**JIYA LAL MITTAL DAV PUBLIC SCHOOL**

**GRADE – XI SA-I (SEPT, 2015)**

**SUBJECT – MATHEMATICS**

**TIME: 3hrs. M.M-100**

**Note: (1) Write clean and clear.**

**(2) All questions are compulsory.**

**(3) Attempt questions serial wise.**

**Section-A**

**Each question carry 1 marks.**

1. Write down all subset of {1, 2, 3}
2. Let
3. Find principle value of
4. Write Rule of P.M.I.
5. Express in the form of a+ib.
6. Solve: .
7. Define factorial and give its example.
8. Write down formula of Binomial Theorem.
9. Define power set.
10. Define Domain, range and co-domain.

**Section-B**

**Each questions carries 4 marks.**

1. Let V={a,e,i,o,u} and B={ a, i, k, u }. Find V-B and B-V.
2. Let A={ 1, 2, 3, 4, 6}. Let R be the relation on A defined by
3. Write R in Roster form.
4. Find the domain in R.
5. Find the range in R.
6. Find the radian of 25°.
7. Find the general solution of cos4x=cos2x.
8. By P.M.I, prove that
9. Find the modulus and arguments of
10. Solve . Show the graph of the solutions on number line.
11. Find Or 2n
12. A bag contain 5 black and 6 red balls. Determine the number of ways in which 2 Black and 3 red balls can be selected.
13. Using binomial theorem, evaluate (101)4.
14. Write the general term of
15. If , then find the least positive integral value of m.

**Section-C**

**Each question carries 6 marks:**

1. Find the domain of the function, .
2. Prove that
3. Prove that
4. By P.M.I, prove that
5. Convert into polar form,
6. If

Or

1. Solve inequalities graphically:

Or

A committee of 7 has to be formed from 9 Boys and 4 girls. In how many ways can this be done when the committee consists of?

1. Exactly 3 girls.
2. Atleast 3 girls.
3. Almost 3 girls