UG PROGRAM (4 YEARS HONORS) WITH SINGLE MAJOR
AT THE END OF FIRST SEMESTER
SKILL COURSES
ANALYTICAL SKILLS
(COMMON FOR ALL MAJORS)
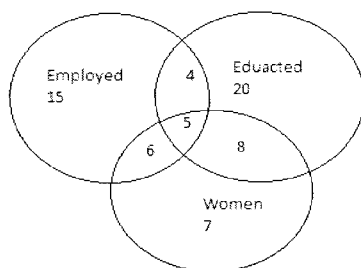### (w.e.f. Admitted Batch 2023-24)

Time: 2 Hours   **Maximum: 50 marks**

1. $5004 \div 139 - 6 = $?
   (a).24   (b).30   (c).36   (d).42

2. Simplify $18 - \left[5 - \left[6 + 2(7 - \overline{8 - 5})\right]\right]$
   (a).13   (b).15   (c).27   (d).32

3. If $x * y = x^2 + y^2 - xy$, then find the value of $9 * 11$ is ?
   (a).93   (b).103   (c).113   (d).121

4. $7589 - ? = 3434$
   (a).721   (b).3246   (c).4155   (d).11023

5. $17\frac{1}{3} + 22\frac{1}{2} = 33\frac{1}{3}\%$ of ?
   (a).116.5   (b).81.5   (c).277.5   (d).104.5

6. $4 - \cfrac{5}{1 + \cfrac{1}{3 + \cfrac{1}{2 + \frac{1}{4}}}} = $?
   (a).$\frac{1}{8}$ (b).$\frac{2}{8}$ (c).$\frac{3}{8}$ (d).$\frac{4}{8}$

7. Which of the following has fractions in ascending order ?
   (a).$\frac{1}{3}, \frac{2}{5}, \frac{4}{7}, \frac{3}{5}, \frac{5}{6}, \frac{6}{7}$ (b).$\frac{1}{3}, \frac{2}{5}, \frac{3}{5}, \frac{4}{7}, \frac{5}{6}, \frac{6}{7}$
   (c).$\frac{1}{3}, \frac{2}{5}, \frac{3}{5}, \frac{5}{6}, \frac{4}{7}, \frac{6}{7}$ (d).$\frac{2}{5}, \frac{3}{5}, \frac{1}{3}, \frac{4}{7}, \frac{5}{6}, \frac{6}{7}$

8. If $1*548$ is divisible by 3, which of the following digits can replace $*$?
   (a).0   (b).2   (c).7   (d).5

9. Six bells commence tolling together and toll at intervals of 2,4,6,8,10& 12 seconds respectively in 30 minutes. How many times do they toll together ?
   (a).4   (b).16   (c).10   (d).15

10. The product of two numbers is 4107.If the H.C.F of these numbers is 37.Then find the greatest number is?
    (a).101   (b).107   (c).111   (d).185

11. Find the next number in the series 1,4,9,16,25,36,49,?
    (a).54   (b).56   (c).64   (d).81

12. 15, 31, 63, 127, 255, ?
    (a).513   (b).511   (c).517   (d).523

13. In a certain code Language, ROBUST is coded as QNATRS in a certain Language, which would be coded as ZXCMP?
    (a) AYDNQ   (b).AZDNQ   (c).AYCNZ   (d). AZCNZ

14. In a certain code Language PALE is coded as 2134,EARTH is coded as 41590, then how can is PEARL be coded in that Language?
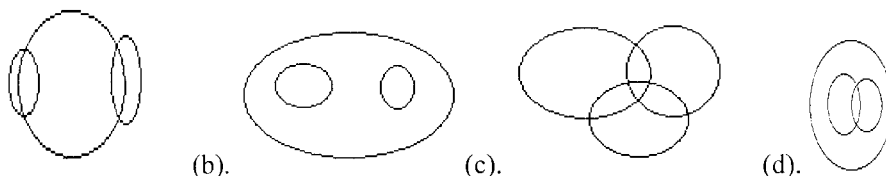   (a).24126   (b).24158   (c).24153   (d). 24128

15. A woman introduces a man as the son of the brother of her mother.How is the man related to the woman?
    (a).Uncle   (b).Grand son   (c).Cousin   (d). Son
16. A told B that C is his father's nephew.D is A's cousin but not the brother of C. What relationship is there between D and C ?
    (a).Father   (b).Sisters   (c).Aunt   (d). Mother
17. What was the day of the week on 15th August,1947?
    (a).Friday   (b).Tuesday   (c).Wednesday   (d).Sunday
18. On 8th Dec,2007 Saturday falls. What day of the week was it on 8th Dec 2006?
    (a). Sunday   ((b).Thursday   (c).Tuesday   (d).Friday
19. How many times do the hands of a clock coincide in a day?
    (a).20   (b).21   (c).22   (d).24
20. How many times in a day ,are the hands of a clock in straight line but opposite in direction?
    (a).20   (b).22   (c).24   (d).48
21. The sum of these consecutive odd numbers is 38 more than the average of these numbers. What is the first of these numbers?
    (a).13   (b).17   (c).19   (d).18
22. The average weight of A,B and C is 45 kg.If the average weight of A and B be 40 kg and that of B and C be 43 kg.Then find the weight of B is?
    (a).17kg   (b).20kg   (c).26kg   (d).31kg
23. Find the fourth proportional of 5,8,15,?
    (a).18   (b).24   (c).19   (d).20
24. If 40% of a number is equal to two-third of another number,what is the ratio of first number to the second number?
    (a).2:5   (b).3:7   (c).5:3   (d).7:3
25. If A:B=3:4 and B:C=8:9 then find A:C=
    (a).1:3   (b).3:2   (c).2:3   (d).1:2
26. The ratio between the present ages of P and Q is 6:7.If Q is 4 years old than P, what will be the ratio of the ages of P and Q after 4 years?
    (a).3:4   (b).3:5   (c).4:3   (d).7:8
27. At present, the ratio between the ages of Arun and Deepak is 4:3.After 6 years, Arun's age will be 26 years.What is the age of Deepak at present?
    (a).12 years   (b).15 years   (c).19 years   (d).21 years
28. A motor car starts with the speed of 70 km/hr with its speed increasing every two hours by 10kmph.In how many hours will it cover 345 kms?
    (a).$2\frac{1}{4}$hrs   (b).4hrs 5min   (c).$4\frac{1}{2}$hrs   (d).cannot be determined.
29. A runner can complete a 750m race in two and half minutes, will he be able to beat another runner who runs at 16.5 kmph?
    (a).yes   (b). No   (c).Can't say   (d). Never beat
30. A man can do a piece of work in 5 days,but with the help of his son,he can do it in 3 days. In what time can the son do it alone?
    (a).$6\frac{1}{2}$days   (b). 7days   (c).$7\frac{1}{2}$days   (d). 8days

31. Ram salary is Rs 50,000/-.He got a 15% increment of his salary. What is the new salary?

(a).Rs. 55,000   (b).Rs.57,500 c). Rs.60,000 (d). Rs.56,500

32. 45% of 750 − 25% of 480 = ?

(a).216   (b).217.50   (c).236.50   (d).245

33. Sam purchased 20 dozens of toys at the rate of Rs.375 per dozen.He sold each one of them at the rate of Rs.33.What was his percentage profit?

(a).3.5   (b).4.5   (c).5.6   (d).6.5

34. When a plot is sold for Rs18,700,the owner loses 15%..At what price must the plot be sold in order to gain 15%?

(a).Rs21,000   (b).Rs22,500 c). Rs25,300 (d). Rs25,800

35. Kamal started a business investing Rs.9000. After five months, Sameer joined with a capital of Rs.8000.If at the end of the year, they earn a profit of Rs.6970, then what will be the share of Sameer in the profit?

(a).1883.78 (b).Rs2380 (c).Rs3690 (d).Rs3864

36. A starts business with Rs 3500 and after 5 months,B joins with A as his partner. After a year,the profit is divided in theratio 2:3 .What is B's contribution in the capital?

(a).Rs.7500 (b).Rs.8000   (c).Rs.8500 (d).Rs.9000

37. What will be the simple interest earned on an amount of Rs16,800 in 9 months at the rate of $6\frac{1}{4}\%$ p.a?

(a).Rs.787.50 (b).Rs.812.50   (c).Rs.860 (d).Rs.887.50

38. What is the present worth of Rs132 due in 2 years at 5% simple interest per annum?

(a).Rs.112 (b).Rs.118.80   (c).Rs.120 (d).Rs.122

39. What will be the compound interest on a sum of Rs.25,000 after 3 years at the rate of 12 p.c.p.a?

(a).Rs.9000.30 (b).Rs.9720   (c).Rs.10123.20 (d).Rs.10483.20

40. What will be the difference between simple and compound interest @ 10% per annum on a sum of Rs1000 after 4 years?

(a).Rs.31 (b).Rs.32.10 (c).Rs.40.40 (d).Rs.64.10

(41-43): Study the Venn diagram carefully and answer the questions given below it.
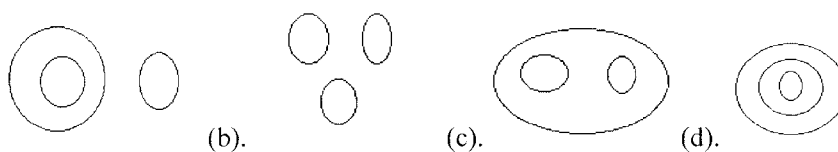

41. Find out the number of women who are educated and employed both?

(a).5 (b).6 (c).8 (d).11

42. Find out the number of women who are educated but not employed ?
   (a).5 (b).8 (c).13 (d).19
43. Find out the number of women who are neither educated nor employed ?
   (a).6 (b).5 (c).8 (d).7
44. Which of the following diagrams indicates the best relation between Profit,
   Dividend and Bonus?

(a).   (b).   (c).   (d).

45. Which of the following diagrams indicates the best relation between Author, Lawyer
   and Singer?

(a).   (b).   (c).   (d).

(46-50): The following table gives the sales of batteries manufactured by a company over
   the years. Study the table and answer the questions that follow:

NUMBER OF DIEFFERENT TYPES OF BATTERIES SOLD BY A COMPANT OVER
THE YEARS (NUMBERS IN THOUSANDS)

Year	TYPES OF BATTERIES					
	4AH	7AH	32AH	35AH	55AH	Total
1992	75	144	114	102	108	543
1993	90	126	102	84	126	528
1994	96	114	75	105	135	525
1995	105	90	150	90	75	510
1996	90	75	135	75	90	465
1997	105	60	165	45	120	495
1998	115	85	160	100	145	605

46. The total sales of all the seven years is the maximum for which battery?
   (a).4AH (b).7AH   (c).32AH   (d).35AH
47. What is the difference in the number of 35AH batteries sold in 1993 and 1997?
   (a).24000   (b).28000   (c).35000 (d).39000
48. The percentage of 4AH batteries sold to the total number of batteries sold was
   maximum in the year:
   (a).1994   (b).1995.10 (c).1996 (d).1997
49. In the case of which battery there was a continuous decrease in sales from
   1992 to 1997?
   (a).4AH (b).7AH   (c).32AH   (d).35AH
50. What was the approximate percentage increase in the sales of 55AH batteries in 1998
   compared to that in 1992?
   (a).28% (b).31%   (c).33%   (d).34%