ANSWERS & EXPLANATION

APTITUDE TEST–Test (4283) – 2024

1 (b)

Option (a) is incorrect. The given crux is not correct. Refer to the lines "*Left with just 5% of the range where they used to roam,* ***tigers are losing their homes*** *to deforestation, infrastructure, and other human disturbances, forcing them into rapidly diminishing pockets of nature."* It is true that tigers are losing their habitats, however, there is no information about whether this loss of habitat has made tigers 'the most' threatened species on the planet. Also, there could be other factors behind their reducing numbers like poaching. So, as per the passage, this option is not correct.

Option (b) is correct. The lines "***Protecting tiger landscapes not only helps to protect these majestic big cats but also thousands of other species (feature of Keystone species).*** *Left with just 5% of the range where they used to roam, tigers are losing their homes to deforestation, infrastructure, and other human disturbances, forcing them into rapidly diminishing pockets of nature*." The given option captures the essence of the passage that since the tiger is a keystone species, it is critical to protect it and preserve its habitat. Therefore, this answer option best reflects the crux of the passage.

Option (c) is incorrect. The author only says that Asia is home to some of the most exceptional species. In Asia, Sumatra is the only place where tigers and organgutans live together. From these lines, we cannot conclude that Asia holds the largest population of tigers and that the majority are in Sumatra. Hence, the given option is not the best crux.

Option (d) is incorrect. The passage talks about the shrinking habitats of tigers. There could be multiple implications of this shrinking habitat. The author chooses to tread the line of its impact on tiger population, not the impact on human-wildlife encounters. Therefore, this answer option is incorrect.

2 (d)

Assumption 1 is invalid. Whether or not social security measures are the best way to ensure a decent quality of life is not discussed in the passage. Therefore, this assumption is not valid.

Assumption 2 is invalid. As per lines "*A worker works* ***not only for economic motivation (salary) but also*** *for the sense of belongingness and security within his workplace",* it is important to understand that salary and sense of belongingness are both important factors for working for an employee. To say that sense of belongingness is more important than salary would not be correct. Hence, the given assumption is not correct.

3 (a)

Option (a) is correct. Refer to the lines "*The purpose of any social security measure is to give individuals and families the confidence that their level of living and quality of life will not erode by social or economic eventuality."* and "*... today in the world of labour and employment,* ***the employee and employers' interest is at par with each other, and the principal focus is on the combined interest and satisfaction of both."*** These lines clearly reflect that an employee needs social security, and the employer needs work commitment from employees. Hence, this answer option aptly captures the intent of the author.

Option (b) is incorrect. We cannot conclude that the government is less responsible, and the employer is more. Refer to the lines "…***but it is the law which defines such duty for the employer***" and "*Indian legislations have gone a long way in strengthening this cause and because of this and many other factors..."* So, both are important. But government, by enacting the required laws, plays a driving role. Hence, this option is not correct as per the passage.

Option (c) is incorrect. The line "*If these conditions are fulfilled with a joint effort and contribution from both the employer and the employee, then the workplace to a great extent will become a home of sorts",* show the conditions under which an employee feels at home at the office. It is possible that the performance of employees improves under such conditions. However, it would be an exaggeration to say that the performance of all employees, as well as the management, improves. We cannot make such sweeping generalisations in the context of this passage. Therefore, this option is not correct.
Option (d) is incorrect. The passage does not discuss about demographic dividend of India. It's out of context. Also, to say that "*social security measures are a must*" is kind of an extreme statement.

4 (a)

p% of (p/q) + (p/q)% of p
= (p/100) × (p/q) + [(p/q) /100] × p
= p^2/ 100q + p^2/100q
= $2p^2$ / 100q
= p^2/50q
Now, r% of p/q = (r/100) (p/q) = rp/100q
As per the question,
p% of (p/q) + (p/q) % of p = r% of (p/q)
or p^2/50q = rp/100q
or r = (p^2/50q) / (p/100q)
or r = 2p
Hence, option (a) is the correct answer.

5 (d)

Let the ages of Raju and Bittu be X and Y respectively.
According to the question,
15 (X + Y)/100 = 25 (X - Y)/100
or 15 (X + Y) = 25 (X - Y)
or 10X = 40Y
or X = 4Y
∴ Required percent = (X/Y) ×100 = (4Y/Y) × 100 = 400%
Hence, option (d) is the correct answer.

6 (c)

Statement 1:
From the first part of statement 1, we can write x = 0.4y.
From the second part of statement 1, we can write y = 0.6z.
Combining these equations, we can express x in terms of z:
x = 0.4y = 0.4(0.6z) = 0.24z.Statement 1 provides a relationship between x and z, allowing us to express x in terms of z. Therefore, statement 1 alone is sufficient to answer the question.
Statement 2:
From the first part of statement 2, we can write x = y + 0.25y = 1.25y.
From the second part of statement 2, we can write y = z - 0.2z = 0.8z.
Combining these equations, we can express x in terms of z:
x = 1.25y = 1.25(0.8z) = z.
Statement 2 provides a direct relationship between x and z, allowing us to express x in terms of z. Therefore, statement 2 alone is also sufficient to answer the question.
Since both statements individually provide sufficient information to determine the value of x, the answer is option (c).

7 (d)

Checking option (a):
Percentage increase in earnings in 2022 as compared to 2021 = [(450 - 400)/400] × 100 = 12.5%
Checking option (b):
Percentage increase in earnings in 2020 as compared to 2019 = [(600 - 450)/450] × 100 = 33.33%
Checking option (c):
Percentage decrease in earnings in 2021 as compared to 2020 = [(600 - 400)/600] × 100 = 33.33%

Checking option (d):
Percentage increase in earnings in 2019 as compared to 2018 = [(450 - 300)/300] × 100 = 50%
Hence, option (d) is the correct answer.

8 (d)

Increase in earnings in 2020 as compared to 2019 = 600 - 450 = 150 thousand
Increase in expenses in 2020 as compared to 2019 = 500 - 350 = 150 thousand
Required ratio = 150/150 = 1 : 1
Hence, option (d) is the correct answer.

9 (d)

A sum of money becomes 16 times in 6 years and 81 times in 10 years.
Amount = Principal × $(1 + \text{rate}/100)^{\text{time}}$
Let principal be ₹ P.
So, $16P = P(1 + \text{rate}/100)^6$ …… (i)
$81P = P(1 + \text{rate}/100)^{10}$ …… (ii)
On dividing equation (ii) by equation (i), we get:
$81/16 = (1 + \text{rate}/100)^{10-6}$
Or $81/16 = (1 + \text{rate}/100)^4$
Or $(1 + \text{rate}/100) = (81/16)^{1/4}$
Or $(1 + \text{rate}/100) = 3/2$
Or Rate = $(3/2 - 1) \times 100 = 50\%$
Hence, option (d) is the right answer.

10 (d)

To calculate simple interest, we need principal, rate and time.
However, in this question we don't know the principal and rate of interest. So, here it is impossible to calculate the simple interest.
So, option (d) is the correct answer.

11 (d)

Option (a) is incorrect. The given statement mentions the issues with traditional food security programs, not necessarily in context of India. Moreover, the "*new challenges related to hunger*" have not been discussed either. Hence, this option is not the best crux of the passage.
Option (b) is incorrect. The context of cash transfers and nutritional security is not a part of the passage. Therefore, this option is beyond the scope of the passage.
Option (c) is incorrect. The structure of food systems and the need to change them is not covered in the passage. The line "*Furthermore, the interwoven interactions and feedbacks in the food system mean that direct interventions in one area create risks or exacerbate problems in another*" only covers how interactions and feedbacks affect different areas in the food system. So, this option is not the best crux of the passage.
Option (d) is correct. The lines "***The focus on food production leads to the neglect of other areas*** *in which the root causes of the food system's underperformance, as well as the leverage points to bring about the biggest impacts, can often be found",* show that merely increasing the food production would not be enough for addressing food security because food systems' underperformance is caused by many other factors. Hence, this option best reflects the crux of the passage.

12 (b)

Assumption 1 is invalid. As per the passage, children under 5 make up only 9 per cent of the world's population, but they account for almost 40 per cent of foodborne diseases and 30 per cent of related deaths. So, it would not be correct to say that burden of foodborne disease is evenly distributed across age groups.

Assumption 2 is valid. The given assumption is correct because it validates the information given in lines "*This global burden of foodborne disease is unequally distributed. Relative to their population,* ***low- and middle-income countries in South Asia****, Southeast Asia, and sub-Saharan Africa bear a proportionately high burden" and "Unsafe food* ***threatens young children the most****."* So, the agencies must focus on children from low and middle-income countries because those are the most vulnerable. Hence, this assumption is correct as per the passage.

13 (d)

Option (a) is incorrect. The passage is not about World Health Organization. The mention of the WHO in the passage is limited to the line "*Foodborne diseases caused an estimated 600 million illnesses and 420,000 premature deaths in 2010 according to World Health Organization."* Though, this option could be a fair implication, to say that this is the crux would not be correct, because the passage is much broader in context. Hence, this option is not the crux of the passage.

Option (b) is incorrect. The context of adopting best food safety practices from developed countries is not a part of the passage. Hence, this option is beyond the scope of the passage- There is no information about food safety standards in developed countries.

Option (c) is incorrect. The given passage is about food, food safety and related illnesses. To say that there is a need for increased investment in health infrastructure might be correct in general, but not in the context of the passage. The passage does not discuss the dimension of health infrastructure. Hence, this option is beyond the scope of the passage and hence not the correct answer.

Option (d) is correct. The given option is correct and best reflects the crux because of the lines, "*... low and middle-income economies about US$ 110 billion in* ***lost productivity*** *(economic)* ***and medical expenses*** *(health) each year…. Better managing the safety of food would also significantly contribute to* ***achieving multiple Sustainable Development Goals*** *(international benchmarks), especially those relating to poverty, hunger, and well-being."* Therefore, this option best reflects the crux of the passage.

14 (a)

Option (a) is correct. The line *"In this context, technological advancements may provide new benefits — however, history also offers many examples of adverse health impacts from new technologies*", shows that technology has not necessarily benefitted human health as seen in history. Therefore, to say that resorting to technology might not solve the issues of human and ecological health would be correct as per the passage.

Option (b) is incorrect. The passage is specific about European countries. It is evident from the line: *"Despite significant improvements, major differences in environmental quality and human health remain between and within European countries."* The author has quoted the case of Europe. This does not mean that it is limited to European region only. It could be prevalent in other regions of the world also. Therefore, this option is not correct.

Option (c) is incorrect. The given option is not correct because the statement presents a necessary relation between environmental health and human health which is not seen in the passage. The line *"The environment plays a crucial role in people's physical, mental, and social well-being",* only shows that the environment impacts different aspects of a person's life, but to say that without addressing the environment it is impossible to address human health would not be correct. May be there are medical interventions to address such issues. So, this option is not correct as per the passage.

Option (d) is incorrect. The line "*In this context, technological advancements may provide new benefits — however, history also offers many examples of adverse health impacts from new technologies*", shows that technology can adversely impact health. Therefore, evaluating such impacts is important. However, whether this should be done by "*government recognized lab*" or some other institute has not been discussed in the passage. So, this option is not correct.

15 (a)

Option (a) is correct. The given option is correct because of the lines, "Despite *this progress, communicable diseases are* ***expected to continue to remain a major public health problem*** *..., communicable disease outbreaks will* ***continue to challenge public health****, requiring a high level of readiness in terms of early detection and rapid response."* These lines indicate the crux of the passage that it will be difficult to eradicate communicable diseases in the coming future.

Option (b) is incorrect. The lines *"In the health sector, India has made enormous strides over the past decades. The life expectancy has crossed 67 years, and infant and under-five mortality rates are declining as is the rate of disease incidence",* reflect that the health indicators have improved. But to extrapolate and mention that this will boost human capital and then economic growth would not be correct as it is not based on the information given in the passage. Therefore, this answer option is incorrect.
Option (c) is incorrect. The context of natural immunity is not discussed in the passage. Also, the focus, as per the passage, should be on early detection and rapid response. So, this option is beyond the scope of the passage.
Option (d) is incorrect because option (b) is incorrect.

16 (b)

Let the original selling price of item be Rs.300x.
New selling price = 300x × 33.33% = 300x × 1/3 = Rs. 100x
He suffers a loss of 33.33% if he sells the item at Rs.100x.
Then, cost price = 100x × (3/2) = Rs.150x
60% of original selling price = 60% of 300x = Rs.180x
Profit % = [(180x – 150x)/ 150x] × 100 = 20%
Hence, option (b) is the correct answer.

17 (d)

Here, P = ₹ 8000
As interest rate doubles every year, so $R_1 = 4\%$; $R_2 = 8\%$; $R_3 = 16\%$
∴ Amount at the end of the third year, $A = P (1 + R_1/100) (1 + R_2/100) (1 + R_3/100)$
Or $A = 8000 (1 + 4/100) (1 + 8/100) (1 + 16/100)$
Or $A = 8000 (1 + 1/25) (1 + 2/25) (1 + 4/25)$
Or $A = 8000 \times (26/25) \times (27/25) \times (29/25)$
Or $A = 8000 \times (26 \times 27 \times 29) / (25 \times 25 \times 25)$
Or A = 10,423.30
Thus, at the end of the 3rd year she will receive ₹10,423.30
Hence, option (d) is the right answer.

18 (b)

From the given graph, we get:

Year	Different sectors										
	Mechanical	**Engineering**	**Paint**	**Services**	**Electronics**	**Real-Estate**	**Food**	**Pharma**	**Chemical**	**Fertilizer**	**Others**
2008	17	15	8	16	9	9	4	0	0	0	5
2009	9	4	0	12	0	5	0	27	4	8	24

As per the above table, there are 4 sectors wherein FDI increased in 2009 as compared to 2008.
Hence, option (b) is the correct answer.

19 (c)

Male patients that recovered in hospital R = 35
Total number of male patients that recovered in all the hospitals = 22.5 + 20 + 35 + 30 + 12.5 + 25 = 145
Required percent = (35/145) × 100 = 24% (approximately)
Hence, option (c) is the correct answer.

20 (a)

Cost price of bicycle = ₹ 8000
Raman got two successive discounts of 10% and 15%.
∴ Resultant cost price = 8000 x (90/100) × (85/100) = 8 x 9 x 85 = ₹ 6120
Finally, he sold the bicycle at ₹ 8000.
∴ 8000 = CP + repairing cost + profit / loss
Or 8000 = 6120 + repairing cost + profit / loss

Checking option (a):
8000 = 6120 + (repairing cost + profit)
Or 1880 = (repairing cost + profit)
So, if he earns a profit, the sum of repairing cost and profit is ₹ 1880.
So, option (a) is right.
Checking option (b):
Repairing cost is 30% of CP.
∴ Repairing cost = (6120 × 30)/100 = ₹1836
8000 = CP + repairing cost + profit / loss
Or 8000 = 6120 + 1836 + profit / loss
Or 8000 = 7956 + profit / loss
Or profit = 44
So, it will be a profit, not loss.
So, option (b) is wrong.
Checking option (c):
Repairing cost is not given. So, option (c) is wrong.
Hence, option (a) is the correct answer.

21 (b)

Marked price of book = ₹ 40
Discount percentage = 15%
Price of free pen = ₹2
∴ Effective selling price of the book = 40 – (40 × 15)/100 – 2 = ₹32
We know that, he earns a profit of 60%.
∴ Cost price of book = (32 × 100)/160 = ₹20
So, Profit = 32 – 20 = ₹12
∴ Percent of cost price with respect to the profit = (20 × 100)/12 = 166.67%
Hence, option (b) is the correct answer.

22 (b)

Let total number of people in the party be x.
Number of people who ate roti = 72x/100
Number of people who ate rice = 44x/100
Number of people who ate both = {72x/100} + {44x/100} – x
= 1.16x – x = 0.16x
According to the question,
0.16x = 80
Or x = 80/0.16
Or x = 500
So, there were 500 people in the party.
Hence, option (b) is the right answer.

23 (c)

Sanjay's expenditure is 40% of Dinesh's expenditure.
Dinesh's expenditure is 25% of Shikha's expenditure
Hence, the ratio of their expenditures is,
Sanjay : Dinesh : Shikha = 40 : 100 : 400
= 2 : 5 : 20
So, Sanjay's expenditure with respect to Shikha's expenditure (in percent) = (2/20) × 100 = 10%
And, Sanjay's expenditure with respect to Dinesh's expenditure (in percent) = (2/5) × 100 = 40%
So, Sanjay's expenditure is 90% less than Shikha's expenditure and 60% less than the Dinesh's expenditure.
Hence, option (c) is the correct answer.

24 (d)

B is 30% less than C, and A is 37% less than C.
So, A : B : C = 63 : 70 : 100
∴ Required percentage = [(70 – 63)/70] × 100
= (7/70) × 100 = 10%
So, it is clear that both statements are required to answer the given question.
Hence, option (d) is the correct answer.

25 (a)

To determine if the percentage increase in sales from Year 1 to Year 2 is greater than the percentage increase from Year 2 to Year 3, we need to compare the two increases.
Statement 1 tells us that sales increased by 20% from Year 1 to Year 2. However, it doesn't provide any information about the increase from Year 2 to Year 3. Thus, statement 1 alone is not sufficient.
Statement 2 tells us that sales increased by 15% from Year 2 to Year 3. However, it doesn't provide any information about the increase from Year 1 to Year 2. Hence, statement 2 alone is also not sufficient.
By combining both the statements, we know the percentage increase in sales for both the intervals.
Let sales in Year 1 be Rs. 100.
So, sales in Year 2 = 120% of 100 = Rs. 120 (So, an increase of Rs. 20)
And, sales in Year 3 = 115% of 120 = Rs. 138 (So, an increase of Rs. 18)
Hence, option (a) is the correct answer.

26 (d)

Total number of bicycles manufactured by company A during 2013-2018 = 260 + 218 + 224 + 179 + 266 + 348 = 1495
Average number of bicycles manufactured during 2013-2018 = 1495/6 = 249.16
Total number of bicycles manufactured by company B during 2013-2018 = 307 + 270 + 250 + 289 + 310 + 416 = 1842
Average number of bicycles manufactured in company B during 2013-2018 = 1842/6 = 307
Required percentage = [249.16/307] × 100 = 81% (approximately)
Hence, option (d) is the right answer.

27 (d)

Let Puja invested ₹ X and Archana invested ₹ Y.
Puja got simple interest of ₹ 820.
Time = 2 years, Rate = 5%
Principal = (Simple interest ×100)/(Time × Rate)
or X = (820 × 100) / (2 × 5)
or X = ₹ 8200
We know that, $CI = P[(1 + r/100)^n – 1]$
or $P = CI/[(1 + r/100)^n – 1]$
So, Principal invested by Archana, $Y = 820/[(1 + 5/100)^2 – 1] = 820/\{(441/400) – 1\}$ = ₹ 8000
∴ Sum of the principals invested by them = 8200 + 8000 = ₹ 16200
Therefore, statement 1 is not correct.
Also, Archana invested ₹ 200 less than Puja.
Therefore, statement 2 is also not correct.
So, both statements are incorrect.
Therefore, option (d) is the right answer.

28 (d)

Let total votes be 100x.
Votes secured by Rohan = 30% of 100x = 30x
Remaining votes = 100x – 30x = 70x
Votes secured by Mohan = 60% of 70x = 42x
Remaining votes that were secured by Sohan = 100x – (30x + 42x) = 28x
Given that, Sohan secured 84000 votes.
∴ 28x = 84000
or x = 84000/28 = 3000 votes

So, Total votes = 100x = 100 × 3000 = 300000 votes
Votes secured by Rohan = 30x = 30 × 3000 = 90000 votes
Votes secured by Mohan = 42x = 42 × 3000 = 126000 votes
Winning margin or difference of votes between Mohan and Rohan (i.e. winner and runner-up) = 126000 – 90000 = 36000 votes
Hence, option (d) is the right answer.

29 (a)

Let r% be the rate of interest and n years be the time.
Amount = Principal × $(1 + \text{rate}/100)^{\text{time}}$
So, $7840 = 4000\ (1 + r/100)^n$
or $(1+ r/100)^n = 7840 / 4000$
or $(1+ r /100)^n = 1.96$
or $(1 + r/100)^{n/2} = \sqrt{1.96}$
or $(1 + r/100)^{n/2} = 1.4$ …… (i)
Checking statement 1:
∴ In (n/2) years ₹ 4000 will amount to $4000\ (1 + r/100)^{n/2}$
$= 4000 \times 1.4$ [on putting the value of $(1 + r / 100)^{n/2}$ from equation (i)]
= ₹ 5600
Thus, in half of that time ₹ 4000 will amount to ₹ 5600.
Therefore, statement 1 is correct.
But we cannot calculate the rate of interest based on the given data.
Hence, option (a) is the right answer

30 (c)

Option (a) is incorrect. The passage does not cover aspects of all states. Refer to the line: *"In the event of indiscriminate use of interstate waters by a state, the Centre can enact a law to prohibit the state in the larger public interest."* In case of indiscriminate use of interstate waters by a state, the centre can intervene in larger public interest. This does not mean that all states having interstate rivers are at a disadvantage. Therefore, this answer option is incorrect.
Option (b) is incorrect. The issue of amendment has not been discussed in the passage. So, whether the amendment should happen or not is beyond the scope of the passage.
Option (c) is correct. The given option best reflects the implication of the passage. The lines "*In this regard, **a state only exercises its right to use water** for various purposes **as long as the Union government deems fit** (oversight). In the event of indiscriminate use of interstate waters by a state, the Centre can enact a law to prohibit the state in the larger public interest."* These show that states have the 'right to use' under centre's oversight. Hence, as per the passage, this option is correct.
Option (d) is incorrect. The given option is extreme. The constitution itself has given states the power on the subject of "water" within its jurisdiction. So, it would not be correct to take away all such powers. Also, the passage does not mention anything related to amending such powers. Therefore, as per the passage, this option is not correct.

31 (b)

Option (a) is incorrect. As per the lines, *"The United Nations (UN) World Water Development Report (WWDR) has provided an update on the present trends of clean water availability and future expectations",* **UN WWDR is a report which provides the status** of clean water access. Also, the passage does not mention that UNWWDR is responsible for ensuring access to clean water. So, to say that it should focus primarily on Africa and Asia for ensuring clean water access would not be correct as per the passage.
Option (b) is correct. Refer to the lines, "***The strain will be aggravated by unequal population growth*** *in different areas unrelated to local resources. Most of this population growth is expected in developing countries, first in Africa, and then in Asia, where scarcity of clean water is already a major issue".* This shows that clean water is already a scarcity in Africa and Asia. This would be further strained due to population growth. Hence, as per the passage, population growth would be a major contributor to water scarcity in future.

Option (c) is incorrect. The passage specifically mentions the case of African and Asia in the line, "*Most of this population growth is expected in developing countries, first in Africa, and then in Asia, where scarcity of clean water is already a major issue."* The context of developed countries is not covered in the passage. Hence, this option is beyond the scope of the passage.

Option (d) is incorrect. The increasing population will be a challenge with regards to access to clean water as per the lines "*The strain on the water system will grow by 2050 when the world population will reach between 9.4 and 10.2 billion, a 22 to 34% increase."* Population increase does create a strain on water resources. So, controlling population could be a solution. However, we do not know about other available solutions. So, we cannot comment on whether or not population control is the best way to ensure access to clean water. Also, the focus of the passage seems to be more on describing the problem than on providing the possible solutions.

32 (c)

Anshuman scored 86 marks, but he still failed by 86 marks.
∴ 43% = 86 + 86 = 172
∴ 100% = (172/43) × 100 = 400
So, Passing marks = 172
And, Total marks = 400
Checking statement (i),
It is clear that total marks are not a factor of 7.
Hence, it is not correct.
Checking statement (ii),
Passing marks are 228 marks less than the total marks.
Hence, it is not correct.
Checking statement(iii),
Anshuman got 86 marks.
Required percentage = (86 × 100)/172 = 50%
His mark are 50% less than the passing marks.
Hence, it is not correct.
Checking statement (iv),
If Anshuman got 200 more marks, then his marks would have been 286, which is 114 more than the passing marks.
∴ Required percentage = (114 / 172) × 100 = 66.27%
Hence, it is correct.
Hence, option (c) is the correct answer.

33 (b)

Let principal amount be ₹100.
It becomes 69% more in 2 years.
So, amount after 2 years = 100 + [100 × 69/100] = ₹ 169
Now, Amount = Principal × $(1 + \text{rate}/100)^{\text{time}}$
Or $169 = 100 \times (1 + \text{rate}/100)^2$
Or $(1 + \text{rate}/100)^2 = 169/100$
Or $(1 + \text{rate}/100) = (169/100)^{1/2} = 13/10$
Or $(\text{rate}/100) = 13/10 - 1 = 3/10$
Or rate = (3/10) × 100 = 30%
So, rate of interest is 30%.
Hence, option (b) is the right answer.

34 (c)

Amount = ₹1430
Let principal be ₹ X.
∴ Simple interest = ₹ (1430 – X)
Rate, R = 6%; Time, t = 5 years
Simple Interest = Principal × Rate × Time/100
So, (1430 – X) = (X × 6 × 5) / 100

⇒ (1430 × 100) – 100X = 30X
⇒ 130X = 143000
⇒ X = 1100
Now, Principal = ₹ 1100, R = 10%, t = 5/2 years
∴ Simple interest = (1100 × 10 × 5)/(2 × 100) = ₹ 275
∴ New amount = 1100 + 275 = ₹ 1375
So, option (c) is the right answer.

35 (b)

Observing the given graph carefully, we get that:
Export price per quintal in 1997 = 40000000/(6000) = ₹ 6666.66
Export price per quintal in 1999 = 40000000/(8000) = ₹ 5000
Export price per quintal in 2002 = 100000000/(14000) = ₹ 7142.8
Export price per quintal in 2003 = 160000000/(12000) = ₹ 13333.33
Hence, option (b) is the correct answer.

36 (d)

Height by the end of 6 months = 150% of 2 feet = 3 feet
Height by the end of 1 year = 125% of 3 feet = 15/4 feet
Height by the end of 1.5 years = 120% of 15/4 feet = 9/2 = 4.5 feet
Hence, option (d) is the correct answer.

37 (b)

The value of a machine is depreciating by 16% every year.
We know that, $A = P [1 – (R/100)]^t$
Where, A is amount; P is principle; R is rate of interest and t is time interval.
Price in 2022 was ₹ 37044.
∴ $37044 = P (1 - 16/100)^3$
or $37044 = P (21/25)^3$
or P = 37044 × 15625 / 9261
or P = ₹ 62,500
So, price of the machine 3 years ago was ₹ 62,500.
Hence, option (b) is the right answer.

38 (d)

When money is invested in two parts in such a way that the simple interest on the first part at X_1 rate and in T_1 time is equal to the simple interest on the second part at X_2 rate and in T_2 time, the ratio of the money is:
$X_2T_2 : X_1T_1$
In our case,
$X_1 = 4.5\%$, $T_1 = 3.5$ years
$X_2 = 5.25\%$, $T_2 = 4$ years
So, Ratio of money invested by Ramesh and Suresh = $X_2T_2 : X_1T_1 = 5.25 \times 4 : 4.5 \times 3.5 = 4 : 3$
∴ Suresh's investment = 2100 × 3/(3 + 4) = 2100 × 3/7 = ₹ 900
Hence, option (d) is the right answer.

39 (d)

6% of Ram's Maths marks = 18% of Raju's Science marks
So, Marks scored by Ram in Maths = 3 × Marks scored by Raju in Science …… (i)
Also, 10% of Raju's Science marks = 30% of Mohan's English marks
So, Marks scored by Raju in Science = 3 × Marks scored by Mohan in English ……(ii)
Even on using both the equations (i) and (ii), we could not find the answer.
Hence, option (d) is the correct answer.

40 (c)

We know that, Compound interest (CI) = P $\{(1 + R/100)^t - 1\}$
Here, Principle (P) = ₹ 3750, Rate (R) = 12%, time (t) = 2 years
$\therefore$ C.I. = 3750 $\{(1 + 12/100)^2 - 1\}$
= 3750 $\{(28/25)^2 - 1\}$
= 3750 $\{784/625 - 1\}$
= 3750 × 159/625
= ₹ 954
Thus, Shyamlal will get ₹ 954 as interest at the end of 2 years.
Hence, option (c) is the right answer.

41 (d)

Assumption 1 is incorrect. Refer to the lines "*The **psychological impact** of unemployment on a household can have a significant impact on the broader economy."* Unemployment does not only have economic impacts; the psychological impacts are also intense. For example, even after re-employment it takes time to resume the same level of expenditure that was there before being unemployed. So, we cannot say that economists are best placed – other experts like sociologists or psychologists might also be required. Furthermore, it is grossly incorrect to say that economists can single-handedly asses the overall impact. They would need other experts also. Therefore, this answer option is incorrect.
Assumption 2 is incorrect. The given assumption is not correct because making the government accountable for giving jobs to the unemployed is not a part of the passage. The line "It is in society's best interest for the newly unemployed to quickly navigate the re-employment market and re-emerge with the best wage outcome possible", specifies that it is in the interest of society to give jobs to the unemployed.

42 (c)

Option (a) is incorrect. Unemployment can have a devastating impact both on a household and the general economy. There is no mention about whether or not the household impact has been duly studied. The passage only says that economists have long sought better information on the dynamic influences of the re-employment market. So, this answer option is beyond the scope of this passage.
Option (b) is incorrect. The passage nowhere mentions that unemployment is the biggest challenge for the growth of the economy. There could be other challenges that are not discussed in the passage. So, this option is not the best crux of the passage.
Option (c) is correct. The author says that unemployment can have devastating impact on households. The increase in uncertainty for the household can have a multiplier effect on the reduction of consumer spending. The psychological impact of unemployment on a household can have a significant impact on the broader economy. From these arguments we can safely infer that the uncertainly around unemployment cannot be underestimated as compared to the issue of unemployment per se.
Option (d) is incorrect. The author talks about the impact on households, the psychological dimensions of unemployment, and the qualitative aspects. These subtle aspects might not be adequately addressed by data alone. We might need micro level information on individual experiences. Therefore, we cannot say that macro level data-based policy decision is sufficient to address the issue of unemployment.

43 (d)

Statement 1 is incorrect. The passage nowhere mentions that science and philosophy are contradictory to each other. The author clearly quotes examples wherein science and philosophy often went together in the work of great figures such as Newton and Leibniz. So, we cannot say that conciliation between science and philosophy is not possible because of their contradictory nature.
Statement 2 is also incorrect. The author only quotes the examples of Newton and Leibniz to highlight that science and philosophy are not completely contradictory. Both Newton and Leibniz were great figures. However, it is nowhere indicated that both were the greatest philosophers and scientists. In fact, the author says that they were not philosophers in professional sense. The passage nowhere mentions that Newton and Leibniz were the greatest philosophers. Therefore, this answer option is incorrect.

44 (c)

Assumption 1 is valid. The lines *"Another chronic feature is that actual payments lag allocations",* reflect that there are cases of lag payments which certainly would cause delay in execution and the overall effectiveness of the programme would get affected. So, this assumption is correct as per the passage.

Assumption 2 is valid. There is a multiplicity of schemes undergoing constant repackaging as governments try to appeal to voters. These schemes are fluid and unstandardized. Funds are transferred to the states and reallocated to different sub-sectors. All these issues clearly indicate towards rationalisation and de-politicization of social sector schemes. Therefore, this answer option is correct.

45 (b)

We will check by substituting the values for each option.
For option (a):
A = (45% of P) – (15% of Q) = 0.45 × 700 – 0.15 × 400 = 255
B = (25% of P) + (20% of Q) = 0.25 × 700 + 0.20 × 400 = 255
Clearly, A = B, hence option (a) is wrong.
For option (b):
A = (45% of P) – (15% of Q) = 0.45 × 700 – 0.15 × 300 = 315 – 45 = 270
B = (25% of P) + (20% of Q) = 0.25 × 700 + 0.20 × 300 = 175 + 60 = 235
Clearly, A-B > 0
Hence, option (b) is the correct answer.

46 (d)

Let marked price of each merchant be ₹100.
A sold the machine after giving a 30% discount.
Discount offered by A = 100 × 30/100 = ₹ 30
Selling price of A = 100 – 30 = ₹ 70
B sold the same machine after giving three successive discounts of 10% each.
First discount offered by B = 100 × 10/100 = ₹ 10
Price after first discount = 100 – 10 = ₹ 90
Second discount offered by B = 90 × 10/100 = ₹ 9
Price after 2nd discount = 90 – 9 = ₹ 81
Third discount offered by B = 81 × 10/100 = ₹ 8.10
Selling price of B after giving three successive discounts of 10% each = 81 – 8.10 = ₹ 72.90
C sold the same machine after giving successive discounts of 15%, 10% and 5%.
First discount offered by C = 100 × 15/100 = ₹ 15
Price after discount = 100 – 15 = ₹85
Second discount offered by C = 85 × 10/100 = ₹ 8.5
Price after discount = 85 – 8.5 = ₹ 76.5
Third discount offered by C = 76.5 × 5/100 = ₹ 3.825
Price after third discount = 76.5 – 3.825 = ₹72.675
Selling price of C after giving successive discounts of 15%, 10% and 5% = ₹72.675
∴ Descending order of their selling prices is BCA.
Hence, option (d) is the correct answer.

47 (c)

Let price of all toys = ₹ 100
Selling price at 10% profit = 100 + 100 × 10/100 = 100 + 10 = ₹ 110
Selling price at 10% loss = 100 – 10 = ₹ 90
∴ Overall profit or loss percent = 0%
Hence, option (c) is the correct answer.

48 (a)

Average production of onion in state P = (35 + 50 + 40 + 60 + 55 + 65 + 60)/7 = (365/7) metric tonn
Average production of onion in state R = (50 + 55 + 45 + 70 + 50 + 60 + 80)/7 = (410/7) metric tonn
Required percent= [(365/7)/(410/7)] × 100 = 89% approximately
Hence, option (a) is the correct answer.

49 (c)

Using graph 'B', we can find out the average quantity of milk consumed during the given period.
Required average = (390 + 410 + 400 + 450 + 500 + 525)/6 = 2675/6 = 445 liters per 1000 population.
According to graph 'A',

In 2017, percentage of exports with respect to production = (96 × 100)/480 = 20%
In 2018, percentage of exports with respect to production = (180 × 100)/540 = 33.33%
In 2019, percentage of exports with respect to production = (288 × 100)/720 = 40%
In 2020, percentage of exports with respect to production = (340 × 100)/700 = 48.57%
In 2021, percentage of exports with respect to production = (400 × 100)/600 = 66.6%
In 2022, percentage of exports with respect to production = (450 × 100)/660 = 68.18%
Year 2022 shows the maximum percentage of exports with respect to production.
Thus, both Statements 1 and 2 follow.
Hence, option (c) is the correct answer.

50 (b)

Satya buys a pair of slippers for ₹500 and sells them to Sachin at a profit of 20%.
∴ Cost price for Sachin = 120% of 500 = (500 x 120)/100 = ₹ 600
Sachin sells the slippers to Nitin at a profit of 10%.
Cost price for Nitin = 110% of 600 = (600 × 110)/100 = ₹ 660

Checking each statement.
Statement (i):
Sachin paid ₹ 600, which is ₹ 100 more than what Satya paid.
Statement (ii):
Nitin gave ₹ 660 to Sachin, not Satya.
Statement (iii):
Sachin gave ₹600 to Satya
So, statements (i) and (iii) are correct.
Hence, option (b) is the correct answer.

51 (d)

Assumption 1 is invalid. The line, *"The benefits far outweigh the costs of better wastewater management"* only shows that the benefits are more than the cost. However, the assumption is that recycling is highly expensive compared to its safe discharge. We do not have any information about the process of safe discharge. Therefore, this answer option is incorrect.
Assumption 2 is invalid. The second assumption is not directly addressed in the passage. The passage discusses the potential of wastewater as a resource if it's properly managed and recycled, contributing to environmental sustainability. However, it does not mean that wastewater is becoming an ever-challenging issue in the field of environmental sustainability. Therefore, neither of these assumptions is valid.

52 (d)

Option (a) is incorrect. Whether wastewater is a finite or infinite resource is not discussed in the passage. We cannot assume it to be finite. Hence, this is not the correct option.
Option (b) is incorrect. The author has not commented on the participation of private sector. Therefore, we can rule this option out.
Option (c) is incorrect. The line "*Governments must exploit the enormous opportunities in wastewater*", only shows that the government must do something related to wastewater. The finer details and modalities of implementation (e.g. PPP mode) is not discussed in the passage. Therefore, we can rule this option out.
Option (d) is correct. The lines "*The benefits far outweigh the costs of better wastewater management. The positive impacts on water quality and supply by increasing wastewater recycling and safe reuse will* ***drive progress in public health, environmental sustainability and economic development by providing new business opportunities and creating more 'green' jobs***", show that wastewater recycling will need investment in operations. This investment will also give returns through its benefits like green jobs, improved public health, new business opportunities etc. So, as per the passage, this option is correct.

53 (c)

Option (a) is incorrect. Technology is borderless, but to say that it cannot be controlled even with international cooperation is not correct as per the passage. *The lines "Meanwhile, international cooperation is under strain, diminishing global potential for the prevention and resolution of conflict and violence in all forms.",* show that all forms of conflict and violence need international cooperation. So, this statement is not the best crux as per the passage.

Option (b) is incorrect. The author says that gender-based attacks are increasing globally. Furthermore, the long term impact of violence against children, is also more widely recognized. From these information, we cannot infer that women and children are the worst sufferers of conflicts and violence through cyberattacks. Therefore, this answer option is incorrect.

Option (c) is correct. The given option is correct or the best crux because of the following lines *"Meanwhile,* ***international cooperation is under strain, diminishing global potential*** *for the prevention and resolution of conflict and violence in all forms."* Clearly, the stain on international cooperation has affected the global efforts for conflict resolution. These lines reflect that without global cooperation, overcoming conflicts and violence would be a challenge. So, this answer option is correct.

Option (d) is incorrect. The passage only says that the nature of conflict and violence has transformed substantially since the UN was founded 75 years ago. Whether or not the UN has been successful in controlling conflicts and violence across the globe is nowhere indicated in the passage. Therefore, this answer option is incorrect.

54 (c)

Let the selling price of 1 article= Rs. 1.
So the selling price of 16 articles= Rs. 16.
And loss = Rs. 4
So the cost price = 16 + 4 = Rs. 20.
Hence the percentage of loss = 4/20×100 = 20%
Hence, option (c) is the correct answer.

55 (b)

Increase in profit in scheme A in 2016 = 100 - 45 = 55
Increase in profit in scheme B in 2018 = 70 - 45 = 25
Required percent = (55 × 100)/25 = 55 × 4 = 220%
Hence, option (b) is the correct answer.

56 (b)

Cost price of first bed sheet = (100 / 120) × 840 = 100 x 7 = ₹700
Cost price of second bed sheet = (100 / 96) x 1248 = ₹ 1300
Total cost price = 700 + 1300 = ₹ 2000
Total selling price = 840 + 1248 = ₹ 2088
Profit = 2088 – 2000 = ₹ 88
∴ Profit percent = (88/2000) x 100= 4.4%
Hence, option (b) is the correct answer.

57 (c)

Let ₹100 be the maximum prize money.
Monu won ₹40, and Golu won ₹50. That is, Monu won ₹10 less than Golu.
Statement 1:
Required percent = (10/40) × 100 = 25%
Thus, Golu got 25% more money than the money that Monu won.
Hence, statement -1 is right.
Statement 2:
Required percent = (10/50) × 100 = 20%
Thus, Monu got 20% less money than the money that Golu won.
So, statement 2 is also right.
Hence, option (c) is the correct answer.

58 (a)

Let total cost price of lemons be ₹ 300.
Statement 1:
According to statement 1, overall profit should be 25%.
∴ Total selling price = 300 + 300 × 25/100 = 300 +75 = ₹ 375
Now, C.P. of 1/3rd lemons, CP_1 = ₹100
and C.P. of 2/3rd lemons, CP_2 = ₹200

Selling price of 1/3rd lemons, $SP_1 = 100 \times 20/100 = ₹ 120$
∴ Selling price of 2/3rd lemons, SP_2 = Total selling price – Selling price of 1/3rd lemons = 375 – 120 = ₹255
So, Required percentage = {(255 – 200) / 200} × 100 % = 27.5%
So, statement 1 is right.
Statement 2:
$SP_2 = 255$ and $SP_1 = 120$
So, SP_2 is more than double of SP_1.
So, statement 2 is not correct.
Hence, option (a) is the correct answer.

59 (b)

Let principal be ₹ P.
Amount = ₹ 2P, Time = 12.5 = 25/2 years, Rate = R%
Simple interest = 2P – P = ₹P
Simple interest = (Principal × Rate × Time)/100
Or P = (P × R × 25)/(2 × 100)
Or R = 8%
New Amount = ₹ 3P, Principal = ₹ P, R = 8%
Simple interest = 3P – P = ₹ 2P
So, Time = (Simple interest × 100)/(Principal × Rate) = (2P × 100)/(P × 8) = 25 years
Hence, option (b) is the right answer.

60 (b)

Here the expenditure is constant.
Since, Rate × Consumption = Expenditure
So, Initially - 1×1 = 1 (assume it on your own)
After change - 1.25× c = 1
(c = new consumption)
So, c = 4/5
Hence, decrease in value = 1-(4/5) = 1/5
And percentage decrease = $[(1/5)/1] \times 100 = 20\%$
So, option (b) is the right answer.

61 (a)

Here, Principal = P = ₹ 80000
Rate, R = - 2.5 % = (-5/2)%
T = 2.2 years = 11/5 = 2(1/5) years
∴ Salary after 2.2 years = $80000 \{(1 - 5/(2 \times 100)\}^2 \times \{ 1 – 5/(2 \times 100 \times 5)\}$
$= 80000 \times (39/40)^2 \times (199/200)$
$= 80000 \times 39 \times 39 \times 199 / (40 \times 40 \times 200)$
= ₹ 75669.75
So, Kavita will get ₹ 75669.75 salary after 2.2 years.
Hence, option (a) is the right answer.

62 (b)

Assumption 1 is incorrect. The passage talks about data protection in general, and the need to balance the benefits and the risks of personal data processing. There is no mention about whether or not India has a robust data processing framework. Therefore, this answer option is incorrect.
Assumption 2 is correct. The given assumption is correct as it validates the line "*A strong data protection framework provides certainty which may* ***encourage investment, competition and innovation in the digital economy*** *and uptake of digital government and private sector services.*" Therefore, it is correct to say that data protection is important both for privacy concerns and economic growth of the country.

63 (b)

Option (a) is incorrect. The given statement is not correct because the passage does not mention the context of "*high incidences*" of the misuse of personal data. The author only says that data processing frameworks should ensure that individuals have confidence that their data is collected and stored safely and used solely for legitimate purposes. Therefore, this answer option is incorrect.

Option (b) is correct. Refer to the line: *"Governments, organisations, and individuals increasingly generate, collect and process personal data."* There are diverse stakeholders. Furthermore, data protection laws typically require personal data processing to be lawful, limited, transparent, accurate and secure. On top of it individuals' need some control over how personal data about them is processed. All this makes the development of a strong data protection regime is a complex process. This answer option is correct.

Option (c) is incorrect. As discussed above, framing a strong data protection regime is a complex task. Despite this complexity, the author is optimistic about the formulation of this regime. The author says that a strong data protection framework provides certainty which may encourage investment, competition and innovation. Had it been impossible to achieve, the author would not talk about the benefits of having a data protection regime. Therefore, it is incorrect to say that a strong data protection framework is impossible to achieve.

Option (d) is incorrect. The author mentions that governments, organisations, and individuals increasingly generate, collect and process personal data. So, they are important stakeholders in data processing framework. The passage also mentions the concerns of individuals – privacy concerns, some control over how personal data about them is processed, etc. However, we cannot say that the concerns of the individuals should be ranked higher than that of governments and private sector.

64 (a)

Statement 1 is not correct. The following line *"In healthcare, diagnosis and drug discovery will benefit enormously from AI"* talks about diagnosis and drug discovery, not about surgeries, that too critical in nature. So, as per the passage, this statement is not correct.

Statements 2 and 3 are correct. The lines "*AI could increase GDP growth in both advanced countries and emerging markets (statement 3)" and "In education, it can improve learning environments and learning outcomes and can better prepare youth for the transition to the workplace (statement 2)",* show that option (a) is correct.

65 (c)

Inference 1 is correct. The passage mentions, *"Yet with the exceptions of China and India, emerging markets have received only a modest share of global investment".* If global investment in AI is considered, the emerging markets have received a smaller pie. Therefore, we can say that advanced economies have invested more in AI, than emerging markets.

Inference 2 is correct. The passage states, *"...they may benefit more from AI implementation than advanced economies".* AI has the potential to bring significant improvements in sectors such as energy, healthcare, education, manufacturing, finance, and transportation in emerging markets.

66 (d)

Assumption 1 is incorrect. The following lines from the passage "*If climate change continues unaddressed it will increase inequality within countries and may even **reverse current progress** in reducing inequality between countries",* clearly show that there has been some progress in reducing inequality. However, the assumption states that there has been no progress which is not correct as per the passage.

Assumption 2 is incorrect. Whether urbanization will increase the inequality between rural and urban people has not been discussed in the passage. The lines "*They find high levels of wealth and modern infrastructure coexist with pockets of severe deprivation, often side by side",* only show that there is inequality within the urban centres. Rural-urban inequality pattern is not touched upon. So, this assumption is beyond the scope of the passage.

67 (b)

Let total savings be100%.
Savings spent on Char-Dham Yatra = 40%
So, remaining savings = 60%
Now, 10% of the remaining savings is spent on charity, i.e. 6% on charity …… (i)
So, remaining savings = 60% - 6% = 54%
Now, 16.67% of the remaining savings is spent on food, i.e. 54% × (50/3) / 100 = 9% …….. (ii)
So, remaining savings = 54% - 9% = 45%
It means she spent 55% of her total savings.
From equation (i) and (ii),
Savings spent on charity and food = 6% + 9% = 15%
Hence, option (b) is the right answer.

68 (c)

Let the original total weight be x.
Weight of the jar = (12.5/100)x = x/8.
Original weight of the water = x-(x/8) = 7x/8.
New weight of jar and water (jar + water) = (25/100)x = x/4.
New weight of water = new weight of jar and water – weight of jar = (x/4) – (x/8) = x/8.
Weight of water removed = original weight of water – new weight of water = (7x/8) – (x/8) = 6x/8
Fraction of water removed = weight of water removed/original weight of water = (6x/8)/(7x/8) = 6/7
Hence, option (c) is the correct answer.

69 (b)

The total number of characters = 10×50×60.
Let the number of sheets in the new format be p.
Since the total number of characters remains the same, therefore:
10×50×60 = p×30×25
So, p=40
So, increase in the number of sheets = 40-10 = 30
So, percentage increase = (30/10)×100 = 300%
Hence, option (b) is the right answer.

70 (d)

SI = Prn/100
Let the money borrowed at 15% simple interest per annum be ₹ X.
According to the question,
[(18000 × 12 × 2)/100] + [(X × 15 × 2)/100] = 9000
⇒ [(36000 × 12) / 100] + [30X / 100] = 9000
⇒ 30X / 100 = 9000 – 4320 = 4680
⇒ X = 4680 × 100 / 30
⇒ X = ₹ 15600
So, total borrowed amount = 18000 + 15600 = ₹ 33600
Hence, option (d) is the right answer.

71 (c)

Profit = 25%
Selling price = ₹ 3920
∴ Cost price = ₹ {(3920/125) × 100} = ₹ 3136
Profit = Selling price – Cost price = 3920 - 3136 = ₹ 784
Hence, option (c) is the correct answer.

72 (c)

Let cost price of mangoes be ₹ x
Ramesh's profit is 20%.
∴ Selling price = 120% of x = 6x/5
Suresh sells the mangoes at double the price.

So, selling price of Suresh = 12x/5
Profit = SP – CP = (12x/5) – x = ₹ 7x/5
∴ Profit percent = (Profit / CP) × 100 = (7x/5) × (1/x) × 100 = 140%
Hence, option (c) is the correct answer.

73 (d)

Let the initial amount invested be A.
Return on investment for the first year is 10% and for subsequent years is 20%.
Amount after 1 year = (110/100) × A = 1.1A
Amount after second year = (120/100) × 1.1A = 1.1A × 1.2
Similarly, amount after six years = 1.1 × $(1.2)^5$ A
Hence, option (d) is the correct answer.

74 (c)

Let the initial length and breadth of a rectangle be l and b respectively.
Initial area of rectangle = l × b = lb
New Length after it got increased by 20% = 120/100 × l = 1.2l
New Breadth after it got increased by 25%= 125/100 × b = 1.25b
New Area = 1.2l × 1.25 b = 1.5lb
Net change in area = New Area – Initial area = 1.5lb – lb = 0.5lb
Percentage increase in area = Net increase in area / original area × 100 = 0.5lb/lb × 100 = 50%
Hence, option (c) is the correct answer.

75 (d)

Let salary of C = ₹ 100
Salary of A = ₹ 130
Salary of B = ₹ 140
According to the question,
(130/140) × 100 = X
Or X = 650 / 7
Or X = 92 (6/7)
Hence, option (d) is the correct answer.

76 (d)

Inference 1 is incorrect. The line "*Though certified organic crop producers earn higher revenue, they incur higher production expenses as well",* shows that the production cost of organic farming is high. However, nowhere has it been mentioned in the passage that research on farm level data will help in reducing the cost of organic farming. Therefore, this inference is not correct.
Inference 2 is incorrect. Refer to the line: *"Though certified organic crop producers earn higher revenue, they incur higher production expenses as well"* and "*Contrary to expectations, certified organic farmers* ***do not earn significantly higher household*** *income than conventional farmers."* The revenue might be high in organic farming sector, but the input cost is also high. So, the net profit (revenue – input cost) might not be significantly higher in organic farming. Therefore, this inference is not correct.

77 (c)

Option (a) is incorrect. As per the passage "*Contrary to expectations, certified organic farmers* ***do not earn significantly higher household*** *income than conventional farmers."* Conventional farming is not more profitable than organic farming but is mildly less profitable. So, to say that conventional farming is highly profitable is not correct.
Option (b) is incorrect. Refer to the lines "*There is growing evidence that organic farming is* ***a rapidly expanding*** *economic sector in the U.S.*" Clearly, organic farming is expanding rapidly in the U.S. It is incorrect to say that organic farming is witnessing reduced growth in the U.S.
Option (c) is correct. The lines "*Though certified organic crop producers earn higher revenue; they incur higher production expenses as well. In particular, certified organic producers spend significantly more on labour, insurance, and marketing charges than conventional farmers",* reflect that organic farming involves higher input costs which reduces the net profits. Therefore, as per the passage, it would be correct to say that rationalising these expenses will help in making organic farming more profitable.

Option (d) is incorrect. The passage deals mostly with the economic aspects of organic farming vis-à-vis conventional farming. The environmental aspects are not touched upon in the passage. Therefore, this answer option is incorrect.

78 (c)

Let the cost price be Rs. 100.
Then the selling price= Rs. 114.
Now, let the marked price be Rs. x, then
95x/100 = 114
or x = Rs. 120.
If no discount was offered, the selling price = Rs. 120
The cost price = Rs. 100.
So, the percentage of profit = 20%
Hence, option (c) is the correct answer.

79 (d)

Let the original sum of money be P, and the rate of interest per annum be R%
After 2 years, the amount becomes 2.25 times the original sum. So, the amount after 2 years is 2.25P.
The formula for compound interest:
Amount = Principal × $(1 + \text{Rate}/100)^{\text{Time}}$
So, $2.25P = P \times (1 + R/100)^2$
or $2.25 = (1 + R/100)^2$
or $\sqrt{2.25} = 1 + R/100$
or $\sqrt{2.25} - 1 = R/100$
or $1.5 - 1 = R/100$
or $0.5 = R/100$
or $R = 50$
Therefore, the rate of interest is 50%.
Hence, option (d) is the correct answer.

80 (a)

Men×Time = Work
Let the work be 100 units and time be 1 unit
100×1= 100 units
Now work is 150 units (after 50% increase), but time remains the same.
Let m be the total number of workers (with same efficiency) required now.
So, m×1 = 150
So, m = 150
So extra workers required = 50
But since the new workers are 5/2 times (i.e. 150% more) efficient than the existing workers.
So, actual number of new workers required = 50/(5/2) = 20
Hence, the required percentage = 20/100×100 = 20%
Hence, option (a) is the correct answer.