

**JEE MATHEMATICS**

*Topic: Probability*

- Q.1** The probability  $P(A)$  of an event is a-
- (A) real number  
(B) positive real number  
(C) non- negative real number  
(D) non- negative real number  $\leq 1$
- Q.2** Winning a game by a player is-
- (A) an experiment (B) an event  
(C) experiment and event both (D) None of these
- Q.3** In tossing a coin getting a head or tail is-
- (A) experiment (B) exclusive event  
(C) joint event (D) None of these
- Q.4** The correct statement for any event A is-
- (A)  $0 \geq P(A) \geq 1$  (B)  $0 \leq P(A) \leq 1$   
(C)  $P(A) = 1$  (D)  $P(A) < 0$
- Q.5** A coin is tossed three times. The probability that in the second toss head does not occur, is-
- (A) 1 (B)  $1/2$   
(C)  $1/3$  (D)  $1/4$

- Q.6** The probability of coming up an even (odd) number in the throw of a die is-
- (A)  $1/6$                       (B)  $1/2$   
(C)  $1/3$                       (D)  $2/3$
- Q.7** From a pack of playing cards three cards are drawn simultaneously. The probability that these are one king, one queen and one jack is-
- (A)  $64/5525$                       (B)  $16/5525$   
(C)  $128/5525$                       (D)  $64/525$
- Q.8** The probability of getting difference of number as 5, when two dice are tossed together is-
- (A)  $1/9$                       (B)  $1/18$   
(C)  $1/12$                       (D)  $5/36$
- Q.9** The probability of drawing a black king from a pack of 52 cards is-
- (A)  $1/13$                       (B)  $1/26$   
(C)  $2/13$                       (D)  $4/13$
- Q.10** Three cards are drawn from a pack of 52 cards. The probability that they are of the same colour is-
- (A)  $4/17$                       (B)  $22/225$   
(C)  $3/17$                       (D)  $2/17$
- Q.11** A bag contains 6 blue, 4 white and 6 red balls. Two balls are drawn at random. The probability that both the balls are red is-
- (A)  $1/3$                       (B)  $1/6$   
(C)  $1/8$                       (D)  $2/9$

- Q.12** A bag contains 20 tickets numbered with 1 to 20. Three tickets are drawn. The probability that ticket number 7 is definitely included and ticket number 18 is not included is-
- (A)  $51/380$             (B)  $1/20$   
(C)  $3/20$                 (D) None of these
- Q.13** From a lottery of 30 tickets, marked 1, 2, 3, ..., 30, four tickets are drawn. The chance that those marked 1 and 2 are among them is-
- (A)  $413/145$             (B)  $2/145$   
(C)  $1/145$                 (D)  $4/145$
- Q.14** The probability that a non leap year will have 53 Saturdays is-
- (A)  $1/7$                     (B)  $2/7$   
(C)  $6/7$                     (D)  $5/7$
- Q.15** The probability that a non leap year will have 52 Fridays is-
- (A)  $1/7$                     (B)  $2/7$   
(C)  $5/7$                     (D)  $6/7$
- Q.16** The probability that a leap year will have 52 Sundays is-
- (A) 1                        (B)  $5/7$   
(C)  $2/7$                     (D) None of these
- Q.17** There are 13 men and 2 women in a party. They are seated round a circular table. The probability that the two women will sit together is-
- (A)  $2/105$                 (B)  $1/105$   
(C)  $1/14$                   (D)  $1/7$

- Q.18** A bag contains two pairs of shoes. Two shoes are drawn from it. The probability that it is a pair is-
- (A)  $\frac{1}{3}$                       (B)  $\frac{1}{2}$   
(C)  $\frac{1}{4}$                       (D)  $\frac{2}{3}$
- Q.19** If out of 20 consecutive whole numbers two are chosen at random, then the probability that their sum is odd, is-
- (A)  $\frac{5}{19}$                       (B)  $\frac{10}{19}$   
(C)  $\frac{9}{19}$                       (D) None of these
- Q.20** If the probabilities of boy and girl to be born are same, then in a 4 children family the probability of being at least one girl, is-
- (A)  $\frac{14}{16}$                       (B)  $\frac{15}{16}$   
(C)  $\frac{1}{8}$                         (D)  $\frac{3}{8}$
- Q.21** If 4 cards are drawn one by one from a pack of 52 cards, the probability that one will be from each suit, is-
- (A)  $\frac{13}{52} \times \frac{13}{39} \times \frac{13}{26} \times \frac{13}{13}$   
(B)  $\frac{13}{52} \times \frac{13}{51} \times \frac{13}{50} \times \frac{13}{49} \times 24$   
(C)  $\frac{13}{52} \times \frac{13}{39} \times \frac{13}{26} \times \frac{13}{13} \times 24$   
(D)  $\frac{13}{52} \times \frac{13}{51} \times \frac{13}{50} \times \frac{13}{49}$
- Q.22** The probability that two persons have same date of birth is (in non-leap year)
- (A) 0                            (B) 1  
(C)  $\frac{1}{365}$                       (D)  $\frac{364}{365}$
- Q.23** Two coins are tossed together. The probability of getting two heads is-
- (A)  $\frac{1}{2}$                         (B)  $\frac{1}{4}$   
(C)  $\frac{1}{8}$                         (D)  $\frac{1}{3}$

- Q.24** Two dice are thrown together. The probability that the sum of their two numbers be 10 is-
- (A)  $1/6$                       (B)  $1/12$   
(C)  $2/3$                         (D)  $1/4$
- Q.25** An urn contains 5 white and 3 black balls and 4 balls are drawn at random. The probability of getting white and black balls equal in number is-
- (A)  $1/7$                         (B)  $2/7$   
(C)  $3/7$                         (D) None of these
- Q.26** From a book containing 100 page one page is selected randomly. The probability that the sum of the digits of the page number of the selected page is 11, is-
- (A)  $2/25$                         (B)  $9/100$   
(C)  $11/100$                       (D) None of these
- Q.27** A bag contains 20 tickets marked with numbers 1 to 20. Two tickets are drawn, the probability that both numbers are prime is-
- (A)  $4/95$                         (B)  $7/95$   
(C)  $14/95$                         (D)  $1/10$
- Q.28** Two dice are thrown, the probability that the total score is a prime number is-
- (A)  $1/6$                         (B)  $5/12$   
(C)  $1/2$                          (D) None of these
- Q.29** A box contains 25 tickets numbered 1, 2,....25. If two tickets are drawn at random then the probability that the product of their numbers is even, is -
- (A)  $11/50$                         (B)  $13/50$   
(C)  $37/50$                         (D) None of these

- Q.30** A bag contains 8 white and 6 red balls. 5 balls are drawn from the bag at random. The probability that 3 or more balls are white will be-
- (A)  $\frac{658}{1001}$       (B)  $\frac{317}{1001}$   
(C)  $\frac{205}{1001}$       (D)  $\frac{210}{1001}$

## ANSWER KEY

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<b>Que.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<b>Ans.</b>	D	B	B	B	B	B	B	B	B	A
<b>Que.</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>
<b>Ans.</b>	C	A	B	A	D	B	D	A	B	B
<b>Que.</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>24</b>	<b>25</b>	<b>26</b>	<b>27</b>	<b>28</b>	<b>29</b>	<b>30</b>
<b>Ans.</b>	B	C	B	B	C	A	C	B	C	A