Seat No:_____ **Enrollment No:_____**

PARUL UNIVERSITY

FACULTY OF IT & COMPUTER SCIENCE

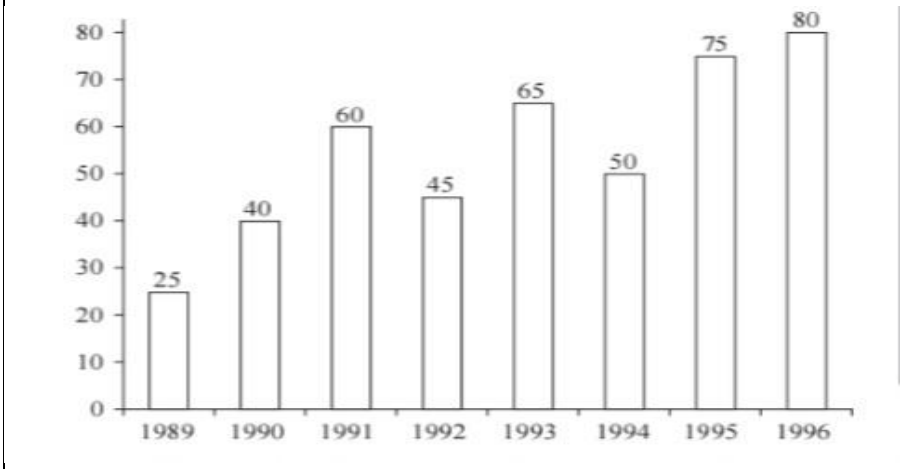
BBA/BBA(Hons)/Int. DBA-BBA Winter 2023 – 24 Examination

Semester: 01 **Date: 22/01/2024**
Subject Code: (00019101SE01) **Time: 10:30am to 1:00pm**
Subject Name: Mathematical Aptitude **Total Marks: 60**

Instructions:
1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.
5. **Any type of calculator is not allowed.**

Q.1	Answer the followings.		CO	PO	Bloom's Taxonomy
A.	**Answer / Define the following in short.**	**(05)**			
	1. Simple interest formula		**2**	**1**	**Remember**
	2. Find the square root 4761		**1**	**7**	**Apply**
	3 Equilaterals triangle area and perimeter formula		**2**	**1**	**Remember**
	4. $438 \times 637 + 438 \times 367 =$		**2**	**1**	**Apply**
	5.Write n^{th}term of A.P.		**1**	**7**	**Remember**
B.	**Multiple choice type questions/ Give the sentence true or false. (Each of 01 marks)**	**(10)**			
	1 Find common difference of the A.P. 15,21,27,…,285.		**2**	**1**	**Apply**
	a) 5	c) 6			
	b) 4	d) 10			
	2 Find sum of 20 terms of an A.P. Whose first term is 3 last term is 57		**2**	**1**	**Apply**
	a) 600	c) 624			
	b) 625	d) 610			
	3 Least even prime number.		**1**	**2**	**Analyze**
	a)0	c)2			
	b)1	d)3			
	4.square root of 1225.		**2**	**1**	**Apply**
	a)25	c)45			
	b)65	d)55			
	5.The 4^{th}praportional to 0.2,0.12 and 0.3 is		**2**	**1**	**Apply**
	a)0.24	c)0.16			
	b) 0.18	d)None			
	6. $50 \times 55 + 51 \times 55$=		**1**	**1**	**Apply**
	a)5555	c)5656			
	b)5556	d)5655			
	7.H.C.F of 12,16		**2**	**1**	**Apply**
	a)1	c)3			
	b)2	d)4			
	8.G.C.D of prime numbers		**2**	**1**	**Apply**
	a)1	c)2			
	b) 3	d)None			

	9.Common difference in A.P =			**2**	**7**	**Apply**
	a)a	c)d				
	b) n	d)None				
	10.Find average of 3,9,11,15,18,19,23.			**2**	**1**	**Apply**
	a)12	c)14				
	b) 15	d)24				
Q.2	**Answer the followings. (3 Marks Questions.) (Any Five)**		**(15)**			
	1. Calculate the area and perimeter of a rectangular field whose length is 12.5 cm and breadth is 8 cm.			**4**	**7**	**Analyze**
	2. Find the H.C.F using division method of 3556 and 3444.			**2**	**1**	**Apply**
	3.Test 173 is prime numbers?			**2**	**1**	**Apply**
	4. A and B are two partners in a business. A contributes ₹1,200 for 5 months and B contributes ₹750 for 4 months. If total profit is ₹450, find out their respective shares.			**4**	**2**	**Analyze**
	5. A circular plot covers an area of 154 m^2 . How much wire is required for fencing the plot?			**3**	**2**	**Apply**
	6. On dividing 7865321 by a certain number, the quotient is 33612 and the remainder is 113. Find the divisor.			**2**	**1**	**Apply**
Q.3	**Answer the following. (5 Marks Questions)(Any three)**		**(15)**			
	1. A) Anu bought a necklace for 750 and sold it for 675. Find her percentage of loss. B) By selling a fridge for ₹7200, Pankaj loses 10%. Find the cost price of the fridge.			**3**	**2**	**Analyze**
	2. Solve: $-6x + 5y = 2, -5x + 6y = 9$ Using elimination method.			**2**	**1**	**Apply**
	3 Find a fourth proportional to the Numbers 2, 5, 4.			**2**	**1**	**Apply**
	4. Mohan invested an amount of ₹ 15000 at compound interest rate 5% p.a. for a period of 2 years. What amount will he receive at the end of 2 years?			**3**	**2**	**Evaluate**
Q.4	**Answer the following in detail.**					
A.	What is the number of ways of choosing 4 cards from a pack of 52 playing cards? In how many of these (i) four cards are of the same suit, (ii) four cards belong to four different suits, (iii) are face cards (iv) two are red cards and two are black cards, (v) cards are of the same color?		**(05)**	**4**	**2**	**Apply**
B.	1. Directions: Study the following graph carefully and answer the questions given below it Production of foodgrains by a State over the years (1000 tons)		**(05)**	**4**	**7**	**Analyze**

	 **(i) The average production of 1990 and 1991 was exactly equal to the average production of which of the following pairs of years?** (a) 1991 and 1992 (b) 1992 and 1994 (c) 1993 and 1994 (d) 1994 and 1995 (e) None of these **(ii) What was the difference in the production of foodgrains between 1991 and 1994?** (a) 10000 tons (b) 15000 tons (c) 500 tons (d) 5000 tons (e) None of these **(iii) In which of the following years was the percentage increase in production from the previous year the maximum among the given years?** (a) 1991 (b) 1993 (b) 1993 (c) 1995 (d) 1990 (e) None of these **(iv) In how many of the given years was the production of foodgrains more than average production of the given years?** (a) 1991 (b) 1993 (c) 1995 (d) 1990 (e) None of these **(v) What was the percentage drop in the production. of foodgrains from 1991 to 1992?** (a) 15 (b) 20 (c) 25 (d) 30 (e) None of these				
C.	A) Find the area of an equilateral triangle each of whose sides measures 6 cm B) Length of the side of an equilateral triangle is $\frac{4}{\sqrt{3}}$ cm. Find its height	**(05)**	**2**	**2**	**Evaluate**
	OR				
B.	1. A committee of 3 persons is to be constituted from a group of 2 men and 3 women. In how many ways can this be done? How many of these committees would consist of 1 man and 2 women?	**(05)**	**3**	**7**	**Apply**
C.	2. A boat is rowed down a river 40 Km in 5 h and up a river 21 Km in 7 h. Find the speed of the boat and the river	**(05)**	**3**	**2**	**Analyze**