Reg. No. :

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Question Paper Code: 44031

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2022

Fourth Semester

Civil Engineering

14UGS431 - QUALITATIVE AND QUANTITATIVE APTITUDE

(Common to ALL branches)

(Regulation 2014)

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Duration: Three hours   Maximum: 100 Marks
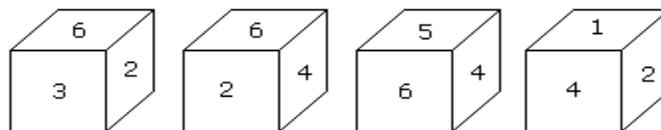
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Answer Any 50 Questions

PART A - (50 x 2 = 100 Marks)

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1. If the number 517*324 is completely divisible by 3, then the smallest whole number in place of * will be?

    (a) 0   (b) 2   (c) 1   (d) 5

2. How many numbers from 22 to 90 are exactly divisible by 11?

    (a) 6   (b) 7   (c) 8   (d) 9

3. Find the Number of factors of 100

    (a) 9   (b) 2   (c) 4   (d) 10

4. What is the unit digit in the product (38^{122} x 65^{521} x 79^{384}) ?

    (a) 0   (b) 2   (c) 5   (d) 6

5. Find the unit digit of the expression 216^{789} + 991^{254}+632^{161}?

    (a) 5   (b) 0   (c) 9   (d) 7

6. LCM of two numbers is 48 and their HCF is 8. If one of the two numbers is 16, find the other number

    (a) 12   (b) 24   (c) 32   (d) 36

7. Three number are in the ratio 1 : 2 : 3 and their HCF is 12. The numbers are

    (a) 4, 8, 12   (b) 5, 10, 15   (c) 10, 20, 30   (d) 12, 24, 36
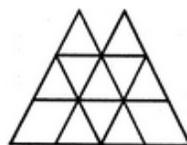
8. If the average of seven numbers is 35. If one is included. The average becomes 40. The included number is

   (a) 70 (b) 75 (c) 65 (d) 80

9. A man's average daily expenditure is Rs.12 during March, Rs.14 during April and Rs. 17 during May. Find the Average daily expenditure for the three months?

   (a) 13.35 (b) 14.22 (c) 14.33 (d) 13.33

10. Number decreased by 20% gives 480. The number is

    (a) 500 (b) 600 (c) 550 (d) None of these

11. If P% of P is 36, then P is equal to

    (a) 15 (b) 60 (c) 600 (d) 3600

12. If A is 25% greater than B then how much percentage is B smaller than A?

    (a) 20% (b) 25% (c) 28% (d) 21%

13. The ages of two friends is in the ratio 6:5. The sum of their ages is 66.After how many years
    will the ages be in the ratio 8:7?
    (a) 13 (b) 19 (c) 12 (d) None of these

14. The sum of all even natural numbers between 1 and 31 is

    (a) 16 (b) 128 (c) 240 (d) 512

15. Find the average of first ten multiples of 3?

    (a) 13 (b) 15 (c) 18 (d) 16.5

16. By selling a book for 270, 20% profit was earned. What is the cost price of the book?

    (a) 216 (b) 226 (c) 254 (d) 225

17. A class consists of 36 girls and 44 boys. If the average weight of the girls is 40 kg and that of
    boys is 35 kg, find the average weight of all students in the class?
    (a) 37.25 kg (b) 37.5 kg (c) 37 kg (d) 37.75 kg

18. A man bought a second-hand typewriter for Rs.1200 and spent Rs.200 on its repairs. He sold it for Rs.1680. His profit per cent is

    (a) 20% (b) 10% (c) 8% (d) 16%

19. The average of the first 5 prime number is

    (a) 3.6 (b) 5.6 (c) 5.4 (d) 7

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20. A can do a work in 24 days and B can do it in 8 days. In how many days A and B can do the work?
    (a) 20 days   (b) 10 days   (c) 6 days   (d) 8 days
21. What percent is 70 of 280?

    (a) 25%   (b) 50%   (c) 75%   (d) None of these

22. A sum of money becomes Rs. 2200 after three years and Rs. 4400 after six years on compound interest. The sum is
    (a) Rs. 1400   (b) Rs. 1100   (c) Rs. 1000   (d) Rs.1200
23. The ratio of three numbers is 5:3:4 and their sum is 108. The second number of the three numbers is?

    (a) 12   (b) 15   (c) 27   (d) 29

24. If a dozen mirrors are fallen down. The ratio between broken and unbroken mirrors is

    (a) 2 : 3   (b) 3 : 4   (c) 5 : 7   (d) 5 : 4

25. 40% of a number is 80. What is 30% of one – fourth of the number?

    (a) 60   (b) 30   (c) 15   (d) 10

26. The sum ages of kartik and his father is 78 years. 6 years hence, father's age will be twice of kartik's age. Find present age of father.
    (a) 60 years   (b) 46 years   (c) 58 years   (d) 54 years

27. The ages of Vikas and Nikash are in the ratio of 5 : 3. If Vikas is 8 year elder than Nikash, find the age of Nikash?

    (a) 10   (b) 12   (c) 15   (d) 20

28. A can do a work in 24 days and B can do it in 8 days. In how many days A and B can do the work?

    (a) 20 days   (b) 10 days   (c) 6 days   (d) 8 days

29. The present age of Ram and Raj differ by 7. Five years back, Raj was twice the age of Ram. Find the age of Ram after 4 years.

    (a) 16   (b) 20   (c) 21   (d) 25

30. 10 men can prepare 20 toys in 12 days working 15 hours a day. Then in how many days can
    24 men prepare 32 toys working 20 hours a day?
    (a) 6 days   (b) 10 days   (c) 20 days   (d) 25 days
31. The cost price of 6 pens is equal to the selling price of 4 pens. Find the profit percent

    (a) 25%   (b) 60%   (c) 50%   (d) 80%

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32. A pipe can fill a tank in 3 hours. Because of leak in the bottom, it is filled in 4 hours. If the tank is full, how much time will the leak take to empty it?

   (a) 10 hours   (b) 11 hours   (c) 12 hours   (d) 9 hours

33. By selling an article for Rs. 384, a trader gains 20%. Find the cost price of article.

   (a) 160   (b) 240   (c) 320   (d) 480

34) A sum of Rs. 1200/- lent at Simple interest at 10% will become twice in how many years?

   (a) 12 years   (b) 14 years   (c) 10 years   (d) 8 years

35. The Difference between C.I and S.I on a sum of Rs. 10000 for two years at a rate of 5% interest is

   (a) Rs. 25   (b) Rs. 20   (c) Rs. 10   (d) Rs. 5

36. At what rate of compound interest will a sum of Rs. 8000 amount to Rs. 8820 in two years?

   (a) 8%   (b) 10%   (c) 6%   (d) 5%

37. When the time in the clock is 7.20, then the angle between the hands of the clock is

   (a) 100 degrees   (b) 120 degrees   (c) 90 degrees   (d) 110 degrees

38. How long does it take for a sum of Rs. 2500 to become Rs. 12500 at 10% simple interest?

   (a) 40 years   (b) 50 years   (c) 25 years   (d) 49 years

39. Solve for x, $2x : 25 = 6 : \dfrac{x}{3}$

   (a) 18   (b) 15   (c) 12   (d) 5

40. Which number is on the face opposite to 5?

   (a) 4   (b) 1   (c) 2   (d) 3

41. Find the number of triangles in the given figure.

   (a) 16   (b) 18   (c) 12   (d) 17

42. A man travels a distance of 2 *km* by walking at a speed of 6 *km/hr*. He returns back at a speed of 4 *km/hr*. what is his average speed?

(a) 4.5 *kmph*   (b) 4.8 *kmph*   (c) 5 *kmph*   (d) 5.1 *kmph*

43. A person travels from A to B at a speed of 40 km/hr and returns to increasing his speed by 50%. What is his average speed for both the trips?

(a) 60 km/hr   (b) 48 km/hr   (c) 56 km/hr   (d) 52 km/hr

44. A man walking at the rate of 5 *km/hr* crosses a bridge in 15 minutes. The length of the bridge
(in meters) is:
(a) 600   (b) 750   (c) 1000   (d) 1250

45. In a certain code is, RIPPLE is written as 613382 and LIFE is written as 8192. How is PILLER written in that code?

(a) 318826   (b) 318286   (c) 618826   (d) 338816

46. If 6 men take 9 days to complete a work, how many men can complete the work in 3 days?

(a) 2 men   (b) 12 men   (c) 9 men   (d) 18 men

47. If 12 men work 8 hours a day to complete a work in 10 days. How many men working

12 hours a day can complete the work in 5 days?

(a) 16   (b) 4   (c) 12   (d) 8

48. Two pipes A and B can fill a tank in 20 minutes when opened simultaneously. If pipe A alone takes 60 minutes to fill the tank, how much time will pipe B alone take to fill the tank?

(a) 60 min   (b) 40 min   (c) 30 min   (d) 20 min

49. Three pipes can fill a tank in 6, 10 and 15 hours respectively. If they are opened together, how long does it take to fill the tank?

(a) 3 hours   (b) 30 hours   (c) 10 hours   (d) 3.33 hours

50. Two trains 300m and 400m long run at the speeds of 40 kmph and 50kmph respectively in opposite Directions on parallel tracks. The time taken to cross each other?
(a) 20 sec   (b) 25 sec   (c) 26 sec   (d) 28 sec

51. 320m long train is running at 72 Kmph. how much time it will take to cross a platform of 180m long?
(a) 20 sec   (b) 25 sec   (c) 30 sec   (d) 27 sec

52. In how many different number of ways the letters of the word 'ENGINEERING' can be arranged

    (a) 27200   (b) 27700   (c) 277200   (d) 272700

53. How many 4's are there proceeded by 7 but not followed by 3?

    5 9 3 2 1 7 4 2 6 9 7 4 6 1 3 2 8 7 4 1 3 8 3 2 5 6 7 4 3 9 5 8 2 0 1 8 7 4 6 3

    (a) Three   (b) Four   (c) Five   (d) Six

54. How many times in a day, are the hands of a clock in straight line but opposite in direction?   (a) 48   (b) 22   (c) 24   (d) 12

55. Find the next number in the sequence 1, 4, 10, 22, 46, __?

    (a) 64   (b) 86   (c) 94   (d) 122

56. Which of the following is not a leap year?

    (a) 2000   (b) 700   (c) 800   (d) 1200

57. Find the missing letters a, d, c, f, ?, h, g, ?, i

    (a) e, j   (b) e, k   (c) f, j   (d) j, e

58. Grish walked 15 *m* North – West, then turned South and walked another 12 *m*. How far was he from the starting point?

    (a) 9 *m*   (b) 3 *m*   (c) 18 *m*   (d) 27 *m*

59. A is 100 *m* North east of *B*. *C* is 100 *m* South west of *B*. Then, C is in which direction of *A*?

    (a) 200 *m* South West   (b) 200 *m* North West
    (c) 100 *m* West   (d) 100 *m* North

60. You go North, turns right, then right again and then go to the left .In which direction are you now?

    (a) North   (b) West   (c) East   (d) South

Directions (61 to 65): Read the following information carefully and answer the questions given   below:

1. A, B, C, D, E and F are six friends are sitting in a circle facing the center.
2. F is the 4th left of E

3. A is not between D and E but some other one

   4. C is next left of F.

61. Who is left of D?

    (a) A   (b) C   (c) B   (d) E

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62. What is the position of E?

   (a) Left of F   (b) Third right of B   (c) Between C and B   (d) None.

63. Who is sitting just right to D?

   (a) B   (b) A   (c) F   (d) E

64. Who is right of E?

   (a) B   (b) A   (c) C   (d) F

65. Who is facing D?

   (a) F   (b) E   (c) A   (d) C

66. Find the odd man out AZ, GT, MN, SH, XB

   (a) GT   (b) MN   (c) SH   (d) XB

67. If the following series is written in the reverse order, which number will be fourth to the

   right of the seventh number from the left?
        7, 3, 9, 7, 0, 3, 8, 4, 6, 2, 1, 0, 5, 11, 13

   (a) 0   (b) 5   (c) 9   (d) 11

68. Find the next number in the sequence 10, 14, 26, 42, 70,?

   (a) 100   (b) 102   (c) 106   (d) 114

69. Find the next number in the sequence 4, 12, 36, 108, ?

   (a) 144   (b) 216   (c) 304   (d) 324

70. Arrange the given words in a meaningful sequence
     1. Frog   2. Eagle   3. Grasshopper   4. Snake   5. Grass

   (a) 5, 3, 4, 2, 1   (b) 5, 3, 1, 4, 2   (c) 3, 4, 2, 5, 1   (d) 1, 3, 5, 2, 4

71. If ZEBRA can be written as 2652181, how can COBRA be written?

   (a) 302181   (b) 3152181   (c) 31822151   (d) 1182153

72. In a certain code, DESK is written as #$52, RIDE is written as %7#$. How is RISK

    written in that code?
   (a) %725   (b) %752   (c) %7#2   (d) %7$#

73. In a certain code language, '123' means 'hot filtered coffee'. '356' means 'very hot day'
        and '589' means 'day and night'. Which digit stands for 'very'?

   (a) 5   (b) 6   (c) 8   (d) 9

74. Choose the alternative which is closely resembles the mirror image of the given combination.

BRISK

(1) ꓘƧIЯᙠ   (2) ꓘƧIЯᙠ

(3) KƧIЯᙠ   (4) ꓘƧIЯᙠ

(a) 1   (b) 2   (c) 3   (d) 4

75. Choose the alternative which is closely resembles the water image of the given combination.

ACOUSTIC

(1) ∀ƆONSⱢIC   (2) ∀ƆONƧⱢIC

(3) ∀ƆONSⱢIC   (4) ∀ƆONƧTIC

(a) 1   (b) 2   (c) 3   (d) 4

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