ zeros at the last $N = 19! \rightarrow 3$ zeros at the last $M! - N! = 999000$, is feasible B) $20 \times 9 = 180$ $M = 20! \rightarrow 4$ zeros at the last $N = 11! \rightarrow 2$ zeros at the last</p>																		

					<p>$M! - N! = 999000$, is not feasible</p> <p>C) $25 \times 8 = 200$ $M = 25! \rightarrow 6$ zeros at the last $N = 17! \rightarrow 3$ zeros at the last $M! - N! = 999000$, is feasible</p> <p>D) $25 \times 9 = 225$ $M = 25! \rightarrow 6$ zeros at the last $N = 16! \rightarrow 3$ zeros at the last $M! - N! = 999000$, is feasible</p> <p>E) $26 \times 9 = 234$ $M = 26! \rightarrow 6$ zeros at the last $N = 17! \rightarrow 3$ zeros at the last $M! - N! = 999000$, is feasible</p> <p>So option B is not possible.</p>																				
75.	74.	72.	74.	D																					
72.	75.	74.	76.	B	<p>Let the three digit number be $abc = 100a + 10b + c$ is divisible by 10 So, c is zero. So number becomes $ab0$ After reconstructing the number we get, $ba0 = 100b + 10a + 0$ The difference of two number = $100b + 10a + 0 - 100a - 10b - 0 = 90b - 90a = 90(b-a)$ As the difference of the two numbers is divisible by 40 so, $90(b-a) = 40k$ $\Rightarrow b - a = \frac{40}{90}k \Rightarrow b - a = \frac{4}{9}k$</p> <p>We know, $(b-a)$ will be integer when k will be integer. So possible value of $k=9, 18, 27, 36$ we can take k up to 18 as difference of b and a cannot be more than 9.</p> <table border="1"> <tr> <td colspan="2">Case I, $b - a = 4$</td> </tr> <tr> <td>Possible values of a and b</td> <td>Possible three digit number</td> </tr> <tr> <td>9, 5</td> <td>950</td> </tr> <tr> <td>8, 4</td> <td>840</td> </tr> <tr> <td>7, 3</td> <td>730</td> </tr> <tr> <td>6, 2</td> <td>620</td> </tr> <tr> <td>5, 1</td> <td>510</td> </tr> <tr> <td colspan="2">Case II, $b-a=8$</td> </tr> <tr> <td>Possible values of a and b</td> <td>Possible three digit number</td> </tr> <tr> <td>9,1</td> <td>910</td> </tr> </table>	Case I, $b - a = 4$		Possible values of a and b	Possible three digit number	9, 5	950	8, 4	840	7, 3	730	6, 2	620	5, 1	510	Case II, $b-a=8$		Possible values of a and b	Possible three digit number	9,1	910
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76.	76.	73.	75.	C	<p>A cone height becomes $\frac{1}{2}$, then volume would become $\frac{1}{8}$ as radius will also become half by similar triangles.</p> <p>Let flask has 24 litres capacity. Now the volume that remained will be $\frac{1}{8} \times 24 = 3$ litres</p> <p>Pipe A's one hour work = $\frac{24}{8} = 3$ litres/hour Pipe B's one hour work = $\frac{24}{12} = 2$ litres/ hour Pipe C's one hour work = $\frac{24}{4} = 6$ litres/ hour</p> <p>\therefore As option suggested 19 hours all will run simultaneous $\therefore (3+2-6) \times 19$ net effect = -19 After 19 hours, we left with 5 liters As per condition Run A and C together for 1 hour net effect = -3 litres We left with 2 litre. Run B for 30 minutes to make it 3 litre. \therefore Option C is the answer</p> 																				

81.	77.	81.	77.	D	<p>Here, we need to find the vote share of all the parties. So, we make the following table:</p> <table border="1"> <thead> <tr> <th rowspan="2">Parties</th> <th colspan="2">Number of votes</th> <th colspan="2">Vote share(%age of total votes)</th> <th rowspan="2">Gain in vote share(%)</th> </tr> <tr> <th>Year 2005</th> <th>Year 2010</th> <th>Year 2005(%)</th> <th>Year 2010(%)</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>343200</td> <td>343200</td> <td>39</td> <td>37</td> <td>-2</td> </tr> <tr> <td>B</td> <td>154000</td> <td>154000</td> <td>17.5</td> <td>24.5</td> <td>7</td> </tr> <tr> <td>C</td> <td>123200</td> <td>123200</td> <td>14</td> <td>16.5</td> <td>2.5</td> </tr> <tr> <td>D</td> <td>48400</td> <td>48400</td> <td>5.5</td> <td>5.5</td> <td>0</td> </tr> <tr> <td>E</td> <td>30800</td> <td>30800</td> <td>3.5</td> <td>5</td> <td>1.5</td> </tr> <tr> <td>Other Parties</td> <td>180400</td> <td>180400</td> <td>20.5</td> <td>11.5</td> <td>-9</td> </tr> <tr> <td>Total</td> <td>880000</td> <td>880000</td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>From the above data, We can observe that the sequence in descending order of gain in vote share is BCEDA.</p>	Parties	Number of votes		Vote share(%age of total votes)		Gain in vote share(%)	Year 2005	Year 2010	Year 2005(%)	Year 2010(%)	A	343200	343200	39	37	-2	B	154000	154000	17.5	24.5	7	C	123200	123200	14	16.5	2.5	D	48400	48400	5.5	5.5	0	E	30800	30800	3.5	5	1.5	Other Parties	180400	180400	20.5	11.5	-9	Total	880000	880000			
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77-80.	81-84.	77-80.	81-84.		Employee Effectiveness Score (Scale 1 to 10)		Days of Training Undergone		Bonus Received in lacs		
					Survey 1	Survey 2	Survey 1	Survey 2	Survey 1	Survey 2	
					1	9.1	8.5	17	27	31	35.5
					2	5	9.5	10	21	27.5	22
					3	4.5	7	12	15	15.5	13.5
					4	8.8	5.5	18	9	21	18
					5	8	6.5	20	18	18	31
					6	6.5	8	15	13	23.5	25.5
					7	7.3	4	13	25	12	17
77.	81.	77.	81.	D	Employee number 4 and 5 are going for more than 17 days of training. So bonus earned by Employee 4 and 5 in survey 1 is 21 and 18 lacs respectively. So required average = $\frac{21+18}{2} = 19.5$ lacs						
78.	82.	78.	82.	A	Employees having employee effectiveness score higher than 7 in Survey 1 are 1, 4, 5 and 7 but out of these employees, 4 and 7 have bonus lower than 20 lacs in Survey 2.						
79.	83.	79.	83.	B	From Survey 1 and 2, employee, 1, 2, 3 and 7 underwent more days of training but out of these employees, 2 and 3 bonus decreased from Survey 1 to Survey 2.						
80.	84.	80.	84.	A	From Survey 1 and 2, employee, 1, 2, 3 and 7 underwent more days of training but out of these employees, 2 and 3 employee effectiveness score increased by at least 1 rating.						

GK Section Answer key

Set A	Set B	Set C	Set D	Key
23.	1.	8.	16.	D
24.	2.	9.	17.	E
25.	3.	10.	18.	D
26.	4.	11.	19.	D
27.	5.	12.	20.	C
28.	6.	13.	21.	E
29.	7.	14.	22.	E
30.	8.	15.	23.	D
1.	9.	16.	24.	A
2.	10.	17.	25.	E
3.	11.	18.	26.	B
4.	12.	19.	27.	B
5.	13.	20.	28.	A
6.	14.	21.	29.	D
7.	15.	22.	30.	D
8.	16.	23.	1.	D
9.	17.	24.	2.	D
10.	18.	25.	3.	A
11.	19.	26.	4.	B
12.	20.	27.	5.	A
13.	21.	28.	6.	A
14.	22.	29.	7.	A
15.	23.	30.	8.	C
16.	24.	1.	9.	C
17.	25.	2.	10.	E
18.	26.	3.	11.	C
19.	27.	4.	12.	A
20.	28.	5.	13.	E
21.	29.	6.	14.	B
22.	30.	7.	15.	B