



MULTIPLE CHOICE QUESTIONS

For Board Examinations

1. L.C.M of $3!$, $4!$ and $5!$ is :
(A) $3!$ (B) $4!$
(C) $5!$ (D) $12!$
(Nagaland B. 2018)
2. $7! - 5!$ is equal to :
(A) $2!$ (B) 5040
(C) 5160 (D) 4920.
(H.P.B. 2018; PISA)
3. The value of $4 - 3$ is :
(A) 18 (B) 16
(C) 1 (D) 12.
(H.P.B. 2017; PISA)
4. If $\frac{1}{8} + \frac{1}{9} = \frac{x}{10}$, then x is equal to :
(A) 10 (B) 20
(C) 9 (D) 100. (H.P.B. 2015)

5. The correct match of the following is :

Column - I	Column - II
(i) nC_r	(a) $n!$
(ii) nC_0	(b) 1
(iii) nP_r	(c) $r! \cdot {}^nC_r$
(iv) nP_n	(d) ${}^nC_{n-r}$
(A) (i) - (d), (ii) - (b), (iii) - (c), (iv) - (a)	
(B) (i) - (a), (ii) - (b), (iii) - (c), (iv) - (d)	
(C) (i) - (b), (ii) - (c), (iii) - (d), (iv) - (a)	
(D) (i) - (d), (ii) - (b), (iii) - (a), (iv) - (c).	

(H.P.B. 2016; P.I.S.A)

6. The correct match of the following is :

Column I	Column II
(i) $\frac{1}{0}$	(a) $\frac{n}{n-r}$
(ii) $\frac{1}{n}$	(b) 1
(iii) nC_r	(c) $1 \times 2 \times 3 \times \dots \times n$
(iv) ${}_nP^r$	(d) $\frac{1}{r} \frac{n}{n-r}$
(A) (i) - (b) ; (ii) - (c) ; (iii) - (d) ; (iv) - (a)	
(B) (i) - (d) ; (ii) - (a) ; (iii) - (c) ; (iv) - (b)	
(C) (i) - (c) ; (ii) - (b) ; (iii) - (a) ; (iv) - (d)	
(D) (i) - (a) ; (ii) - (d) ; (iii) - (c) ; (iv) - (b).	

(H.P.B. 2013)

7. How many four digit numbers can be formed by using the digits from 1 to 9 in following cases :

- (i) If digits are repeated (a) 729
 - (ii) If digits are not repeated (b) 6561
 - (iii) If unit place is fixed with 9 (c) 336
 - (iv) If digits are not repeated and unit place is fixed with 9 (d) 3024
- (A) (i) - (a), (ii) - (b), (iii) - (c), (iv) - (d)
(B) (i) - (a), (ii) - (b), (iii) - (d), (iv) - (c)
(C) (i) - (b), (ii) - (d), (iii) - (a), (iv) - (c)
(D) (i) - (b), (ii) - (a), (iii) - (d), (iv) - (c).

(H. P. Model Paper 2013)

RCQ Pocket

(Single Correct Answer Type) (JEE-MAIN & ADVANCED)

8. How many different words can be formed by jumbling the letters of the word 'MISSISSIPPI' in which no two S are together ?
(A) $7 \cdot 6C_4 \cdot 8C_4$ (B) $8 \cdot 6C_4 \cdot 7C_4$
(C) $6 \cdot 7 \cdot 8C_4$ (D) $6 \cdot 8 \cdot 7C_4$
(A.I.E.E.E. 2008)
9. From 6 different novels and 5 different dictionaries, 4 novels and 1 dictionary are to be selected and arranged in a row on a shelf so that the dictionary is always in the middle. Then the number of such arrangements is :
(A) less than 500
(B) atleast 500 but less than 750
(C) atleast 750 but less than 1000
(D) atleast 1000. (A.I.E.E.E. 2009)
10. There are two urns. Urn A has 3 distinct red balls and urn B has 9 distinct blue balls. From each urn two balls are taken out at random and then transferred to the other. The number of ways in which this can be done is :
(A) 3 (B) 36
(C) 66 (D) 108. (A.I.E.E.E. 2010)
11. There are 10 points in a plane, out of which 6 are collinear. If N is the number of triangles formed by joining these points, then :
(A) $N \leq 100$ (B) $100 < N < 140$
(C) $140 < N \leq 190$ (D) $N > 190$.
(A.I.E.E.E. 2011 S)
12. Assuming the balls to be identical except for difference in colours, the number of ways in which one or more balls can be selected for 10 white, 9 green, and 7 black balls is :
(A) 880 (B) 629
(C) 630 (D) 879. (A.I.E.E.E. 2012)

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13. Let T_n be the number of all possible triangles formed by joining vertices of an n -sided regular polygon. If $T_{n+1} - T_n = 10$, then the value of n is :
(A) 5 (B) 10
(C) 8 (D) 7. *(J.E.E. (Main) 2013)*
14. The number of integers greater than 6,000 that can be formed, using the digits 3, 5, 6, 7 and 8, without repetition, is :
(A) 216 (B) 192
(C) 120 (D) 72.
(J.E.E. (Advanced) 2015)
15. If all the words (with or without meaning) having five letters, formed using the letters of the word 'SMALL' and arranged as in a dictionary, the position of the word 'SMALL' is :
(A) 59th (B) 52nd
(C) 58th (D) 46th.
(J.E.E. (Main) 2016)
16. A man X has 7 friends, 4 of them are ladies and 3 are men. His wife Y has 7 friends, 3 of them are ladies and 4 are men. Assume that X and Y have no common friend. Then the total number of ways in which X and Y together can throw a party inviting 3 ladies and 3 men, so that 3 friends of each of X and Y are in this party, is :
(A) 468 (B) 469
(C) 484 (D) 485. *(J.E.E. (Main) 2017)*
17. From 6 different novels and 3 different dictionaries, 4 novels and 1 dictionary are to be selected and arranged in a row on a shelf so that the dictionary is always in the middle. The number of such arrangements is :
(A) At least 1000
(B) Less than 500
(C) At least 500 but less than 750
(D) At least 750 but less than 1000.
(J.E.E. (Main) 2018)

