PARVATHANENI BRAHMAYYA
SIDDHARTHA COLLEGE OF ARTS & SCIENCE
Autonomous
Siddhartha Nagar, Vijayawada–520010
Re-accredited at 'A+' by the NAAC

Course Code				**23MASDL201**			
Title of the Course				**QUANTITATIVE APTITUDE**			
Offered to:				**ALL UG PROGRAMS**			
L	**1**	**T**	**1**	**P**	**0**	**C**	**2**
Year of Introduction:	**2024-25**			**Semester:**			**3**
Course Category:				**Course Relates to:**			
Year of Introduction:				**Percentage:**		**NA**	
Type of the Course:				**SKILL DEVELOMENT**			
Crosscutting Issues of the Course :							
Pre-requisites, if any							

Course Description:

This course aims to improve learners' mathematical and analytical abilities, particularly in the context of competitive exams, aptitude tests, and data-driven decision making. The foundational topics cover essential mathematical concepts, problem-solving techniques, and quantitative reasoning skills. The advanced topics delve into higher-level mathematics, statistical analysis, and data interpretation. Participants develop critical thinking, numerical reasoning, and logical problem-solving skills required for various professions, such as finance, consulting, and data analysis.

Course Aims and Objectives:

S. No	COURSE OBJECTIVES
1	Introduce learners to the fundamental concepts of aptitude required for recruitment processes.
2	Develop learners' problem-solving skills and critical thinking abilities in the context of recruitment aptitude tests.
3	Enhance learners' quantitative reasoning and numerical ability for solving recruitment-based problems.
4	Provide learners with strategies and techniques to improve their performance in recruitment aptitude tests.

Course Outcomes

At the end of the course, the student will / will be…

NO	COURSE OUTCOME	BTL	PO	PSO
CO1	Demonstrate a clear understanding of fundamental concepts.	**K1**	**6**	**1**
CO2	Apply problem-solving techniques to solve recruitment-based problems.	**K2**	**6**	**2**
CO3	Use appropriate strategies and shortcuts to improve speed and accuracy in solving aptitude problems during recruitment processes.	**K3**	**6**	**1**
CO4	Evaluate and interpret aptitude test results to identify areas of improvement and develop a personalized study plan for further enhancement.	**K4**	**6**	**2**
CO5	Use their logical thinking to solve Quantitative aptitude problems from company specific and other competitive test.	**K5**	**6**	**1**

For BTL: K1: Remember; K2: Understand; K3: Apply; K4: Analyze; K5: Evaluate; K6: Create

CO-PO-PSO MATRIX									
CO NO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PSO1**	**PSO2**
CO1						**1**		**1**	
CO2						**1**			**2**
CO3						**2**		**1**	
CO4						**2**			**2**
CO5						**3**		**1**	

Use the codes 3, 2, 1 for High, Moderate and Low correlation Between CO-PO-PSO respectively

Course Structure:

UNIT – 1: (10Periods)
Arithmetic ability: Algebraic operations BODMAS, Square roots and Cube roots, Fractions, Divisibility rules, Unit digit, Total number of factors, LCM & GCD (HCF).

UNIT – 2: (10Periods)
Quantitative aptitude: Averages, Ratio and proportion, Problems on ages, Time, distance &speed, Problems on Trains.
Business computations: Percentages, Profit & loss, Partnership, simple and compound interest, Time & work, Allegations or Mixture.

UNIT – 3: (10Periods)
Data Interpretation: Tabulation, Bar Graphs, Pie Charts, Line graphs.

Text Books:

1. Quantitative Aptitude for Competitive Examination by R.S. Agrawal, S.Chand Publications.

Reference Books:

1. Analytical skills by Showick Thorpe, published by S Chand And Company Limited, Ramnagar, NewDelhi-110055
2. Quantitative Aptitude by R V Praveen, PHI publishers.
3. Quantitative Aptitude for Competitive Examination by Abhijit Guha, Tata McGraw Hill Publications.

Links:

1. https://www.indiabix.com/
2. https://www.adda247.com/
3. https://www.smartkeeda.com/test/Quantitative_Aptitude/R_Updated/all/

- ❖ 15 marks for surprise tests/online tests
- ❖ 35 marks for semester end examination (objective type).Each question carries half mark only.

PSO1: The skills and knowledge gained has intrinsic beauty, which may leads to proficiency in analytical reasoning. This can be utilized in modelling and solving real life problems

PSO2: Handle campus placement test involving Quantitative aptitude and reasoning.

P.B SIDDHARTHA COLLEGE OF ARTS & SCIENCE

QUANTITATIVE APTITUDE

MODEL PAPER

TIME:2HRS **MAX.MARKS:35 MARKS**

COURSE CODE: 23MASDL201

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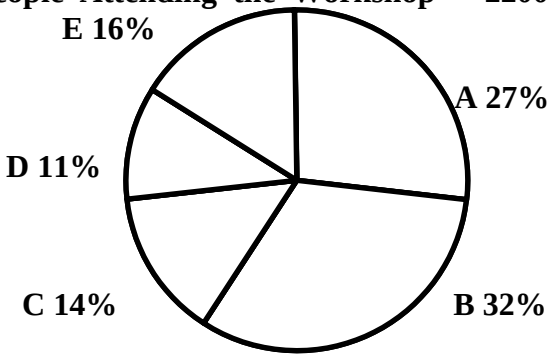
Choose the correct answer from the following.. (70questions* ½ =35M)

Direction (1-5): Study the pie chart carefully to answer the given question:
Number of people attending a workshop from five different cities
Total number of People Attending the Workshop = 2200



1. What is the number of people attending the workshop from city C?L5,CO1

a) 292 b) 296 c) 322 d) 314 e) 308

2. The number of people attending the workshop from city D is what percent of the number of people attending the workshop from city E?L5,CO1

a) 125.25 b) 86.25 c) 68.75 d) 154.45 e) 145.45

3. Total number of people attending the workshop from cities A and D together is what percent of the number of people attending the workshop from city B?L5,CO1

a) 78.33 b) 84.21 c) 121.35 d) 112.25 e) 118.75

4. What is the respective ratio between the numbers of people attending the workshop from city C to those attending the workshop from city B?L5,CO1

a) 7 : 11 b) 4 : 15 c) 7 : 16 d) 14 : 23 e) 4 : 13

5. If twenty five percent of the people attending the workshop from city E are females,how many males from city E are attending the workshop? L5,CO1

a) 248 b) 90 c) 253 d) 264 e) 88

6. Find the sum of first 16 odd numbers.L3,CO2

a) 196 b) 256 c) 384 d) 424 e)NoneOfThese.

7. Find the sum of first 16 even numbers.L4,CO3

a) 240 b) 244 c) 284 d) 272 e)NoneOfThese.

8. How many numbers between 1 and 100 are such which are exactly divisible by 11?L2,CO4

a) 8 b) 9 c) 10 d) 11 e)NoneOfThese.

9. Find the square root of 2116.L1,CO5

a) 42 b) 43 c) 44 d) 45 e)NoneOfThese.

10. Find the cube root of 175616.L2,CO4

a) 56 b) 57 c) 58 d) 59 e)NoneOfThese.

11. What is 20% of 40% of 300?L4,CO3

a) 22 b) 24 c) 26 d) 28 e)NoneOfThese.

12. What is 3/2 as a percentage?L3,CO2

a) 125% b) 140% c) 148% d) 150% e)NoneOfThese.

13. If a number is first increased by 20% and then decreased by 20%. What will be the net change in the number?L2,CO4

a) 5%↑ b) 4%↓ c) 4%↑ d) No change e)NoneOfThese.

14. If A: B = 4: 5 and B: C = 2: 3, then find the value of A: B: C.L2,CO4

a) 15:6:20 b) 6:15:20 c) 8:10:15 d) 14:15:12 e)NoneOfThese.

15. Find the mean proportion of 49 and 36.L4,CO3

a) 40 b) 45 c) 50 d) 58 e)NoneOfThese.

16. A and B together have Rs.2800. If 4/11 of A's amount is equal to 2/33 of B's amount, how much amount does B have?L3,CO2

a) Rs.2400 b) Rs.2800 c) Rs.2600 d) Rs.2200 e)NoneOfThese.

17. Find the average of first 17 natural numbers.L4,CO3

a) 7 b) 8 c) 9 d) 10 e)NoneOfThese.

18. Find the average of first seven multiples of 8.L2,CO4

a) 24 b) 32 c) 40 d)48 e)NoneOfThese.

19. The average of 14 girls and their teacher's age is 15 years. If the teacher age is excluded, the average reduced by 1 year. What is teacher's age?L2,CO4

a) 35 years b) 32years c) 29years d) 34years e)NoneOfThese.

Directions (Q.No:20 to 24): Following are the details of three shopkeepers and numbers of

Shopkeepers	Monday	Tuesday	Wednesday
A	160	240	210
B	200	180	320
C	150	330	280

items sold by them on three different days:

20. Find the ratio of items sold by A and B on Monday to items sold by B and C on Wednesday? L5,CO1

a) 5 : 3 b) 3 : 5 c) 3 : 4 d) 4 : 7 e) None of These.

21. Find the average number of items sold by all 3 shopkeepers on Wednesday?L3,CO2

a)280 b) 290 c) 270 d) 250 e) None of These.

22. Items sold by A and B together on Tuesday is what percentage of items sold by B and C on Wednesday? L5,CO1

a)70% b) 75% c) 60% d) 65% e) None of These.

23. Find the difference of number of items sold by B on Monday and Tuesday together and items sold by A on Tuesday and Wednesday?L3,CO2

a)80 b) 60 c) 50 d) 70 e) None of These.

24. Find the ratio of items sold by B on all 3 days together to the items sold by C on all 3 days?L4,CO3

a) 35 : 38 b) 38 : 35 c) 30 : 34 d) 30 : 38 e) None of These.

25. Find the HCF of 40 and 50. L1,CO5

a) 11 b) 12 c) 10 d) 9 e)NoneOfThese.

26. Two numbers of the LCM and HCF are 360 and 30 respectively. If one of the two numbers is 120, then find the second number.L3,CO2

a) 80 b) 90 c) 140 d) 150 e)NoneOfThese.

27. Find the LCM of 20, 40 and 80.L4,CO3

a) 20 b) 40 c) 80 d) 240 e)NoneOfThese.

28. Find the simple interest on Rs.2000 at 25% per annum for 3 years.L5,CO1

a) Rs.1400 b) Rs.1800 c) Rs.1600 d) Rs.1200 e)NoneOfThese.

29. Find the compound interest on Rs.10000 at 20% per annum for 18 months. (The interest being compounded half yearly)L3,CO2

a) Rs.3320 b) Rs.3330 c) Rs.3340 d) Rs.3310 e)NoneOfThese.

30. The difference between simple interest and compound interest at 10% per annum for 2 years is Rs.22. Find the sum.L4,CO3

a) Rs.2200 b) Rs.2300 c) Rs.2400 d) Rs.2500 e)NoneOfThese.

31. A man bought an article at Rs.1600 and sold for Rs.2100. Find the loss or profit.L1,CO5

a) Rs.400 (loss) b) Rs.800 (profit) c)Rs.500(profit) d)Rs.1200(loss) e)NoneOfThese.

32. A dishonest dealer sells his goods at cost price but he uses 600 grams instead of 1 kg. Find the profit percentage.L3,CO2

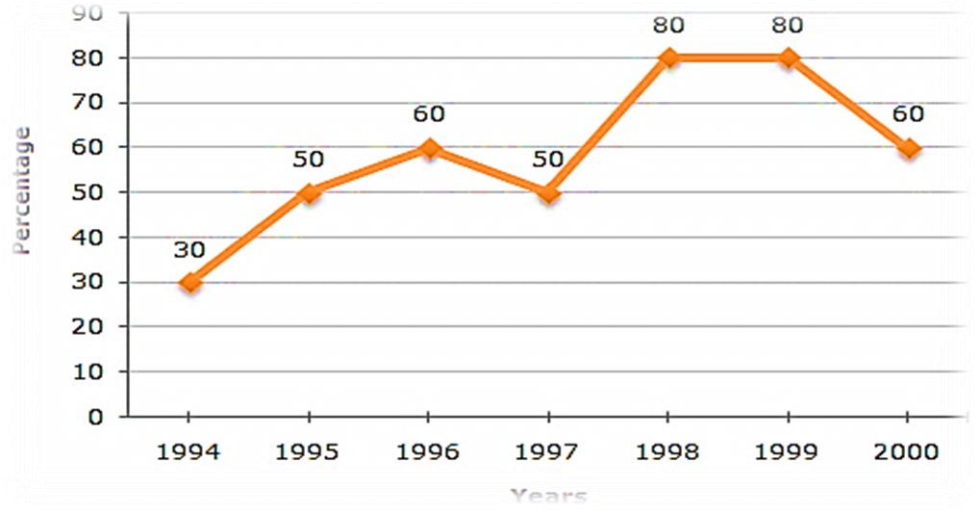
a) 20% b) 25% c) 33.33% d) 35% e)NoneOfThese.

33. The selling price of two books is Rs.2000 each. If one book sold at a gain of 20% profit and the other at a loss of 20%, then find the profit or loss percentage in the deal. L2,CO4

a) 5% profit b) 2% loss c) 4% loss d)3%profit e)NoneOfThese.

Directions(Q.No-34 to 38): The following line graph gives the percentage of the number of candidates who qualified an examination out of the total number of candidates who appeared for the examination over a period of seven years from 1994 to 2000.

Percentage of Candidates Qualified to Appeared in an Examination Over the Years



34. The difference between the percentages of candidates qualified to appeared was maximum in which of the following pairs of years?L2,CO4

a) 1994 and 1995 b)1997 and 1998 c)1998 and 1999 d)1999 and 2000 e) None of these

35. In which pair of years was the number of candidates qualified, the same?L3,CO2

a) 1995 and 1997 b) 1995 and 2000 c) 1998 and 1999 d) Data inadequate e) None of these

36. If the number of candidates qualified in 1998 was 21200, what was the number of candidates appeared in 1998?L4,CO3

a) 32000 b) 28500 c) 26500 d) 25000 e) None of these

37. If the total number of candidates appeared in 1996 and 1997 together was 47400, then the total number of candidates qualified in these two years together was?L5,CO1

a) 34700 b) 32100 c) 31500 d) Data inadequate e) None of these

38. The total number of candidates qualified in 1999 and 2000 together was 33500 and the number of candidates appeared in 1999 was 26500. What was the number of candidates in 2000?L4,CO3

a) 24500 b) 22000 c) 20500 d) 19000 e) None of these

39. Find the least value of '*' so that the number 356*8 is divisible by 4.L3,CO2

a) 0 b) 1 c) 2 d) 3 e)NoneOfThese.

40. 144+ 72 ÷ 12 – 5of 2 =?L4,CO3

a) 130 b) 110 c) 100 d) 150 e)NoneOfThese.

41. Find the least value of '*' so that the number 356*3 is divisible by 3.L2,CO4

a) 0 b) 1 c) 2 d) 3 e)NoneOfThese.

42. 45 + 3 x 2 – 35 ÷ 7 of 5 =?L1,CO5

a) 60 b) 50 c) 43 d) 46 e)NoneOfThese.

43. Find the least value of '*' so that the number 3565* is divisible by 5.L3,CO2

a) 0 b) 1 c) 2 d) 3 e)NoneOfThese.

44. 56+ 36 ÷ 9 of 4 – 3 x 2 =?L1,CO5

a) 40 b) 50 c) 60 d) 30 e)NoneOfThese.

45. If the capitals of P & Q are in the ratio of 15:13 and the times of their investments are in the ratio26:45.Then find their Profits Ratio?L5,CO1

a) 14:15 b) 4:5 c) 2:3 d)5:9 e) NoneOfThese.

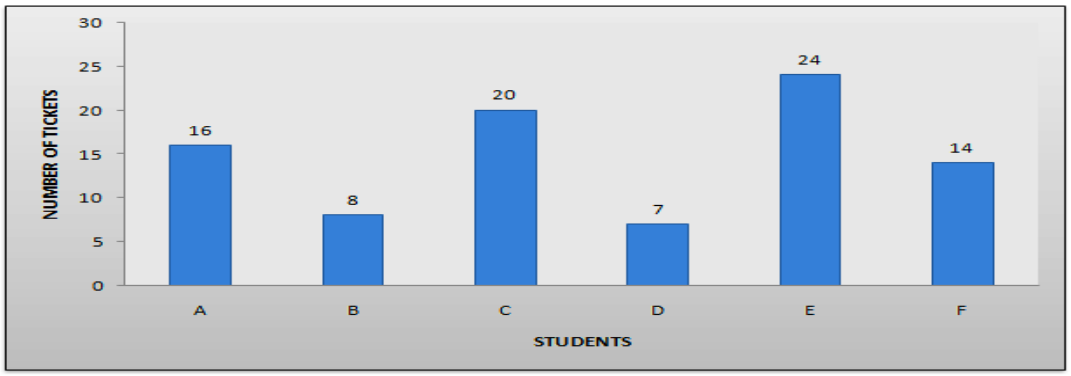
46. In a business A, B and C invested Rs.5000, Rs.6000 & Rs.7000 respectively. Find the share of A in the total profit of Rs.5400. L2,CO4

a) Rs.1000 b) Rs.1800 c) Rs.1400 d) Rs.1500 e)NoneOfThese.

47. P and Q started a retail store with initial investments in the ratio 5 : 6 and their annual profits were in the ratio 2 : 3. If P invested the money for 8 months. For how many months did Q invest his money? L3,CO2

a) 5 months b) 6 months c) 8 months d) 10 months e)NoneOfThese.

Directions(Q.No-48 to 52): The bar graph, given here, shows the number of tickets sold by 6 students A, B. C, D, E and F during a fair. Observe the graph and answer questions based on it.



48. Total number of tickets sold by A, B and C is..L3,CO2

a) 45 b) 44 c) 42 d) 40 e) None of these

49. The least number of tickets were sold by..L2,CO4

a) B b) F c) A d) D e) None of these

50. Total number of tickets sold by D, E and F is..L3,CO2

a) 47 b) 46 c) 45 d) 44 e) None of these

51. Find the increase percentage of the tickets from B to C.L4,CO3

a) 145% b) 140% c)150% d)155% e) None of these

52. Find the increase percentage of the tickets from D to C.L4,CO3

a) 60% b) 62% c) 64% d) 66% e) None of these

53. What is the unit digit of 1437 + 2437 – 1723?L5,CO1

a) 1 b) 2 c) 3 d) 4 e)None Of These.

54. Find the total number of factors of 28.L3,CO2

a) 6 b) 8 c) 12 d) 10 e)NoneOfThese.

55. What is the unit digit of 1235 x 2751 x 4176?L2,CO4

a) 1 b) 2 c) 8 d) 4 e)NoneOfThese.

56. Find the total number of factors of 56.L1,CO5

a) 6 b) 7 c) 8 d) 9 e)NoneOfThese.

57. What is the unit digit of $2346^{182632567}$?L3,CO2

a) 5 b) 6 c) 7 d) 8 e)NoneOfThese.

58. Find the total number of factors of 169.L4,CO3

a) 1 b) 2 c) 3 d) 4 e)NoneOfThese.

59. The ratio of the present ages of Rahul and Reena is 5:3. After 5 years, their ratio will be 20: 13. At the time of their marriage, their ratio was 15: 8. How many years ago, they got married?L3,CO2

a) 6yrs b) 3yrs c) 5yrs d) 7yrs e)NoneOfThese.

60. Four years ago, the ratio between the ages of Ramesh and Rajesh was 5:1. Five years hence, the ratio between their ages will be 7: 2. What is the present age of Ramesh?L5,CO1

a) 24yrs b) 28yrs c) 32yrs d) 36yrs e)NoneOfThese.

61. A car covers a distance of 540 km in 9 hours. What is the average speed of the car?L3,CO2

a) 55kmph b) 65kmph c) 66kmph d) 80kmph e)Noneofthese.

62. A car travelling at a speed of 63 km/hr can complete a journey in 10 hours. How long will it take to travel the same distance at 70 km/hr?L4,CO3

a) 6 hours b) 8 hours c) 7 hours d) 9 hours e)None of these.

63. A 560 m long train crosses a pole in 70 seconds. What is the speed of the train?L5,CO1

a) 12 mps b) 5 mps c) 6 mps d) 8 mps e)NoneOfThese.

64. How long does a train 630 m long running at the rate of 54 kmph take to cross a tunnel 180 m in length?L4,CO3

a) 48 sec b) 54 sec c) 40 sec d) 45 sec e)NoneOfThese.

65. A can do a piece of work in 40 days while B can do it in 80 days. In how many days can A and B working together does it?L3,CO2

a)11 1/3 days b)12 1/5 days c)26 2/3 days d)13 1/9 days e)None of these

66. A can complete the work in 15 days, B in 20 days, C in 30 days. All started work together. But after 3 days, A left. After 5 more days B also left the work. In how many days C can complete the remaining work?L5,CO1

a)4 days b)6 days c)3 days d)5 days e) NoneOfThese.

67. A and B can together finish a work 40 days. They worked together for 20 days and then B left. After another 30 days, A finished the remaining work. In how many days A alone can finish the work?L5,CO1

a)40 days b)60 days c)30 days d)50 days e) NoneOfThese.

68. The amount of water (in ml) that should be added to reduce 7 ml lotion, containing 70% milk, to a lotion containing 35% milk, is:L5,CO1

a) 10 ml b) 20ml c) 16 ml d) 7 ml e)NoneOfThese.

69. In what ratio must a grocer mix two varieties of pulses costing Rs. 14 and Rs. 19 per kg respectively so as to get a mixture worth Rs. 16.50 kg?L4,CO3

a) 7:3 b) 1:2 c) 3:4 d) 4:7 e)NoneOfThese.

70. A grocer wishes to sell a mixture of two varieties of pulses worth Rs.18 per kg. In what ratio must he mix the pulses to reach this selling price, when cost of one variety of pulses is Rs.14 per kg and the other is Rs.24 per kg?L3,CO2

a) 2:3 b) 4:1 c) 1:4 d) 3:2 e)NoneOfThese.