Graphic Era HILL UNIVERSITY
Established by an Act of the State Legislature of Uttarakhand (Adhiniyam Sankhya 12 of 2011)
University under section 2(f) of UGC Act, 1956

Sessional II (Odd) Semester Examination, November 2025

Roll No.....

Name of the Course: B. Pharma
Semester: I
Name of the Paper: Remedial Mathematics
Paper Code: BP 106 RMT
Time: 1.5 Hour Maximum Marks: 30

Note:
(i) This question paper contains two sections.
(ii) All the questions are compulsory.

Section A

Q. 1 Short Questions: Attempt any four questions (4X 5 = 20 Marks)

a. Find $\frac{dy}{dx}$, if $y^3 + sinx + 2logx + e^x$.
b. Differentiate $(x^2 - 2)(x - 3)$ *w.r.t.* x.
c. Find $\frac{dy}{dx}$, if $x.sinx + e^x$.
d. Differentiate the following functions (i) $\frac{x^3}{3} + \frac{3x^2}{2} + e^{2x}$ (ii) $x.logx$.
e. Find the differentiation the functions (i) $\frac{2x+3}{x+1}$ (ii) $sinx.cos3x$
f. Find $\frac{dy}{dx}$, if (i) $y = x^2.sinx$ (ii) $e^x.cosx + logx$

Section B

Q. 2 Long questions: Attempt any one question (1X10 = 10 Marks)

a. If $y = 5x^7 + 3x^5 - 8x^4 + 2x^2 - 5x + 2 = 0$, find $\frac{dy}{dx}$, $\frac{d^2y}{dx^2}$ and $\frac{d^3y}{dx^3}$.
b. Find the maxima and minima of the function $f(x) = x^3 - 6x^2 + 9x + 8$.