

**LIFE SKILLS COURSES**  
w.e.f. AY 2023-24

**SEMESTER-I**

**COURSE 3: ANALYTICAL SKILLS**

**Theory** **Credits: 2** **2 hrs/week**

**Course Objective:** Intended to inculcate quantitative analytical skills and reasoning as an inherent ability in students.

**Course Outcomes:**

After successful completion of this course, the student will be able to;

- 1) Understand the basic concepts of arithmetic ability, quantitative ability, logical reasoning, business computations and data interpretation and obtain the associated skills.
- 2) Acquire competency in the use of verbal reasoning.
- 3) Apply the skills and competencies acquired in the related areas
- 4) Solve problems pertaining to quantitative ability, logical reasoning and verbal ability inside and outside the campus.

**UNIT – 1**

**Arithmetic ability:** Algebraic operations BODMAS, Fractions, Divisibility rules, LCM & GCD (HCF).

**Verbal Reasoning:** Number Series, Coding & Decoding, Clocks, Calendars.

**UNIT – 2**

**Quantitative aptitude:** Averages, Ratio and proportion, Time-distance – speed.

**Business computations:** Percentages, Profit & loss, simple compound interest.

**UNIT – 3**

**Data Interpretation:** Tabulation, Bar Graphs, Pie Charts, line Graphs.

**Recommended Co-Curricular Activities** (03 hrs)

Surprise tests / Viva-Voice / Problem solving/Group discussion.

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**Text Book:**

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 and Reasoning by R V Praveen, PHIpublishers.
3. Quantitative Aptitude for Competitive Examination by Abhijit Guha, Tata Mc Graw Hill Publications.

**\* NOTE : Preferred teaching Department is Mathematics/Statistics**

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ANALYTICAL SKILLS MODEL PAPER  
PART OF LIFE SKILLS COURSES (w.e.f 2023-2024)

**Time: 2Hour**

**Max.marks:50**

**Answer 25 questions. (25X2=50)**

Complete the following series:

1. .525 ,813, 714, -----  
(a) 353      (b) 329      (c) 606      (d)520
2. 07, 20 , 46 , 98, 203, -----  
(a) 420      (b) 410      (c) 310      (d) 320
3. 4, 7, 16, 22, 31 , 43, -----, 76  
(a) 76      (b) 52      (c) 55      (d) 51
4. B, D, F, I, L, P, -----  
(a) U      (b) R      (c) S      (d) T
5. CD, HI, MN, -----  
(a)QS      (b) OP      (c) PQ      (d) RS
- 6.2, A, 9, B, 6, C, 13, D, -----  
(a) 9      (b) 10      (c) 12      (d) 19
7. W-144, -----, S-100, Q-81, O-64  
(a) U-121      (b) U-122      (c) V-121      (d) V-128
8. Find out the odd one  
(a) 75      (b) 45      (c) 25      (d) 15
9. Petrol : Car:: Led : -----  
(a) Pen      (b) Pencil      (c) Metal      (d) Ink
10. Circle:Arc :: Line : -----  
(a) Dot      (b) Angle      (c) Line      (d) Ray
11. The sum of first 30 odd numbers is -----  
(a)300      (b)900      (c)930      (d)225
12. If  $\frac{x}{x-3} = \frac{2}{3}$  then find the value of  $\frac{3x+2y}{2x+5y}$   
(a)  $\frac{2}{3}$       (b)  $\frac{5}{19}$       (c)  $\frac{6}{7}$       (d)  $\frac{12}{19}$

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13.  $3\frac{2}{3} + 2\frac{3}{4} + 1\frac{1}{2} = ?$

- (a)  $8\frac{11}{12}$  (b)  $10\frac{12}{13}$  (c)  $7\frac{11}{12}$  (d)  $9\frac{11}{3}$

14. Simplify  $\frac{0.0025 \times 1.4}{0.0175}$

- (a) 2 (b) 0.2 (c) 0.3 (d) 0.4

15.  $\frac{3}{4}$  of  $\frac{5}{6}$  of  $\frac{7}{10}$  of 1664

- (a) 648 (b) 762 (c) 612 (d) 728

16. Find the L.C.M of  $\frac{2}{5}$ ,  $\frac{3}{10}$  and  $\frac{6}{25}$

- (a)  $\frac{6}{5}$  (b)  $\frac{11}{5}$  (c)  $\frac{9}{5}$  (d) None of these

17. Find HCF of 1672 and 374

- (a) 3 (b) 6 (c) 4 (d) 5

18. Which of the following is divisible by 15 ?

- (a) 1234 (b) 12345 (c) 123456 (d) 123455

19. What was the day of the week on 16<sup>th</sup> July 1776?

- (a) Monday (b) Sunday (c) Saturday (d) Tuesday

20. How many times do the hands of a clock coincide in a day?

- (a) 20 (b) 21 (c) 22 (d) 24

21. Find the average of first 40 natural numbers

- (a) 20.5 (b) 20.7 (c) 19 (d) 21

22. The average of 11 results is 60, If the average of first 6 results is 58 and that of the last six is 63. Find the sixth result.

- (a) 16 (b) 26 (c) 66 (d) 56

23. Find the average of first 20 multiples of 7

- (a) 73 (b) 73.5 (c) 63 (d) 120

24. If a:b = 5:7 and b:c = 6:11 then a:b:c = ?

- (a) 55:77:66 (b) 30:42:77 (c) 35:45:49 (d) None of these

25. 15% of x = 20% of y then x:y

- (a) 3:4 (b) 4:3 (c) 17:16 (d) 16:17

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26. Divide Rs. 1,162, among A, B, C in the ratio 35 : 28: 20  
 (a) Rs. 490, 392, 280 (a) Rs. 470, 390, 260  
 (c) Rs. 480, 370, 260 (d) Rs. 390, 480, 270
27. If  $12:15::x:15$  then  $x=?$   
 (a)12 (b)15 (c)14 (d) 9
28. A man walking at the rate of 5 km per hour crosses a bridge in 15 minutes. The length of the bridge (in meters) is  
 (a) 600 (b) 750 (c) 1000 (d) 1250
29. A car is running at a speed of 108 km/ph what distance will it cover in 15 seconds?  
 (a) 45mts (b) 55mts (c) 450mts (d) None of the these
30. How many minute's does aditya take to cover a distance of 400 m. If he runs at a speed of 20 km/hr?  
 (a)72sec (b)64sec (c)92sec (d) 70sec
31.  $54\%$  of 750 -  $25\%$  of 480 = ?  
 (a) 216 (b) 217.50 (c) 236.50 (d) 245
32. What percent is  $3\%$  of  $5\%$ ?  
 (a)15% (b)30% (c)50% (d)60%
33. By selling an article for Rs.100 . a man gains Rs.15 then his gain percentage is ?  
 (a) 15% (b)  $12\frac{2}{3}\%$  (c)  $17\frac{11}{7}\%$  (d)  $17\frac{1}{4}\%$
34. 10% loss on selling price is what % loss on the cost price  
 (a)  $9\frac{1}{11}\%$  (b)  $9\frac{2}{11}\%$  (c)10% (d)11%
35. If 75% of a number is added to 75 then the result is the number itself. The number is  
 (a)50 (b)60 (c)300 (d)400
36. Successive discounts of 10%,12% and 15% amount to single discount of  
 (a)32.68% (b)35.28% (c)36.68% (d) none of these
37. The simple interest on Rs. 1,820 from march9, 2003 to May 21, 2003 at  $7\frac{1}{2}\%$  rate will be  
 (a) Rs.22.50 (a) Rs.27.30 (c) Rs.28.80 (d) Rs.29
38. At what rate percent per annum will a sum of a money double in 16 years?  
 (a)  $6\frac{1}{4}\%$  (b)  $6\frac{3}{4}\%$  (c)  $6\frac{1}{2}\%$  (d)  $5\frac{1}{2}\%$

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39. Find compound interest on RS. 7,500 at 4% per annum for 2 years , compounded annually.  
 (a) Rs.611 (b) Rs.600 (c) Rs.602 (d) Rs.612

40. Find the compound interest on 16,00 at 20% per annum for 9 months compounded quarterly  
 (a) Rs.18,522 (b) Rs.16,522 (c) Rs.17,522 (d) Rs.15,522

Study the following table carefully and the questions given below

Classification of 100 students based on the marks obtained by them in physics and chemistry in an examination

Marks out of 50/Subject	40 and above	30 and above	20 and above	10 and above	0 and above
Physics	9	32	80	92	100
Chemistry	4	21	66	81	100
Average	7	27	73	87	100

41. what is the number of students scoring less than 40% marks in aggregate is

(a)13 (b)19 (c) 20 (d)27 (a)13 (b)32 (c) 20 (d) 27

42. If at least 60% marks in physics are required for pursuing higher studies in physics, how many students will be eligible to pursue higher studies in physics.

(a)27 (b)32 (c)34 (d)41

43. what is the difference between number of students passed with 30 as cut off marks in chemistry and those passed with 30 as cut off marks in aggregate.

(a)3 (b)4 (c) 6 (d)7

44. the percentage of the number of students getting at least 60% of marks in chemistry over those getting at least 40% of marks in aggregate is approximately

(a)21% (b)27% (c) 29% (d)31%

45. If it is known that at least 23 students were eligible for a symposium on chemistry the minimum qualifying marks in chemistry for eligibility to symposium would lie in the range

(a) 40-50 (b)30-40 (c) 20-30 (d) Below20

The pie-chart provided below gives the distribution of land (in a village) under various food crops. Study the pie-chart carefully and answer the questions that follow.

Distribution of Areas (in Acres) under various food crops.

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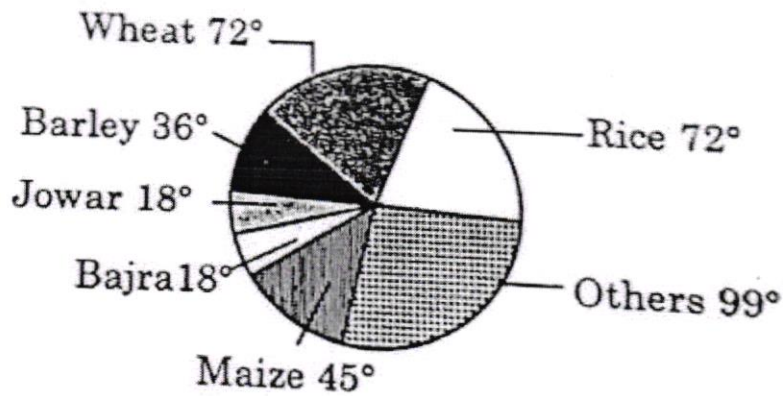
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46. Which combination of three crops contribute to 50% of the total area under the food crops?
- (a) Wheat, Barley and Jowar                      (b) Rice, Wheat and Jowar  
(c) Rice, Wheat and Barley                      (d) Bajra, Maize and Rice
47. If the total area under Jowar was 1.5 million acres, then what was the area (in million acres) under rice?
- (a) 6    (b) 7.5    (c) 9    (d) 4.5
48. If the production of wheat is 6 times that of barley, then what is the ratio between the yield per acre of wheat and barley.
- (a) 3:2    (b) 3:1    (c) 12:1    (d) 2:3
49. If the yield per acre of rice was 50% more than that of Barley, then the production of barley is what percent of that rice?
- (a) 30    (b)  $33\frac{1}{3}\%$     (c) 35%    (d) 36%
50. If the total area goes up by 5% and the area under wheat production goes up by 12% then what will be the angle for wheat in the new pie-chart?
- (a) 62.4°    (b) 76.8°    (c) 80.6°    (d) 84.2°

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