Seat No:_____ Enrollment No:_____

PARUL UNIVERSITY
FACULTY OF MANAGEMENT
BBA 2nd SEM MID-SEMESTER EXAM (2016-17)

Semester: 2 Date: (17/04/2017)
Subject Code: (06101155) Time: 2 hr
Subject Name: (Business Mathematics-II) Total Marks: 50

Section A

Q.1 : Choose the correct Answers. (6)

1) In Formula of Simple Interest S.I = $\frac{PRN}{100}$, R belongs to

a) Interest b) Rate of Interest c) Time period d)None of these

2) Amount = Principal + _____

a) Interest b) Rate of Interest c) Time period d)None of these

3)Compound Interest is Interest of _____

a)Amount b)Interest c)Principal d) None of these

4) In which type of Annuity Payments are made at the end of specified Period..?

a)Ordinary Annuity b) Annuity Due c)Perpectual Annuity

5) In $A = \frac{a}{i}[(1+i)^n - 1]$, a belongs to

a) Rate of Interest b) Time Period c)Instalment d)None of These

6)$\frac{d^2y}{dx^2}$ is_____

a) First order derivative b)Second order derivative

c)Higher order derivative c) None of these

Q.2) Solve the following

1)Find the amount of Rs. 8000 in $1\frac{1}{2}$ years at 5% per anuum, (03)

C.I payable half yearly.

2) A person deposited money Rs.50000 with a money lender at 6% rate of simple Interest. After some time he receive interest of Rs.15,000.Find out the period. (03)

Q.3) Solve the following

1) Find $\lim_{x\to 0}\frac{\sqrt{1-x}-\sqrt{1+x}}{x}$ (03)

2) Find $\lim_{x \to \infty} \left(\frac{n+3}{n+2} \right)^n$ (04)

(OR)

2)Find $\lim_{x \to 0} \frac{2(5^x)+3(2^x)-5}{x}$

Q.4 Solve the following

1) Find $\lim_{x \to 0} \frac{a^x - b^x}{x}$ (03)

2)Find the derivative of function $y = (x^2+1)(x+1)$ (03)

Section B

Q.1: Solve the following

1) Find the Derivative of the following with respect to x.

i) $\frac{1}{2x+3}$ (ii)$x^{11}.logx$ (03)

2)Differentiate with respect to x

(i)$(x^2+12x+7)^5$ (ii) x^x (03)

Q.2 Solve the following

1) If Y = $e^{5x} + e^{-5x}$, then Prove that $\frac{d^2y}{dx^2} = 25y$ (03)

2)If $x^2 - y^2 = x^2y^2$,then prove that $\frac{dy}{dx} = \frac{x(1-y^2)}{y(x^2+1)}$ (03)

Q.3: Solve the following

1)If y = $\frac{logx}{x}$, Prove that$\frac{d^2y}{dx^2} = \frac{2logx-3}{x^3}$ (04)

2) If $y = x.logx$, Prove that $x^2\frac{d^2y}{dx^2} - x\frac{dy}{dx} + y = 0$ (03)

(OR)

2)If $f(x) = 3x^3 - 4x^2 + 2x + 7$ and $f''(x) = 28$, Find the value of x.

Q.4:Solve the Following

1)Find $\frac{dy}{dx}$ of y = $\frac{4}{x^2+1}$ and obtain its value when x = 1. (03)

2)Differentiate y = $e^x.x^2.logx$ with respect to x (03)