

Nov-21

Roll Number _____ (Total Number of Questions 09) (Total number of Printed Pages 01)

Programme	B. Pharmacy
Semester	1 st
Subject	Remedial Mathematics
Subject Code	BP106RMT
Paper ID	74650
Time	1.5 Hours
Maximum Marks	35
Link to upload answer sheet	https://forms.gle/zc3vrPbRBif4LxeP6

Instructions to Candidates: No supplementary/continuation sheet will be issued to the candidates. Answer the questions precisely.

*Section A consists of Two questions carrying 10 marks each (Long Answer); attempt any **ONE**.

Section B consists of Seven questions carrying 5 marks each (Short Answer); attempt any **FIVE.

Section A

(1 X 10 = 10)

1.	Solve by using matrix method $3x-2y+3z=8$, $2x+y-z=1$, $4x-3y+2z=4$
2.	Solve the differential equation, $\frac{dy}{dx} - 2y = e^{3x}$

Section B

(5 X 5 = 25)

3.	Evaluate $\lim_{x \rightarrow 0} \frac{\tan x - \sin x}{x^3}$
4.	Resolve into Partial Fraction $\frac{7x-25}{x^2-7x+12}$
5.	Verify Cayley Hamilton Theorem for the Matrix $A = \begin{pmatrix} 8 & 7 \\ 5 & 4 \end{pmatrix}$
6.	Find the value of k for which the points are collinear (1,5),(k,1),(11,7).
7.	Find the maximum and minimum value of function $3x^3+4x+5$
8.	Solve $\int x^2 \sin x \, dx$
9.	Find the inverse Laplace of $\frac{4s+9}{s^2+16}$

Note: Disclosure of identity by writing mobile number or making request for passing on any page of answer-sheet will lead to UMC against the candidate.

Roll No.:

ASBASISM COLLEGE OF PHARMACY, BELA (ROPAR)

IKG PTU, Jalandhar Internal Examination

B. Pharmacy Examinations Dec - 2017

Remedial Mathematics

Subject Code: BP 106RMT

Time : 1 30 hr

Max Marks 35

Introduction to Candidates:

- 1) Attempt any one question from section A
- 2) Attempt any five questions from section B.

1x10=10

Section A

- Q.1 a) Find the equation of line passing through (-3, 5) and perpendicular to the line through points (2,5) and (-3,6).
b) Find the Laplace transformation of $e^{-3t} \sin 4t + \frac{t}{4}$
- Q.2 Solve the system of equations by Cramer's Rule
 $3x + 2y - z = 4$, $-x - y + 3z = 6$ and $5x - 3y + z = 2$

5x5=25

Section B

Q.1 Resolve $\frac{x+4}{(x-4)(x-1)(x-2)}$ into partial fraction.

Q.2 Evaluate $\lim_{x \rightarrow \infty} \frac{2x^3 - 4x + 7}{3x^3 + 5x^2 - 4}$

- Q.3 Find a point on the line joining the points (0, 4) and (2, 0) dividing the line segment
- i. internally in ratio 2 : 3
 - ii. Externally in ratio 3 : 2

Q.4 Evaluate $\int \frac{6x - 8}{3x^2 - 8x + 5} dx$

Q.5 a) Define singular and skew symmetric matrix with example of 3x3 order matrix

b) If $f(x) = \log x$, prove that

- i) $f(mn) = f(m) + f(n)$
- ii) $f\left(\frac{m}{n}\right) = f(m) - f(n)$
- iii) $f\left(\frac{1}{x}\right) = -f(x)$

Q.6 Find the maximum or minimum value of function $16x^2 - 16x + 28$.

Q.7 Differentiate $\frac{3\cos x + \log(x+1)}{x+2}$