Mathematics Assignment

Class XI

Chapter – Sets

Multiple Choice Questions

1. **The number of elements in the Power set P(S) of the set S = [[Φ] , 1, [2, 3]] is**
   A. 4
   B. 8
   C. 2
   D. None of these

2. **If A and B are sets and A∪ B= A ∩ B, then**
   A. A= Φ
   B. B= Φ
   C. A=B
   D. None of these

3. **Let S be an infinite set and S1, S2, S3, ..., Sn be sets such that S1 ∪S2 ∪ S3∪....Sn = S then**
   A. atleast one of the sets Si is a finite set
   B. not more than one of the set Si can be infinite
   C. atleast one of the sets Si is an infinite set
   D. none of these

4. **If A be a finite set of size n, then number of elements in the power set of A x A**
   A. 2^{2n}
   B. 2^{n^2}
   C. $(2n)^2$
   D. none of these

5. **Total number of different partitions of a set having four elements is**
   A. 16
   B. 8
   C. 15
   D. 4

6. **A - (B ∪ C) is**

   A. (A - B) ∪ (A - C)
   B. A - B - C
   C. (A - B) ∩ (A - C)
   D. A - (B ∩ C)'

7. **Which of the following sets are null sets?**

A. {0}
B. Ø
C. { }
D. Both (b) & (c)

8. **Number of subsets of a set of order three is**
    A. 3
    B. 6
    C. 8
    D. 9

9. **The number of elements in the power set of the set {{a, b}, c} is**
    A. 8
    B. 4
    C. 3
    D. 7

10. **In a language survey of students it is found that 80 students know English, 60 know French, 50 know German, 30 known English and French, 20 know French and German, 15 know English and German and 10 students know all the three languages. How many students know at least one language?**
    A. 135
    B. 30
    C. 10
    D. 45

11. **In a room containing 28 people, there are 18 people who speak English, 15 people who speak Hindi and 22 people who speak Kannada, 9 persons speak both English and Hindi, 11 persons speak both Hindi and Kannada where as 13 person speak both Kannada and English. How+ many people speak all the three languages?**
    A. 6
    B. 7
    C. 8
    D. 9

12. **Order of the power set of a set of order n is**
    A. n
    B. 2n
    C. n^2
    D. 2^n

13. **In a beauty contest, half the number of experts voted for Mr. A and two thirds voted for Mr. B. 10 voted for both and 6 did not vote for either. How many experts were there in all?**

A. 18
B. 36
C. 24
D. None of these

14. **Let n(A) denotes the number of elements in set A. If n(A) =p and n(B) = q, then how many ordered pairs (a, b) are there with a ∈ A and b ∈ B ?**
A. p^2
B. p x q
C. p + q
D. 2 pq

15. **The set of all Equivalence classes of a set A of cardinality C**
A. has the same cardinality as A
B. forms a partition of A
C. is of cardinality 2C
D. is of cardinality C^2

16. **In a class of 120 students numbered 1 to 120, all even numbered students opt for Physics, those whose numbers are divisible by 5 opt for Chemistry and those whose numbers are divisible by 7 opt for Math. How many opt for none of the three subjects?**
A. 19
B. 41
C. 47
D. 21
E. 57

17. **Of the 200 candidates who were interviewed for a position at a call center, 100 had a two-wheeler, 70 had a credit card and 140 had a mobile phone. 40 of them had both, a two-wheeler and a credit card, 30 had both, a credit card and a mobile phone and 60 had both, a two wheeler and mobile phone and 10 had all three. How many candidates had none of the three?**
A. 0
B. 20
C. 10
D. 18

18. **In a class of 40 students, 12 enrolled for both English and German. 22 enrolled for German. If the students of the class enrolled for at least one of the two subjects, then how many students enrolled for only English and not German?**
A. 30
B. 10
C. 18
D. 28

19. **In a class 40% of the students enrolled for Math and 70% enrolled for Economics. If 15% of the students enrolled for both Math and Economics, what % of the students of the class did not enroll for either of the two subjects?**

A. 5%

B. 15%

C. 0%

D. 25%

20. **In a group of 60 people, 27 like cold drinks and 42 like hot drinks and each person like at least one of the two drinks. How many like both coffee and tea?**

A. 30

B. 15

C. 14

D. 9

21. **In a competition, a school awarded medals in different categories, 36 medals in dance, 12 medals in dramatics and 18 in music. If these medals went to a total of 45 students and only 4 students got medals in all the three categories, How many did receive medals in exactly two of the categories?**

A. 10

B. 8

C. 7

D. 3

22. **Among 200 ppl, 56% like strawberry, 44% like apple, and 40% like raspberry. IF 30% of people like both strawberry and apple, what is the LARGEST possible number of people who like raspberry but do not like either strawberry or apple?**

A. 20

B. 60

C. 80

D. 89

23. **A marketing firm determined that, of 200 households surveyed, 80 used neither Brand A nor Brand B soap, 60 used only Brand A soap, and for every household that used both brands of soap, 3 used only Brand B soap. How many of the 200 households surveyed used both brands of soap?**

A. 40

B. 30

C. 20

D. 15

24. **There are 230 students. 80 play football, 42 play soccer and 12 play rugby. 32 play exactly 2 sports and 4 play all three. How many students play none?**

A. 132

B. 136

C. 140

D. 94

Answers

1. B	2. C	3. C	4. B	5. C	6. C	7. D	8. C

9. C	10. A	11. A	12. D	13. B	14. B	15. B	16. C
17. C	18. C	19. A	20. D	21. D	22. B	23. D	24. A