Roll No						

Total No. of Pages : 02

Total No. of Questions : 18

Pharm. D (PCB Students) (Sem.–1)

## REMEDIAL MATHEMATICS

Subject Code : 1.6 Paper ID : [D0170]

Time : 3 Hrs. Max. Marks : 70

INSTRUCTIONS TO CANDIDATES :

- 1. SECTION-A contain SEVEN questions. Attempt any FIVE questions. Each question will carry TWO marks each.
- 2. SECTION-B contain EIGHT questions (Short Essay Type). Attempt any SIX questions. Each question will carry FIVE marks.
- 3. SECTION-C contain THREE questions (Long Essay Type). Attempt any TWO questions. Each question will carry FIFTEEN marks.

### SECTION-A

- 1. If  $y = \sqrt{x}$ , then find  $\frac{d}{y}$ .
- 2. Differentiate  $x^{1/3} \cos(\frac{1}{2}w.r.t.x.)$

3. What is order and degree of differential equation  $\frac{d^2y}{dx^2} = x^2 \sin^2(x) + x^3 + y$ .

- 4. Write Laplace Transformation of sin (ax).
- 5. Evaluate Dex Dec de Solution de la companya de l
- 6. Construct a  $2 \times 2$  matrix A = [aij], such that aij = i j.
- 7. Write the equation of parabola with latus rectum 2 and vertex (0, 0).

#### SECTION-B

8. Write Laplace Transformation of 
$$\begin{bmatrix} \Box \\ \Box \\ \neg \\ t \end{bmatrix} = \frac{1}{\sqrt{t}} \begin{bmatrix} 3 \\ \Box \\ \neg \\ t \end{bmatrix}$$
.

9. Derive the equation of straight line passing through two points (1, -1) & (2, 3).

10. If 
$$u = \frac{x}{y}$$
 then find  $\frac{\Box u}{\Box x}$ ,  $\frac{\Box u}{\Box y}$ ,  $\frac{\Box^2 u}{\Box x^2}$  and  $\frac{\Box^2 u}{\Box y^2}$ .

11. Find nth derivative of e-ax.

# 12. Evaluate <a>[]</a> exsec2(ex)dx, by substitution method.

13. Solve the differential equation  $\cos(y) dy + \cos(x) \sin(y) dx = 0$ .

	1	а	b□c
14. Without expanding, find the value of	1	b	a □c .
	1	С	a ⊡b

15. Differentiate  $\frac{(x \square 2)}{(x2 - 3)}$ , and find the value of derivative at x = 0.

### SECTION-C

16. If 
$$y \square x^{xxx....to}$$
, then prove that  $\frac{d}{y} \square \frac{y^2}{x(1-y\log x)}$ .

- 17. Find Laplace Transformation of  $te^{-t}cos(2t)$ .
- 18. Evaluate<sup>x</sup> Texdx by parts.