IBPS SO Preliminary Grand Test –ISP-181201
HINTS & SOLUTIONS

ANSWER KEY

1. (1)	26. (5)	51. (2)	76. (2)	101. (1)	126. (2)
2. (2)	27. (4)	52. (5)	77. (4)	102. (2)	127. (3)
3. (2)	28. (2)	53. (2)	78. (2)	103. (1)	128. (1)
4. (1)	29. (3)	54. (1)	79. (3)	104. (5)	129. (1)
5. (2)	30. (4)	55. (1)	80. (2)	105. (5)	130. (2)
6. (4)	31. (1)	56. (3)	81. (2)	106. (1)	131. (5)
7. (4)	32. (4)	57. (4)	82. (3)	107. (3)	132. (5)
8. (5)	33. (2)	58. (3)	83. (4)	108. (2)	133. (5)
9. (5)	34. (5)	59. (2)	84. (1)	109. (5)	134. (5)
10. (2)	35. (1)	60. (3)	85. (3)	110. (1)	135. (4)
11. (4)	36. (5)	61. (1)	86. (4)	111. (3)	136. (2)
12. (1)	37. (3)	62. (1)	87. (2)	112. (3)	137. (1)
13. (3)	38. (3)	63. (2)	88. (2)	113. (4)	138. (3)
14. (5)	39. (2)	64. (5)	89. (1)	114. (3)	139. (4)
15. (2)	40. (2)	65. (2)	90. (3)	115. (1)	140. (4)
16. (3)	41. (5)	66. (4)	91. (4)	116. (2)	141. (1)
17. (5)	42. (1)	67. (5)	92. (5)	117. (5)	142. (1)
18. (1)	43. (4)	68. (3)	93. (1)	118. (3)	143. (1)
19. (5)	44. (2)	69. (4)	94. (2)	119. (2)	144. (2)
20. (4)	45. (4)	70. (1)	95. (4)	120. (5)	145. (2)
21. (4)	46. (1)	71. (3)	96. (4)	121. (3)	146. (2)
22. (3)	47. (4)	72. (5)	97. (4)	122. (5)	147. (4)
23. (2)	48. (2)	73. (2)	98. (2)	123. (3)	148. (1)
24. (2)	49. (5)	74. (3)	99. (1)	124. (3)	149. (5)
25. **(2)**	50. (2)	75. (3)	100. (2)	125. (2)	150. (3)

HINTS & SOLUTIONS

1. (1) Option (1) is obviously the correct answer. The entire passage is based on this issue.

2. (2) Option (2) is explicitly made prior to the statement. Hence, option (2) has to be correct.

3. (2) Although option (2) is stated, it is not the cause of the clerical, yet secular nature. Option (3) might confuse some students, but it is not accurate enough to be the answer. Option (4) is the most accurate and consistent with the idea expressed in the third and fourth passage.

4. (1) Option (1) is the correct answer since this idea is expressed explicitly in the sentence. "With the opening of positions in law, government, and the church, education became a means for advancements not only in income but also in status". Option (2) is inconsistent with the senses of the passage as expressed in the first paragraph. Option (3) is incorrect, since it contradicts the idea expressed in the first paragraph. For option (4), Income was one of the factors. Status was also a factor. Also, this option is structured too drastically to be the correct answer.

5. (2) The second last paragraph talks about the secularization of education. However, it starts with the transitory --- "This being so….." which indicates that we are reading a cause and its effect. Hence, as a student, you should look for the cause in the prelude to the second last paragraph. The idea of this option is expressed in the last sentence of the third last paragraph. Hence this option is correct.

6. (4) **Lament** means to feel or express sorrow for. So, bemoan is the word which is similar in meaning to it.

7. (4) **Paradox** means a person or thing that combines contradictory features or qualities. So, dichotomy is the word which is similar in meaning to it.

8. (5) **Connotation-** an idea or feeling which a word invokes for a person in addition to its literal or primary meaning. So, implication is the word which is similar in meaning to it.

9. (5) **Materialistic-** excessively concerned with material possessions; money-oriented. So, Spiritual is the word which is opposite in meaning to it.

10. (2) **Bustling-** move in an energetic and busy manner. So, Ambling is the word which is opposite in meaning to it.

11. (4)
12. (1)
13. (3)
14. (5)
15. (2)

16. (3) All the sentences except (3) are incorrectly structured as they assign different meanings to the sentences so formed. The use of the connector "but" makes the sentence more meaningful whereas the other connectors make no real sense to the sentence. There are certain grammatical errors as well like the use of incorrect relative pronoun "who" in the sentence (4) and the use of incorrect verb "was" in the sentence (1). However, sentence (3) adds appropriate meaning to the sentence both grammatically and contextually. Hence (3) is the correct option.

17. (5) The given sentence is grammatically correct. Hence it doesn't require any correction.

18. (1) The phrase " **warding off**" is a phrasal verb which means to turn aside or repel; avert. The phrase, given in bold, " **warding off any let-up"** means preventing any cessation in expansionary momentum. The exact meaning of the phrase can only be verified from the first sentence as it has correctly explained the complete original sentence without any altercation. The other two sentences (II) and (III) give the wrong explanation of the phrase and thus they can be eliminated based on that. Hence (1) is the correct option.

19. (5) "instrumental, alleviate" is the correct set of words that fit into both the sentences perfectly. The word "**instrumental**" means serving as a means of pursuing an aim. This makes the word the first choice among the given options as it connects with the later part of the sentence in both the sentences quite comprehensively. The other word "**alleviate**" means make (suffering, deficiency, or a problem) less severe. Thus the words like "intensify, moderating" make no sense to the meaning of the sentences. Hence (5) is the correct choice.

20. (4) Passage (1) leaves an inference which partly agrees with the given one. The mention of "***strong unified actions***" cannot be derived from the first paragraph as the actions had been considered based on the Optional Protocol. Moreover, it is more about the children affected by armed conflict. Thus the given inference cannot be derived from the paragraph (1). Paragraphs (2) and (3) indicate the presence of strong unified actions against the child labor. Paragraph (2) shows the joint pilot project of Pact and Microsoft to eradicate child labor from mining and the positive result thereof. Similarly, paragraph (3) shows the unified actions by thousands of American students, workers, and consumers to help the children working in factories in overcoming violence, intimidation, etc. Hence both the paragraphs agree with the required inference, "**Strong unified actions are an important protection against child labor**."

21. (4) The paragraph starts saying that normally falling oil prices boost global growth, but that this time, knowing whether the lower prices reflect weak demand or increase in supply is important to discern whether there is cause for cheer.

The paragraph discusses the case of weak demand leading to lower prices, especially where the source of weakness is financial. The penultimate line talks of cheaper oil increasing the risk of deflation.

Option (1)- This option elaborates on the idea of deflation discussed in the penultimate line. While it is tempting to say that this option completes the paragraph best, it should be noted that the given paragraph has a structure and this option does not fit it. The paragraph has stated two possible causes for the low price- weak demand and increase in supply. If sentence A were to complete the paragraph, the case of increase in supply and how it impacts global growth will not be discussed, leaving the paragraph incomplete. Hence option A is ruled out.

Option (2)- It is clear this option is not the correct one, as it is irrelevant to the given paragraph.

Option (3)- This option, again, does not complete the given paragraph. It offers a tangential thought.

Option (4)- This completes the paragraph given best, as it discusses the case of lower prices caused by surge in supply of oil, the second factor stated in the "big economic question" the paragraph talks of.

22. (3) The paragraph given starts stating that the 16th century was a great century of change in Europe. Though this statement is not specific about what change it is referring to, we see that the rest of the paragraph centers on humanism, talking of individualism, self creativity , dignity of mankind and secularization of the European society. So the correct answer option should relate to the same idea.

Option (1) talks of the year 1543 heralding the Scientific Revolution. This is not the correct sentence to complete the given paragraph as it does not relate to humanism.

Option (2) discusses the growth of royal power and centralized monarchies at this time. Again, we can rule out this option, as it does not relate to humanism (human interests, values and dignity) in the 16th century.

Option (3) clearly is the correct option. The very powerful notion that man creates his own history and destiny took root in the 16th century. This carries forward the idea discussed in the rest of the paragraph.

Option (4) discusses urbanization and the growth of universities. This is unrelated to the central idea of the given paragraph.

23. (2) This paragraph starts on the premise that democratic nations holding themselves accountable to non-democratic bodies will necessarily become more indifferent to their own citizens. And because undisguised force or clampdown is not appropriate or cost-effective, they look for ways to "ideologically tame" the "economically excluded", i.e., the unemployed and the poor. It becomes clear here that though the writer says "citizens" in general in the first line of the paragraph, he is specifically referring to the economically excluded as bearing the brunt of efforts to be tamed ideologically. The penultimate line states that "this" (ideological taming) is necessary because growing discontent can lead to political instability.

Let us now look at options to complete the paragraph.

Option (1) states that this is where behavioral economics in monitoring and 'nudging' the behavior of the financial elite comes in. We can rule out this option, as the paragraph is about measures sought to repress the economically excluded. The financial elite, or the wealthy, are not discussed here.

Option (2) talks of the "new focus" on the "minds and behavior" of the poor. This makes a fitting concluding sentence to the paragraph. Democratic nations holding themselves accountable to non-democratic bodies become less responsive to their own citizens and seek ways and means of ideologically taming the economically excluded, because growing discontent amongst this group can lead to political instability. Hence the focus on the minds and behavior of the poor.

Option (3) talks of the drive to find market led solutions to socio-economic problems. It is tempting to think of this as a possible conclusion for the paragraph. This is because the paragraph has discussed "market-led" democratic nations and their need to address their socio-economic problems differently. However, an important idea in the paragraph is that overt repression of the economically excluded is neither felicitous nor cost-effective, and so ideological solutions to "taming" them are being sought. Ideology refers to the thinking or beliefs of a group. The solutions looked for are ones that are based in ideology and can bridle the thinking of the economically excluded. Option C, which talks of market led solutions to socio- economic problems, is hence not correct.

Option (4) tells us that development is about freeing prices and making markets efficient. This is an unrelated idea, and does not add to the given paragraph.

Hence the correct choice to complete the paragraph is option (2).

24. (2) The paragraph begins by stating that the threat from ISIS is ideological and not merely restricted to a particular territory. The notion of establishing a homogeneous autocracy through violence is the main attraction of ISIS, and this is not simply related to a particular religious interpretation. In fact, ISIS offers a counter narrative to transcend nationalism and the impersonal emptiness of godless globalization. To substantiate this, in the penultimate line, the paragraph reads that the society ISIS has created is diverse in terms of ethnicity and nationality.

The paragraph thus mainly focuses on the dangerous attraction of ISIS ideology, and what the basis of this is.

From the above it follows that the sentence that completes the paragraph has to focus on how the supporters of the said ideology identify with it despite the society created being modern, multi-ethnic and transnational.

Let us consider the options in order.

Option (1)- We may well look back at the first year of the Islamic State and wax nostalgic about how comparatively placid it was.

The relatively peaceful first year of ISIS is not an idea that is related to the paragraph given.

Option (2) - And yet it also offers a very specific, historically grounded identity.

This fits neatly in with the idea of the paragraph. The penultimate line of the paragraph talks of the society the caliphate has created being a diverse mix. The specific, historically grounded identity ISIS offers helps bind this society together.

Option (3) - However, ISIS is not a state. States are part of the world ISIS rejects.

The penultimate line talks of the society of the caliphate and this option, at the outset, seems to be linked to that and the idea of ISIS not being territorial mentioned in the first line of the paragraph. However, that ISIS should not be thought of as a state- one that is concerned with governance, pensions, civil service and the like- begs further substantiation. It does not satisfactorily complete the given paragraph, which deals with what the attraction of ISIS ideology is - the power and control obtained through violence, the counter narrative to nationalism and godless globalization. The idea that ISIS is not a state and that ISIS rejects the idea of states does not develop on why ISIS ideology is effective in attracting support.

Option (4) - It has a 100-year plan for taking over the world and imposing its own version of Islamic orthodoxy.

"It" in the sentence above refers to ISIS. However, the penultimate line of the paragraph talks of the society the caliphate has created. If this option were to complete the paragraph, "it" has to refer to that society. It doesn't. Hence, we rule out this option

25. (2) The paragraph given challenges the idea of "giving offence". It declares that by cordoning off some beliefs as beyond question or parody, the idea of giving offence curtails free speech and our ability to stand up to those in power.

Option (1)- For such diverse societies to function and to be fair, we need to show respect for other peoples, cultures, and viewpoints, and quell offensive voices.

This statement contradicts the main idea of the paragraph. The paragraph argues against quelling offensive voices. Hence we rule out this option.

Option (2)- The right to subject each others' fundamental beliefs to criticism is the bedrock of an open, diverse, just society.

This statement echoes the main idea of the paragraph. It continues the line of thought of the penultimate line that the right to offend gives us the power to challenge power and injustice.

Option (3)- If people are to occupy the same political space without conflict, they mutually have to limit the extent to which they subject each others' fundamental beliefs to criticism

Again, the paragraph contradicts this statement. It argues against limiting free speech. So we cross this option out.

Option (4)- The more that policy makers give license for people to be offended, the more that people will seize the opportunity to feel offended.

This is a new line of thought—that offence is taken where opportunities to do so are sanctioned by policy makers. It does not conclude the given paragraph.

26. (5) With reference to paragraph 1, we can infer that all the sentences are correct as they describe the importance of participation of India in UN General Assembly with 20 other nations. Hence option (5) is the right choice.

27. (4) Referring to paragraph 2, we can infer that both the sentences (2) and (3) are correct. India has been regarded as multilayer naysayer for blocking the multilateral negotiations to move forward.
Hence option (4) is the correct choice.

28. (2) The author's tone here is descriptive as the author has given the full description of aspects of India's multilateral postures with respect to ideas and ideologies. Hence option (2) is the correct choice.

29. (3) After going through both the paragraphs, we find that India's engagement with the international economy has grown as India has pushed the General Agreement on Tariffs and Trade/World Trade Organization and at the World Health Organization India has endorsed a strong set of rules to curb rising tobacco use worldwide. Hence option (3) is the correct choice.

30. (4) We can conclude from paragraph 5 that both the statements (II) and (III) are correct as they correctly explain how Multilateralism is mostly connected to power politics. Hence option (4) is the correct choice.

31. (1)
32. (4)
33. (2)
34. (5)
35. (1)
36. (5)
37. (3)
38. (3)
39. (2)
40. (2)
41. (5) Option (5) is correct
The subject (people, which is plural) must agree with the verb (were, which is plural).
The two verbs (were and crafted) should be in the same tense since both happened at the same time in the past.
42. (1) Option(1) is correct

"Whether" is correct because the question concerns a choice not a condition. With the expression "the number of" a singular verb is needed and hence "was" is correct. "Liable" is used in expressions such as "liable to prosecution" and not for expressions of possibility.

43. (4)
44. (2) Option (2) is correct
As the superlative form most scary must be used instead of the comparative form more scary since the author is indicating that among all the threats, a specific threat is the most scary.
45. (4) 'inspired' is correctly parallel to 'broke', and 'attempt to overcome' is idiomatic.
46. (1)
47. (4)
48. (2)
49. (5)
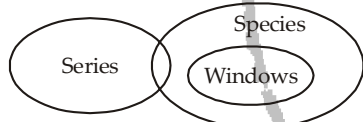50. (2)

51-52.
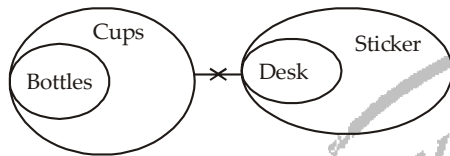
51. (2)
52. (5)

53-54.
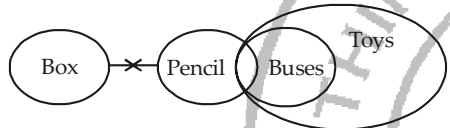
53. (2)
54. (1)
55. (1)

56. (3) A man leave GIP at '®Å' means 6.10, he takes 20 min to reach WOW but he reaches 15 min late means he reach Wow at 6.45 means '®£'.
57. (4) Airplane departure time is '£µ' means 9.25, A person want to reach airport 20 minute earlier means he want to reach airport at 9.05, and he takes 40 minute to reach airport means he should leave office 8.25 means 'αµ'.
58. (3) A man leave his home at '£∞' means 9.55, and he takes 2 hour to reach office from his home that means he reaches office at 11.55means '∞∞'.
59. (2) In this question, we have to choose an option which mentions the most likely reason for the transfer of D Roopa.
Option (i) is not a correct choice as one cannot be transferred on the grounds of whistleblowing.
Option (ii) is correct as it mentions that she breached the service rules by going to media which could very well be the reason for her transfer.
Option (iii) is not a correct choice as Mr Rao denying the allegations of Ms Roopa cannot be the reason for her transfer.
Option (iv) is not a correct choice as one cannot be transferred on the grounds of whistleblowing.
60. (3) In this question, we have to find out the possible reason for the cancellation of the release of military reimbursement by US for Pakistan.

Option (i) could be the possible reason as it is mentioned in the statement that lack of action against terrorism was the reason behind this cancellation.
Option (ii) is not a correct choice as it does not mentions any reason but gives details about why this military reimbursement was done.
Option (iii) is also not the correct choice as we don't know from the statement if the total amount of funds to be released was as issue.

61-65.
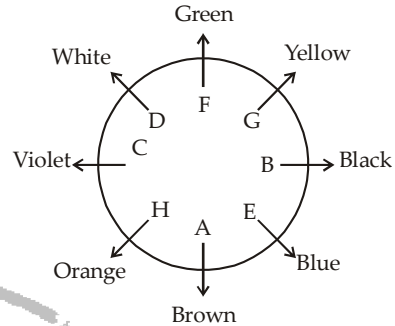
61. (1)
62. (1)
63. (2)
64. (5)
65. (2)

66-70.

Cricketers	Floor	Place
Dhoni	9	Mumbai
Raina	8	Kolkata
Rahane	7	Chennai
Sachin	6	Chandigarh
Yuvraj	5	Pune
Dhawan	4	Nagpur
Ashwin	3	Ghaziabad
Rohit	2	Delhi
Virat	1	Ranchi

66. (4)
67. (5)
68. (3)
69. (4)
70. (1)
71. (3) From statement I, if the first Sunday was on 5th of August, then the last Sunday will be on 26th of August From statement II, If the last day i.e. 31th is Friday, then 26th August was last Sunday. Hence either statement I or statement II alone is sufficient to answer the question
72. (5) Using both statements, there are 21 children in the row. N is 11th from the left and M is 15th from the left. So there are three children between M and N.
73. (2) First statement is not sufficient to find the answer. From second statement we can say that R is mother of S.
74. (3) From first statement, the order is I _ G H. Hence H is to the immediate right of G. From second statement, the order is G H K. Hence H is to the immediate right of G. Hence either statement I or statement II alone is sufficient to answer the question
75. (3) From statement I, 3 is common between '32' and '637'. Hence '3' means 'habit' and '2' means 'harmful'. From statement II, 4 is common between '64' and '842'. So '4' means 'drinking' and 2 means 'harmful'. Thus '3' means habit. Hence either statement I or statement II alone is sufficient to answer the question.

76-80.

76. (2)
77. (4)
78. (2)
79. (3)
80. (2)

81-85. The words are rearranged in increasing order of their length and in case of a tie, they are arranged according to the dictionary, from left to right. Numbers are rearranged in descending order from right to left. Each step arranges a word and a number.

Input: 19 numerology 48 global 88 xylem 25 telling 79 59 fabricate torcher

Step – I : Xylem 19 numerology 48 global 25 telling 79 59 fabricate torcher 88

Step – II : Xylem global 19 numerology 48 25 telling 59 fabricate torcher 79 88.

Step – III : Xylem global telling 19 numerology 48 25 fabricate torcher 59 79 88

Step – IV : Xylem global telling torcher 19 numerology 25 fabricate 48 59 79 88

Step – V : Xylem global telling torcher fabricate 19 numerology 25 48 59 79 88

Step – VI : Xylem global telling torcher fabricate numerology 19 25 48 59 79 88

81. (2)
82. (3)
83. (4)
84. (1)
85. (3)

86-90. It is given that A works on 8th September and H whose salary is 55k works on 15th before A, so H can work on 15th May or 15th March. There are two possibilities-
(1) When H works on 15th March, so J works on 15th May. J's salary is 6k less than H so J's salary is 49k. K's salary is greater than J's salary and less than H's salary and is the multiple of 3 so K's salary is 51k. It is given that there are three working days gap between D and the one who got 26k and D works before the one who got 26k. So D works on 8th May and the A got 26k salary. There are two working days gap between F and the one who got 16k so F works on 8th June and the one who got 16k works on 15th September as the one who got 16k works in the month of 30 days.

It is given that C and the one who got 18k works in the same month so C works on 15th June and F's salary is 18k as the one who got 18k works in the month of 30 days. E and G both work in December month .K works in 15th October. It is given that only one working days gap between E and L so E works on 8th December and G on 15th December respectively. L works on 8th October. It is given that more than 3 person works between I and J which can't be possible.

Month	Date	Professionals	Salary
March	8	B	
March	15	H	55k
May	8	D	
May	15	J	49k
June	8	F	18k
June	15	C	
September	8	A	26k
September	15	I	16k
October	8	L	
October	15	K	51k
December	8	E	
December	15	G	

(2) When H works on 15th May so same as in the last possibility, J works on 15TH March, D works on 8th May, A got 26k salary, F works on 8th June, The one who got 16k works on 15th September. H's salary is 55k, J's salary is 49k, K's salary is 51k. C and F works in June month, F got 18k. E and G work on 8th December and 15th December respectively. K works on 15th October and L works on 8th October and I works on 15th September so B works on 8th March.

C's salary is 22k. It is given that the salary of K is greater than the salary of B by 24k so B's salary is 27k. The one who works in May got more than B and less than 30k so D got 29k as he works in the month of 31 days. It is given that the total salary of L and H is 2k more than twice the total salary of A and B so L got 53k. The total salary of E and G is 20k and E's salary is greater than the salary of F and G, so E's salary is 19k and G's salary is 1k.

Month	Date	Professionals	Salary
March	8	B	27k
March	15	J	49k
May	8	D	29k
May	15	H	55k
June	8	F	18k
June	15	C	22k
September	8	A	26k
September	15	I	16k
October	8	L	53k
October	15	K	51k
December	8	E	19k
December	15	G	1k

86. (4)
87. (2)
88. (2)
89. (1)
90. (3)

91-95.

|	
driving → jo	is → ho
easy → ro	not → go
rough/ tough → no/ da	and → sa
dangerous → ai	looks/ but → to/ po

91. (4)
92. (5)
93. (1)
94. (2)
95. (4)

96. (4) I is not implicit because 'spate of defeats' can't be correlated with the statement. On a similar basis II also can't be correlated with the statement.

97. (4) The request of the city police implies that the city police assume that 'some people have grievances'. Assumption I is not implicit due to the words 'All categories'. II is also not implicit because the statement does not say anything about flying squad of Vigilance branch.

98. (2) Non –biodegradable nature of plastic bag can't be correlated with the statement because the statement does not say whether plastic is biodegradable nor non-biodegradable. Hence, I is not implicit. But II is obviously implicit. That is why the scientist uses the word 'Beware' in his statement before asserting the negative features of plastic.

99. (1) Option (1) may be the cause of vacant seat in the engineering colleges because due to the recession, the number of jobs available are decreasing day by day, hence the unemployment is increasing in the engineering sector. So (1) is the correct option.

100. (2) Option (2) may be a possible effect of big pig holes developed on the roads.

101. (1) $\sqrt{287}x + \sqrt{25} = 0$; $17x + 5 = 0$; $x = -\frac{5}{17}$

$\sqrt{676}y + 10 = 0$; $26y + 10 = 0$; $y = -\frac{5}{13}$, $x > y$

$\sqrt{676}y + 10 = 0$; $26y + 10 = 0$; $y = \frac{10}{26}, -\frac{10}{26}$;

Clearly x < y

102. (2) $8x^2 - 78x + 169 = 0$

$\Rightarrow 8x^2 - 52x - 26x + 169 = 0$

$\Rightarrow 4x(2x - 13) - 13(2x - 13) = 0 \Rightarrow x = \frac{13}{2}, \frac{13}{4}$

$20y^2 - 117y + 169 = 0 \Rightarrow y = \frac{13}{4}, \frac{13}{5}$; $\therefore x \geq y$

103. (1) $\frac{15}{\sqrt{x}} + \frac{9}{\sqrt{x}} = 11\sqrt{x} \Rightarrow 24 = 11x \Rightarrow x = \frac{24}{11} \approx 2$

Similarly $y = \frac{3}{2} = 1.5$; Clearly x > y.

104. (5) $x = \frac{13}{2}, 7$; $y = 7, \frac{5}{2}$

105. (5) $x^2 - 208 = 233 \Rightarrow x^2 = 233 + 208 = 441$

$\therefore x = \pm 21$

$y^2 - 47 + 371 = 0 \Rightarrow y^2 - 324 = 0 \Rightarrow y^2 = 324$

$\therefore y = \pm 18$; Relation cannot be established.

106. (1) per hour consumption of Ist candle $= \frac{1}{5}$

per hour consumption of IInd candle $= \frac{1}{4}$

Let after x hour their height is in ratio = 3 : 2

then, $\frac{1 - \left(x \times \frac{1}{5}\right)}{1 - \left(x \times \frac{1}{4}\right)} = \frac{3}{2}$

Solving the equation, $x = \frac{20}{7}$

107. (3) Share of C

$= \frac{(15000 \times 16)}{(12000 \times 24) + (16000 \times 24) + (15000 \times 16)} = 12000 Rs$

108. (2) Let the price before increase = x

Then new price $= \left(\frac{100+20}{100}\right)x^\square = 1.2x$

$\frac{115}{100} \times (x \times 24) = 1.2x \times y$

(y = new consumption quantity)

$y = 23 \, kg$

109. (5) Average speed

$= \frac{\text{Total distance covered}}{\text{Total time taken}} = \frac{64}{11} = 5\frac{9}{11}$ km/h

110. (1) Let CP = Rs 1000

SP at 10% loss $= \frac{(100-90)}{100} \times 1000 = 900 \, Rs$

But actual CP $= 1000 \times \frac{(100-20)}{100} = 800 \, Rs$

Profit percentage $= \frac{(900-800)}{800} \times 100 = 12.5\%$

111. (3) Amount of IR Rays received in 1 minute

$= \frac{36}{100} \times 3600 = 360$ units

Maximum tolerable limit of IR rays = 9720 units

So, maximum time one can be exposed to the sun =

$\frac{9720}{360} = 27$ min.

112. (3) Beta rays in 1 minute of sunshine

$= \frac{5}{100} \times 3600 = 180$ units

Beta rays in 10 minutes of sunshine

= 180 × 10 = 1800 units

IR rays in 1 minute of sunshine

$= \frac{10}{100} \times 3600 = 360$ units

IR rays in 3 minutes of sunshine = 360 × 3 = 1080 units

Required ratio $= \frac{1800}{1080} = 1.66$ times

113. (4) Beta rays in 1 minute $= \frac{5}{100} \times 3600 = 180$ units

$\therefore$ 30 units of Beta rays = 1 units of vitamin D

180 units of Beta rays = 6 units of vitamin D

1 minute of sunshine = 6 units of vitamin D

$\therefore$ 40 units of vitamin D is generated in $6\frac{2}{3}$ min.

114. (3) Amount of gamma rays with ozone layer

$= \frac{5}{100} \times 3600 = 180$, this is 40% of gamma rays,

therefore 100% $= \frac{180}{40} \times 100 = \frac{1800}{4} = 450$

115. (1) 20 − 5 = 15, 15% of 3600 = 540.

116. (2) Total cost price = (150 × 250) + 2500

= 37500 + 2500

= 40000

Total selling price $= 320 \times \frac{(100-5)}{100} \times 150 = 45600$

Profit percentage $= \frac{45600-40000}{40000} \times 100 = 14\%$

117. (5) A + B + C = 84 × 3 = 252

A + B + C + D = 80 × 4 = 320

Age of D = 320 − 252 = 68

Age of E = 71

B + C + D + E = 316

B + C = 316 − (68 + 71)

B + C = 177

Age of A = 252 − 177 = 75 years

118. (3) C.P. to the retailer

$= 1955 \times \frac{100}{115} = 1700$

But it is at a discount of 15%, M.P.

$= 1700 \times \frac{100}{85} = 2000$

Total discount = 2000 − 1700 = Rs. 300

119. (2) Initially low quality wheat=10% of 150=15kg
High quality wheat=150-15=135kg
15kg of low quality wheat will be 5%
of the final quantity of wheat
Final quantity of wheat= $\frac{100}{5} \times 15 = 300$ kg
Quantity of high quality wheat=300-15=285kg
High quality wheat added=285-135=150kg

120. (5) Required probability
$=(^6C_3 + {}^4C_3) \div (^{12}C_3)=\frac{6}{55}$

121. (3) Required average
$=\frac{924}{6} = 154$ thousand
$= 154000$ Rs

122. (5) Average revenue from OV of test series
$= \frac{1134}{6} = 189$ thousand

123. (3) Required difference for the month of March is 2nd maximum i.e. =204-144=60 thousand

124. (3) $\frac{55}{100} \times 842 = 463.1$ thousand
Or 463100 Rs

125. (2) Required difference =332-265=67 thousand Or 67000

126. (2) The weight of the boxes are 1st box→ 200, 3rd box → 250 kg, 2nd box → 300 kg, 4th box → 350 and 5th box → 500 kg.
Hence difference between the heavier 4 and the lighter 4 is 300. Hence, difference in the averages is 75

127. (3) Let the radius of the semicircle be R.
OC = OD = R
$\therefore OB = R\sqrt{2}$
The diameter of the smaller circle
$= (R\sqrt{2} - R) = R(\sqrt{2} - 1)$
Area of the semicircle $= \frac{\pi R^2}{2}$;
Area of the circle $= \frac{\pi R^2 (\sqrt{2}-1)^2}{2^2}$
Hence the ratio of the area of the smaller circle to that
Of the semicircle $= \frac{(\sqrt{2}-1)^2}{2}$ or $(\sqrt{2}-1)^2 : 2$

128. (1) If listed price of article be Rs. 100 then discounted price be Rs. 80 (since discount = 20%)
After offering 16 articles to a dozen
Price of 16 articles = 80 × 12
Price of one article = $\frac{80 \times 12}{16} = 60$
Profit = 20%
Cost price x (say) = 60 – x × $\frac{20}{100}$
$\Rightarrow x + \frac{x}{5} = 60 \Rightarrow x = 60 \times \frac{5}{6} = 50$
Per cent above the cost price = $\frac{100-50}{50} \times 100 = 100\%$

129. (1) Let the cost of cloth per cm be Rs. x
As he uses 120 cm scale, so he has 120 cm cloth.
cost incurred = 100x. While selling he uses 80 cm scale, so actually he charges for $\frac{100}{80} \times 120 = 150$ cm of cloth
Amount obtained after 20% discount
= 0.8x × 150 = 120x
$\therefore$ Profit = $\frac{20x}{100x} \times 100 = 20\%$

130. (2) Cash price of the flat = Rs. 55000
In the instalment plan, cash down payment = Rs. 4275
= 55000 – 4275 = 50725
Let, each instalment be Rs. x.
Rate = 16% per annum = 8% half-yearly
$\therefore A = P\left(1 + \frac{r}{100}\right)^t$
$x = P\left(1 + \frac{8}{100}\right)^1$
or, P= Rs. $\frac{25}{27} x$
Similarly, principal for the 2nd instalment = $\left(\frac{25}{27}\right)^2 x$
Principal for 3rd year instalment = Rs. $\left(\frac{25}{27}\right)^3 x$
Total principal for the three instalments
$= \frac{25}{27} x + \left(\frac{25}{27}\right)^2 x + \left(\frac{25}{27}\right)^3 x$
On solving, we get x = 19683
$\therefore$ Each instalment = Rs. 19683.

131. (5) I.   2 (L + b) = 60

L + b = 30   ..(1)
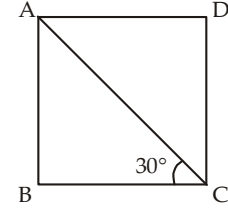
II.   In ∆ABC
$\tan 30° = \frac{b}{L}$
$\therefore L : b = \sqrt{3} : 1$ ..(2)
Combining I and II, we get the value of L $\approx$ 19 and b $\approx$ 11 m.
$\therefore$ Area of rectangle = 19 × 11 = 209 m²
III.   Cost = Rs. 125 per square metre

132. (5) If 8 men and 6 women can complete the work in 21 days, then 1.5 (8 men + 6 women) = 12 men + 9 women can complete the work in $\frac{21 \times 2}{3} = 14$ days. Hence, no further information is required.

133. (5)

134. (2) $A \Rightarrow \frac{P+M+C}{3} = 71$ ..(1)
$B \Rightarrow C + P = 142$ ..(2)
$C \Rightarrow P + M = 162$ ..(3)
From (1) and (2) C = 71 × 3 – 162 = 51
Therefore, for answering the question only statements (A) and (C) are required.

135. (4) Selling price = (100 – 20)
= 80% of Rs.812.50 = Rs. 650
Profit percentage $= \frac{\text{Profit}}{\text{CP (=SP – Profit)}} \times 100$
As the profit is already given, if either CP or SP is known, profit percentage can be obtained. So, the answer is (4).

136. (2) Required % = $\frac{15.47-11.44}{11.44} \times 100$
$= \frac{4.03}{11.44} \times 100 \approx 35\%$

137. (1) Toyota – 141
Volkswagen – 133
Samsung – 138
Ford – 129
HP – 118
Hitachi – 120
Required company = HP

138. (3) Required units = $\frac{75}{100} \times 27 = 20.25$ million
=20250000

139. (4) Required units = $\left(\frac{100-86}{100}\right) \times 28 + \left(\frac{100-80}{100}\right) \times 24 + \left(\frac{100-68}{100}\right) \times 28$
= 3.92 + 4.8 + 8.96
= 17.68
= 17680000

140. (4) Unit sold by Toyota in 2001 = 17.38
Unit sold by Volkswagen in 2001 = 10.88
Unit sold by Samsung in 2001= 20.16
Unit sold by Ford in 2001 = 19.68
Unit sold by HP in 2001 = 14.56
Unit sold by Hitachi in 2001 = 17.2
Required company = Samsung

141. (1) Let the length of train A and train B be x and 2x, then
speed of train A = $\frac{x}{25}$

Speed of train B = $\dfrac{2x}{75}$

Required ratio $= \dfrac{x}{25} : \dfrac{2x}{75} = 3 : 2$

142. (1) 12 kg apples = Rs. 1500

1 kg apple $= \dfrac{1500}{12} = \text{Rs.}125$

1 kg nuts $= \dfrac{20 \times 125}{10} = \text{Rs.}250$

So, Anu's annual income
= Rs. 250 × 34 × 12 = Rs. 102000

143. (1) He sells 920 grams of rice and gains 80 grams
Gain % = 80/920 * 100 = 8.69%

144. (2) 1 girl's 1 days work = 1/(8x4)= 1/32
1 boy' s1 day's work = 1/(3x2) = 1/6
1 woman's 1 days work = 1/(5x4) = 1/20
Clearly, girls are less efficient i.e., they are taking the most time.

145. (2) Let the number of days he was absent be x days.
180 (40 − x) − 20 x = 5200
7200 − 180x − 20x = 5200
7200 − 200x = 5200
x = 2000/200 = 10 days

146. (2) The pattern is : ÷ 3, ÷ 4, ÷ 3, ÷ 4, ...

147. (4) The pattern is : × 0.2, × 0.3, × 0.4, × 0.5, × 0.6 ....

148. (1) The pattern is : + (23 × 1), + (23 × 2), + (23 × 3), ...

149. (5) The pattern is : × 3 + 1.5, × 6 + 1.5 × 2, × 12 + 1.5 × 4, × 24 + 1.5 × 8

150. (3) The pattern is : $\times 2^2, \times 4^2, \times 6^2, \times 8^2, \dots \dots$