

## Detailed solution

### Model Test 31 (GS paper II)

1. (c) targeting a victim; Literal meaning of stalking: **Stalking** is unwanted or obsessive [attention](#) by an individual or group toward another person. Stalking behaviors are related to [harassment](#) and [intimidation](#) and may include following the victim in person or monitoring them. The word *stalking* is used, with some differing meanings, in [psychology](#) and [psychiatry](#) and also in some legal [jurisdictions](#) as a term for a [criminal offense](#).

In this context the tigress was watching/targeting the kid from a distance.

2. (d) she was sure of her victim; Because the kid started bleating on seeing the tigress and didn't try to run away. So the tigress was sure of her victim

3. The correct answer could be either (c) it took the tigress for a playmate or (d) it was not aware of the danger involved. But as the kid went forward to meet the tigress and stretched its neck to smell her, indicates that it took the tigress for a playmate.

4. (d) the anxiety of the watcher; The duration of a few heart beats refers to the heartbeats of the watcher.

5. (a) a stadium; The paragraph mentions about the the lecturer's desk.

6. (c) over-hanging parts of a sloping roof Literal meaning of eaves; The **eave** is the bottom edge of a roof. The eaves normally project beyond the side of the building forming an overhang to throw water clear of the walls.

7. (c) the roof was covered with a large number of iron beams; Because the paragraph mentions that "The roof was lost in a criss-cross of thin iron girders".

8. (d) Verbose; Literal meaning of verbose: **Verbosity** is speech or writing which is deemed to use an excess of words. The opposite of verbosity is [succinctness](#), which can be found in [plain language](#) (including [Plain English](#)), and [laconism](#).

9. (c) The 'green revolution' is a mixed blessing; Because "the 'green revolution' has led to self-sufficiency in food production but it has also brought with it the formidable problem of poisoning of food grains and other eatables"

10. (b) pesticides and chemicals kill parasites and viruses, which control pests; Because some parasites and viruses which control pests are also killed by the pesticides and the chemicals.

11. (d) The excessive use of chemicals and pesticides is dangerous; Because the paragraph clearly mentions that “This is caused by excessive use of chemicals on crops and pesticide residues”.
12. (a) To an extent which becomes threatening; Literal meaning of menacing: something that threatens to cause evil, harm, injury, etc.; a threat: *Air pollution is a menace to health..*
13. (c) it helps living things to exist; Because the paragraph mentions that “no kind of physiological activity is possible in which this fluid does not play an essential part”.
14. (b) water plays very important role in it; Because the paragraph mentions that the water plays an essential part in all the physiological activity.
15. (d) the importance of water in human life; Because the paragraph mentions that “The conservation and utilization of water is thus fundamental to human life”.
16. (b) the apparent signs of TB are no longer visible to them; Because the paragraph mentions that “Often TB victims discontinue the treatment when the symptoms disappear, without waiting for a complete cure”.
17. (a) people discontinue the treatment too soon or do not start the treatment early enough; Because in the starting the paragraph mentions that “The importance of early detection of tuberculosis (TB), regular treatment and nutritious food are just not known widely enough”
18. (c) the disease appears in a new, more dangerous form; Because the paragraph mentions that “the next attack is more virulent from bacteria which have thus become drug-resistant”.
19. (d) the edge of the problem, not the main point; Literal meaning of fringe: **1. A decorative border or edging of hanging threads, cords, or strips, often attached to a separate band.**  
**2. Something that resembles such a border or edging.**  
 The paragraph mentions that “But we have so far tackled only the fringe of the problem. What is now needed is a nation-wide determination to fight TB” i.e, most of the work is yet to be done.
20. (c) TB bacteria that have not been fully eradicated; Because the paragraph mentions that “the next attack is more virulent from bacteria which have thus become drug-resistant”.
21. (b) habituated and addicted; Literal meaning of “hooked”: addicted to narcotic drugs.  
 b. slavishly interested in, devoted to, or obsessed with: He was hooked on television.
22. (d) nicotine addiction; Because the paragraph mentions that “They become addicted to the nicotine in the cigarettes”. Other options i.e, lung cancer, and ageing are linked to smoking
23. (c) non-smokers who inhale smoke; Because the paragraph mentions that “Passive smoking is equally harmful. Non-smokers are cautioned not to stay around smokers. The inhalation of smoke by non-smokers is dangerous”.

24. (d) carpentry was their hereditary occupation; Because the paragraph mentions that “For five generations we have carried on the same trade”.

25. (b) following the traditional way of life faithfully; Because the paragraph mentions that “that is the wisdom of life, to tread your father's steps”.

26. (a) followed his father's occupation; Because the author is telling about his life and what he wanted when he was a young boy. The paragraph mentions that “For five generations we have carried on the same trade, from father to son” i.e, he followed his father's occupation.

27. (a) an introduction to a discussion of a constitutional amendment ;The entire paragraph is meant to introduce the discussion on the amendment of the controversial prohibition law.

28. (a) not implicit in the original Constitution; Because the paragraph mentions that “the breaking down of a principle of government which they had deemed axiomatic, the abandonment of a purpose which they had supposed immutable” i.e, the principle, although, not mentioned in the constitution but is deemed to be an essential part of the governance.

29. The word JUDGE has 5 different letters.

When, the vowels UE are always together, they can be supposed to form one letter.

Then, we have to arrange the letters **JDG(UE)**.

Now, 4 letters can be arranged in  $4! = 24$  ways.

The vowels (UE) can be arranged in  $2! = 2$  ways.

$$= (24 \times 2)$$

$$= 48.$$

Required number of ways

30. Example: Suppose a man has to pay Rs. 156 after 4 years and the rate of interest is 14% per annum. Clearly, Rs. 100 at 14% will amount to Rs. 156 in 4 years. So, the payment of Rs. now will clear off the debt of Rs. 156 due 4 years hence. We say that :

Sum due = Rs. 156 due 4 years hence;

Present Worth (P.W.) = Rs. 100;

True Discount (T.D.) = Rs. (156 - 100) = Rs. 56 =

(Sum due) - (P.W.)

We define :T.D. = Interest on P.W.;Amount = (P.W.) + (T.D.)

Let rate = R% per annum and Time = T years. Then,

1.  $P.W. = 100 \times \text{Amount} / 100 + (R \times T) = 100 \times T.D. / R \times T$
2.  $T.D = (P.W.) \times R \times T / 100 = \text{Amount} \times R \times T / 100 + (R \times T)$
3.  $\text{Sum} = (S.I.) \times (T.D.) / (S.I.) - (T.D.)$
4.  $(S.I.) - (T.D.) = S.I. \text{ on } T.D.$
5. When the sum is put at compound interest, then

$$P.W. = \text{Amount} / (1 + R/100)^T$$

$$T.D = \text{Rs.}250$$

$$S.I = \text{Rs.}375$$

$$\text{Sum due} = S.I \times T.D / (S.I) - (T.D)$$

$$= \text{Rs.}(375 \times 250 / 375 - 250)$$

$$= \text{Rs.}750.$$

$$31. \text{ Son's 1 day's work} = (1/3 - 1/5)$$

$$= 2/15.$$

$$\text{The son alone can do the work in} = 15/2$$

$$= 7 \times 1/2 \text{ days.}$$

$$32. \text{ Time taken to cover 600 km} = (600/100) \text{ hrs}$$

$$= 6 \text{ hrs.}$$

$$\text{Number of stoppages} = 600/75 - 1$$

$$= 7.$$

$$\text{Total Time of stoppages} = (3 \times 7) \text{ min}$$

$$= 21 \text{ min.}$$

Hence, total time taken = 6 hrs 21 min.

$$33. \text{ Number of shares} = (14400 / 120)$$

$$= 120.$$

$$\text{Face value} = \text{Rs.}(100 \times 120)$$

$$= \text{Rs. } 12000.$$

$$\text{Annual Income} = \text{Rs.}(5/100 \times 12000)$$

$$= \text{Rs. } 600.$$

$$34. \text{ Let the number of boys} = x.$$

$$\text{Then, number of girls} = x.$$

$$\text{Now, } 2(x - 8) = x.$$

$$x = 16.$$

$$\text{Total number of students} = 2x = 2 \times 16 = 32.$$

$$35. \text{ Principal} = \text{Rs. } (100 \times 5400 / 12 \times 3)$$

$$\Leftrightarrow \text{Rs. } 15,000.$$

$$36. \text{ Total number of water displaced} = (4 \times 50) \text{m}^3$$

$$\Leftrightarrow 200 \text{m}^3$$

$$\text{Rise in water level} = (200 / 40 \times 20) \text{m}$$

$$= 0.25 \text{ m}$$

$$\Leftrightarrow 25 \text{ cm}$$

$$37. \text{ S.I. for 5 year} = \text{Rs.}(1020 - 720)$$

$$= \text{Rs. } 300.$$

$$\text{S.I. for 2 year} = \text{Rs.}(300/5 \times 2)$$

$$= \text{Rs. } 120.$$

$$\text{Principal} = \text{Rs. } (720 - 120)$$

$$= \text{Rs. } 600.$$

38. Answer : C.

First letter moves 6 steps forward. Second letter moves 6 steps backward

39. Answer : C.

The sequence consists of two series (Y, T, O) and (B, G, ?). The first series consists of 2nd, 7th and 12th letters from the end of English alphabet. The second series consists of 2nd, 7th and 12th letters from the beginning of English alphabet.

40. Answer : C.

Cruise = a sea voyage for pleasure. All other words are related to 'journey on land, sea with an aim'.

41. Answer : C.

In the code, the first letter is the second alphabet, the second letter is the third alphabet, the third letter is the fourth alphabet and so on after the corresponding letter in the word.

42. Answer : A.

Only son of woman's grandfather – Woman's father;

Man's brother father – Man's father.

So, the woman is man's sister.

43. Answer : D.

E is the daughter of A and F is the mother of E.

So, A is the father of E and hence the husband of F.

Now, D is the daughter of F. So, D and E are the daughters of A and F.

Also, A is the son of C. Now, only B remains. Thus, B and C are the parents of A.

Hence, B and C are the parents of the couple.

44. The answer can be reached by method of elimination. Ben and Tim speak French, so it cannot be them. Liam speaks Spanish, which eliminates him, leaving only Hannah.

45. Read the questions by listing down the pets they have:

Morgan: Dog, guinea pig

Mark: Cat, Rabbit

Lily: Cat

John: Cat, bird

Michael: Dog, goldfish

From the list we have created above, you can see that Lily only has a cat, and everyone else has two kinds of pets.

46.

The alphabet. Letters are paired. Two letters are used, then two letters are skipped, then another two letters are used, etc.

47.

The first of the three letters move one along the alphabet by every move. The second letter stays the same. The last letter of the three letters move two along the alphabet by every move.

48.

Start off by calculating how many degrees 1 hour equals: 360 degrees divided by 12 hours equals 30 degrees/hour. The time difference between 8 in the morning and 4 in the afternoon is 8 hours. Therefore, the answer is found by multiplying 30 by 8, which equals 240 degrees.

49.

30 tiles will cover the 15 m broadness of the room and 1 m in length. So we need 30 x 45 tiles to cover the floor completely:  
 $30 \times 45 = 1,350$

50.

Calculation is easiest if we calculate the per-person price of each item and add them together in the end.

Beer: \$4 per person (half a six-pack).

Chips: \$0.625

Spirits:  $4 \times 33 = 132 / 22 = \$6$

Soda:  $3 \times 4 = 12 \times 2.5 = \$30$ . 30 is hard to divide by 22, therefore we estimate a little more than 1 dollar. In this case we simply say that the chips and the soda add up to a total of \$2.

Now let us find the total price per person:  $4 + 6 + 2(\text{chips and soda}) = \$12$ .

51.

The price of each book =  $27 - 10\% \text{ discount} = 10 \times 27/100 = 2.7$

$27 - 2.7 = \$24.30$

Three books cost:

$3 \times 24.3 = \$72.90$

Subtract the gift certificate:

$72.9 - 50 = \$22.90$

52.

Get an overview by listing the values as we know them beforehand:

1 dog:  $2/9$  or approximately 22%

2 dogs:  $4/6$  or approximately 67%

3+ dogs: 320

Percentage that has 2 dogs or less:  $22 + 67 = 89\%$ .

So 1% is:  $320 / 11 = 29$

22% has 1 dog only:  $29 \times 22 = 638$

The nearest answer is 640, therefore this must be correct.

53.

Dylan will turn 25 in 2015. The year is 2012, which means that he will turn 25 in 3 years, making him 22 now.

John is half the age of Dylan, making him 11. If John is 11, he will be 14 in the year 2015.



54.

First we have to find the speed needed to drive 12 miles in 40 minutes. To find this, we use the following calculation:  $\text{Speed} \times \text{Time} = \text{Distance}$ . Or rewritten:  $\text{Distance} / \text{Time} = \text{Speed}$ .

Inserting values into the equation:

$12 / 40 = 0.3$ . 0.3 is the speed in miles / minute. To get the speed in miles per hour, we multiply by 60:  $0.3 \times 60 = 18$ .

Now this is the speed that car A has to drive faster than car B. Car B is driving 40 mph, which means that car A has to drive  $40 + 18 = 58$  mph.

55.

Let us first find the value of  $2X$  by finding 30% of 250:  $30 \times 250 = 7500 / 100 = 75$ .

Therefore,  $2X = 75$ .

$2X$  is therefore 150. 20% of 150 is the same as 10% of 300 which, is 30. The conclusion is that 20% of  $4X = 30$ .

56. The number equals the sum of all previous numbers.

57. to get the number on the second row , add  $\frac{1}{2}$  of the number to itself.

58. Multiply by 2 every other time and add 2 every other time.

59.

By looking at the graph, we can see that there are two possible months where the sales are highest, either July or March. So let us find the sum of sales by each month:

March:  $350 + 300 + 265 + 240 + 190 = 1345$

July:  $315 + 295 + 270 + 235 + 160 = 1275$ .

The correct answer is March.

60.

2,500 took a vacation in 2007, 41% of these went on a couple's vacation. To find the answer we have to find 41% of 2,500.

We start by finding 40% of 2,500:

20%:  $2,500 / 5 = 500$ . 40%:  $500 \times 2 = 1,000$ .

1%:  $2,500 / 100 = 25$ .

41%:  $1,000 + 25 = 1,025$ .

61.

The answer is found by dividing the number of TVs by the total people (the population):

$$6.75 / 22.5 = 0.3$$

This is found by realizing that 6.75 is 30% of 22.5.

62.

**Step 1** – Calculate the desired number of sales staff at the company by increasing the original number of sales staff by 20% (1.20).

$$30 \times 1.20 = 36 \text{ desired sales personnel}$$

**Step 2** – Calculate the desired number of non-sales personnel at the company by decreasing the original number of non-sales staff by 7.5% (0.925).

$$120 \times 0.925 = 111 \text{ member of non-sales staff}$$

**Step 3** – Combine the number of sales staff and non-sales staff after the desired change is made.

$$36 + 111 = 147 \text{ members of staff}$$

Thus the correct answer is (A) 147 members of staff

63.

**Step 1** – Calculate how much €1,827 is worth in yen by multiplying the number of euros by the current euro-yen exchange rate.

$$1,827 \times 125.38 = \text{¥}229,069.26$$

**Step 2** – Calculate how much ¥229,069.26 is worth in pounds sterling by dividing the number of yen by the current yen-pounds exchange rate.

$$229,069.26 / 143.37 = 1597.748901 = \text{£}1,597.75$$

Thus the correct answer is (C) £1,597.75

64.

**Step 1** – Calculate the total number of employees at the start of 2012 by decreasing the number of employees at the end of 2012 by 85% (0.85) to identify what the number of staff was before the 15% decrease. Then subtract this from the total number of employees at the end of 2012 to identify how many employees have left.

$$3,827 / 0.85 = 4,502 \text{ employees}$$

$$4,502 - 3,827 = 675 \text{ employees}$$

**Step 2** – Calculate 20% (0.20) of the total number of employees that had left to identify how many employees were made redundant.

$$675 \times 0.20 = 135 \text{ employees}$$

Thus the correct answer is (D) 135 employees

65. The correct answer is D

First Rule: The cross-hatching alternates between being applied to the circle below the shaded one (wrapping round to the top when no circle is available below) and removed from the circle that has had the cross-hatching for two consecutive figures.

Second Rule: The middle circle alternates between being half-way between the other circles in size and being bigger than both of them.

Third Rule: The cross hatching slopes upwards for two figures then downwards for two figures. This sequence then repeats.

66.

The correct answer is A

First Rule: The triangle with a dot in one corner alternates between mirrored in a diagonal from the top left of the figure to the bottom right and mirrored in a diagonal from the top right of the figure to the bottom left.

Second Rule: The rectangle alternates between being mirrored vertically and mirrored horizontally.

Third Rule: The rectangle also increases in width by a uniform amount every time, in a direction that is away from the closest edge of the figure.

67.

**Step 1** – Calculate the number of units of product B and C sold.

$$3570 / (10 + 5 + 2) = 3570 / 17 = 210$$

$$\text{Product B} = 210 \times 5 = 1,050 \text{ units}$$

$$\text{Product C} = 210 \times 2 = 420 \text{ units}$$

**Step 2** – Combine the number of product B and C units sold to identify the total number of products sold.

$$1,050 + 420 = 1,470 \text{ units}$$

Thus the correct answer is (A) 1,470 units

68.

**Step 1** – Convert the number of Kilometres from City A to City B into miles.

$$178 \text{ km} / 1.609344 = 110.6040722 \text{ miles}$$

**Step 2** – Identify the petrol usage during the journey from City A to City B by identifying how many gallon of petrol are used, and then converting this figure into litres.

$$110.6040722 / 35 = 3.160116349 \text{ gallons of petrol}$$
$$3.160116349 \times 4.54609 = 14.36617333 \text{ litres of petrol}$$

**Step 3** – Calculate the cost of the petrol consumed in order to reach City B from City A by multiplying the volume of petrol used by its price per litre.

$$14.36617333 \times \text{£}1.32 = \text{£}18.9633488 = \text{£}18.96$$

69.

**Step 1** – Calculate the sales performance increase by identifying the original sales performance and subtracting it from the new sales performance.

$$\text{£}1,050 / 1.05 = \text{£}1,000$$
$$\text{£}1,050 - \text{£}1,000 = \text{£}50 \text{ per week}$$

**Step 2** – Calculate how long it would take to generate a return on investment from the training course by dividing the total cost of the training program by the weekly performance increase.

$$3,000 / 50 = 60 \text{ weeks}$$

Thus the correct answer is (C) 60 weeks

70.

**Step 1** – Calculate the average rate of water flow of tributary B by identifying 47% (0.47) of the total water flow of the river.

$$59.6 \text{ m}^3/\text{s} \times 0.47 = 28.012 \text{ m}^3/\text{s}$$

**Step 2** – Calculate the total water flow of tributary B in 30 minutes by multiplying the water flow of tributary B by 60 (identifying water flow per minute) and then multiplying that figure by 30 (identifying water flow per 30 minutes).

$$28.012 \text{ m}^3/\text{s} \times 60 \times 30 = 50,421.6 \text{ m}^3$$

Thus the correct answer is (D) 50,421.6 m<sup>3</sup>.

71.

**Step 1** – Identify the fraction of employees that have opted out of the company car scheme by dividing the number of opted out employees by 2 ( $\frac{1}{2}$ ).

$$\frac{1}{4} / 2 = \frac{1}{8}$$

**Step 2** – Identify the fraction of employees that opted out of the company car scheme due to environmental concerns by dividing the opted out employee number by 8 ( $\frac{1}{8}$ ).

$$\frac{1}{8} / 8 = 1/64$$

Thus the correct answer is (B) 1/64

72.

**Step 1** – Calculate the total number of referral visits during February by combining the referral traffic figures from Facebook, the student room and other websites.

$$865 + 632 + 235 = 1,732 \text{ visits}$$

**Step 2** – Calculate the total number of visits during February by dividing the number of referral visits by 16.87% (0.1687).

$$1,732 / 0.1687 = 10,266.7457 = 10,267 \text{ visits}$$

Thus, the correct answer is (D) 10,267 visits.

73.

**Step 1** – Calculate the revenue generated by the sale of oil and gas produced per day by multiplying the volume of oil and gas produced per day by their value per barrel/1000 cubic metres.

$$5000 \times \$91.87 = \$459,350.00$$

$$17 \times \$131.10 = \$2,228.70$$

**Step 2** – Calculate the profit generated by the sale of oil and gas produced per day by multiplying the revenue by the respective profit margins (0.31 and 0.27).

$$£459,350 \times 0.31 = \$142,398.50$$

$$£2,228.70 \times 0.27 = \$601.749$$

$$\$142,398.50 + \$601.749 = \$143,000.249$$

**Step 3** – Calculate the profit generated by the sale of oil and gas over 7 weeks.

$$7 \times 7 = 49 \text{ days}$$

$$49 \times \$143,000.249 = \$7,007,012.201 = \$7,007,012$$

Thus the correct answer is (A) \$7,007,012

74.

The correct answer is D

First Rule: Every time, the small triangle nearest the bottom right corner is split into two equal triangles of the same proportions.

Second Rule: The two, newly created, smallest triangles are always unshaded. The rest alternate between being shaded and unshaded in each image.

Third Rule: The stick figure moves up the hypotenuse of the largest triangle by an equal amount every time.

75. The correct answer is D.

First Rule: The shading of the small triangles moves 3 triangles anti-clockwise each time.

Second Rule: The cross-hatching on the kite shapes near the corners of the figure, which is always in the direction of the nearest corner, moves clockwise, alternating between moving one shape and moving two.

Third Rule: The centre shapes alternates between having downward sloping cross-hatching and having upward sloping cross-hatching.

76. (a) His learning; Because the paragraph mentions that "He was very proud of his learning".

77. (c) because boatman was ignorant and hence had wasted his life; Because the paragraph mentions that "The professor laughed at his ignorance and told him that he had wasted his life".

78. (d) The boatman - was illiterate, knew swimming; Because the professor was learned, knew Shakespeare, did not know swimming and the boatman was illiterate, did not know Shakespeare but knew swimming.

79. (b) How proud he was!; The best matching option.

80. (a) Proudly; **Polite means showing regards for others in manners, speech, and behavior. Since you are a *polite* dinner guest, you thank the host for inviting you and, even though you think the chicken is not cooked to perfection, you tell her you are enjoying the meal.**

The adjective *polite* comes from the mid-13th century Latin *politus*, which means "refined" or "elegant." Showing consideration for others, using tact, and observing social norms are the qualities of being polite. The opposite of *polite* is *rude*. Because the poet E.E. Cummings thought imagination is most important, he wrote, "Knowledge is a *polite* word for dead but not buried imagination.