ASSIGNMENT OF CLASS XI PRINCIPLE OF MATHEMATICAL IND

| <u>1</u> | Let n(| (U) = 700 n(A) = 200 n(B) = 300 n(A \cap B) =100 then n(A' \cap B') =? | | | | | | | | | |
|----------|--------|--|---------|---------|-----------|---------|----------|----------|---------|-----------|---------------|
| | (a) | 400 | | (b) | 600 | | (c) | 300 | | (d) | None |
| 2 | If the | cardinali | ty of a | a set A | is 4 ar | nd that | of a se | t B is 3 | s, then | what is | the |
| | cardir | linality of the set AΔB ? | | | | | | | | | |
| | (a) | 1 | | | | | | (b) | 5 | | |
| | (c) | 7 | | | | | | (d) | Canno | ot be d | etermined |
| 3 | Which | n one of t | the fo | llowing | j is null | set? | | | | | |
| | (a) | {0} | (b) | {{{}}} | | (c) | {{}} | | (d) | ${x/x^2}$ | -1 = 0, x∈R } |
| 4. | What | is the nu | ımber | of nat | ural nu | mbers | less tha | an or e | qual to | 1000 \ | which are |
| | neithe | er divisibl | e by | 10 nor | 15 nor | 25? | | | | | |
| | (a) | 860 | | (b) | 854 | | (c) | 840 | | (d) | 824 |
| 5 | Consi | ider the f | ollow | ing | | | | | | | |
| | (1) | AU(B∩0 | C) = (| A∩B)U | J(A∩C) | | | | | | |
| | (II) | $A \cap (BUC) = (AUB) \cap (AUC)$ which of the above is/are correct? | | | | | | | | | |
| | (a) | Only I | | | | | | (b) | Only I | I | |
| | (c) | I and II | | | | | | (d) | Neithe | er I nor | II |
| | | | | | | | | | | | |

| 6 | Let $A = \{1,2,3,4,5,6,7,8,9,10\}$ then the number of subsets of a containing exa | | | | | | | ining exactly | | | |
|---|---|---|---------|---------------|--------|---------|---------|---------------|---------------|--|--|
| | 2 elements is – | | | | | | | | | | |
| | | | | | | | | | | | |
| | (a) | 20 | (b) | 40 | (c) | 45 | | (d) | 90 | | |
| (Q. No's 21 to 23) Read the following information carefully to answer the questions that | | | | | | | | | | | |
| follow – In a survey of 25 students it was found that 15 have taken Maths, 12 have | | | | | | | | | | | |
| taken Physics , and 11 have taken Chemistry,5 have taken Maths and Chemistry ,9 | | | | | | | | | | | |
| have taken Maths and Physics ,4 have taken Physics and Chemistry and 3 have taken | | | | | | | | | | | |
| all the 3 subjects. | | | | | | | | | | | |
| 7. | The n | umber of stud | ents wl | no have taken | only F | Physics | is – | | | | |
| | | | | | • | • | | | | | |
| | (a) | 2 | (b) | 3 | (c) | 5 | | (d) | 6 | | |
| 8. | The n | e number of students who have taken only 2 subjects ,is | | | | | | | | | |
| | (a) | 7 | (b) | 8 | (c) | 9 | | (d) | 10 | | |
| 9. | Consi | der the followi | ng stat | ements | | | | | | | |
| I The number of students who have taken only one subject is equal to number of students who have taken only 2 subjects. | | | | | | | | equal to the | | | |
| | | | | | | | | | | | |
| | II The number of students who have taken at least 2 subjects is 4 times the number of students who have taken all the 3 subjects. | | | | | | | | s 4 times the | | |
| | | | | | | | | | | | |
| | Then which of the above statements(s) is /are correct? | | | | | | | | | | |
| | (a) | Only I | | | | (b) | Only II | | | | |
| | (c) | Both I and II | | | | (d) | Neithe | r I nor | II | | |
| | | | | | | | | | | | |

| 10. | If $f(x) = (x-1) / (x+1)$ then what is $f\{f(x)\}$? | | | | | | | | |
|-----|---|-----------------|-------------|----------------|--------------|------------------|----------|---------|--|
| | (a) | X | (b) | -x | (c) | -1/x | (d) | None | |
| 11. | The d | lomain of the | functio | n f(x) = 1/ $$ | ${ x -x}$ is | s — | | | |
| | (a) | [0,∞) | (b) | (-∞,0) | (c) | [1,∞) | (d) | (-∞,0] | |
| 12. | Let A | = {a,b,c,d} a | and B = | {x,y,z} wha | t is the n | umber of eler | nents ir | n A×B? | |
| | (a) | 6 | (b) | 7 | (c) | 12 | (d) | 64 | |
| 13. | If A = | = {1,2} B= {2 | ,3} C= { | 3,4} then wh | nat is the | cardinality of | (A×B) | ∩(A×C)? | |
| | (a) | 8 | (b) | 6 | (c) | 2 | (d) | 1 | |
| 14. | f(xy)= | f(x) f(y) is tr | ue for al | II — | | | | | |
| | (a) | Polynomia | I functio | ns | (b) | Trigonometr | ic func | tions | |
| | (c) | Exponentia | al function | ons | (d) | Logarithmic | ns | | |
| 15. | The range of the function $f(x) = 1/(2-\sin 3x)$ is – | | | | | | | | |
| | (a) | (1/3,1) | (b) | [1/3,1] | (c) | [1/3,1) | (d) | [1,1/3] | |
| 16. | If f(x) | = ax/(x+1) , | x is not | -1 then for v | vhat valu | e of a is f[f(x) |] = x? | | |
| | (a) | √2 | (b) | -√2 | (c) | 1 | (d) | -1 | |
| | | | | | | | | | |
| | | | | | | | | | |