SECTION-B

Note: Short answer type questions. Attempt any six questions out of eight questions. (6x5=30)

Q.11 In a triangle ABC if BC=1cm, AC=2cm & AB=3cm then find cosine of angle A.

Q.12 Solve the equation $2x-1+4yi-8i=3+8i$ when x & y are real numbers.

Q.13 Find the sum of 10 terms of series 6+9+12+15+___

Q.14 Prove that $2^n > n$ for all positive integers n by Principle of mathematical induction.

Q.15 Find 3^{rd} term from end in the binomial expression $(x+2y)^{10}$.

Q.16 Find the equation of line which passing through (2,4) and is parallel to the other line $3x+4y=2$.

Q.17 Find the equation of circle whose end points of diameter are (-1, 2) & (3, 4).

Q.18 A bag contains 8 Red balls, 6 green balls and 7 black balls. One ball picked from bag. Find the probability that it is neither red nor green ball.

SECTION-C

Note: Long answer type questions. Attempt any one questions out of two questions. (1x10=10)

Q.19 Find ecentricity, foci, vertices, equation of directrix, length of latus rectum, length of major axis & minor axis of ellipse $\frac{x^2}{16}+\frac{y^2}{9}=1$.

Q.20 Find Coefficient of Variation (C.V.) of data given below

Class	:	10-20	20-30	30-40	40-50	50-60	60-70
Frequency	:	3	5	2	6	2	2

Roll No. .....

Level 3 / 1st. Sem. / DVOC (Ref. & Air Cond., Auto. Servicing, ITM, PT, SD, AMT, FP , EMS)

Subject : Applied Mathematics-I

Time : 2 Hrs. M.M. : 50

SECTION-A

Note: Very short answer type questions. All questions are compulsory (10x1=10)

Q.1 If $f(x)=1+2x^2$ then the value of $f(5)$ is equal to

a) 11 b) 51

c) 10 d) $1+5\times A$

Q.2 The value of tan 240° is

a) -Ö3 b) Ö3

c) 1 d) 0

Q.3 In a triangle ABC, if any two sides are same in triangle then it is a _____ (Scalene/Isosceles) triangle.

Q.4 $2+2^2+2^3+2^4+$ _____ is a A.P. series. (True/false)

Q.5 In Complex number if Z=+3-5i then find conjugate of Z.

Q.6 The quadratic equation $3\boldsymbol{x}^2+5\boldsymbol{x}+7=0$ has _____ Roots. (Real/Imaginary)

Q.7 The value of 0!=_____

Q.8 The number of Middle terms in the binomial expansion of $(x+y)^{10}$ is _____ (Two/One)

Q.9 The slope of line which makes an angle of 45° with positive direction of x-axis is _____.

Q.10 The eccentricity of Hyperbola is not equal to 1. (true/false)