33. The marks scored in a cricket match by 11 players are as follows: 16, 15, 18, 50, 100, 102, 14, 20, 20, 5.

Let \( x \) and \( y \) be the range, mean and median respectively of this data. If \( x = y + z \), then the value of \( p \) is:

- (1) \( 3 \)
- (2) 42
- (3) 47
- (4) 40

32. One of the factors of \((2x + 5y) - 5(2x + 5y) - 14 - 7y - 2\) is:

- (1) \( 2x + 5y - 7 \)
- (2) \( 2x - 5y + 7 \)
- (3) \( 3 \)
- (4) \( 9 \)

31. If \( x + 3 \) = 6, and \( x \neq 0 \), then the value of \( x^2 + \frac{1}{8x^2} \) is:

- (1) \( 3 \)
- (2) \( 4 \)
- (3) \( 42 \)
- (4) \( 2 \)

Directions: Answer the following questions by selecting the correct/most appropriate option.
34. A bag contains 5 red balls, 8 white balls and 4 green balls. If one ball is drawn at random, then the probability that it is not green, is:

1. \( \frac{8}{17} \)
2. \( \frac{4}{17} \)
3. \( \frac{13}{17} \)
4. \( \frac{5}{17} \)

35. If abc, bca and cab are three digit numbers, and

\[ abc + bca + cab = 3 \times (a + b + c) \times k \]

then the value of k will be:

1. 33
2. 37
3. 111
4. 11

36. If \( F, V \) and \( E \) represent the number of faces, number of vertices and number of edges respectively of a pyramid with square base, then the value of

\[ 3F + 2V + E \]

is:

1. 33
2. 38
3. 40
4. 28

---

34. एक बैल में 5 लाल गेंदें, 8 सफेद गेंदें और 4 हरी गेंदें हैं। यदि यह चूकीए एक गेंद निकाली जाए, तो इसके हरे रंग का न होने की प्रासंगिकता है:

1. \( \frac{8}{17} \)
2. \( \frac{4}{17} \)
3. \( \frac{13}{17} \)
4. \( \frac{5}{17} \)

35. यदि abc, bca और cab तीन अंकों की संख्याएँ हैं, और

\[ abc + bca + cab = 3 \times (a + b + c) \times k \]

तो k का मान होगा:

1. 33
2. 37
3. 111
4. 11

36. यदि F, V और E क्रमशः किसी वर्ग आधार वाले पिरामिड के भागों, शीर्षों और किनारों की संख्याओं को प्रदर्शित करते हैं, तो

\[ 3F + 2V + E \]

का मान है:

1. 33
2. 38
3. 40
4. 28
37. Priya sold two watches for ₹ 1232 each, gaining 12% on one and losing 12% on the other. The gain/loss percent in the whole transaction is:

1. Loss, $\frac{11}{25}$ %
2. Profit, $\frac{71}{154}$ %
3. Loss, $\frac{71}{154}$ %
4. Profit, $\frac{11}{25}$ %

38. In which of the following cases, the construction of a quadrilateral ABCD is not possible?

1. AB = 5.5 cm, BC = 4 cm, $\angle A = 60^\circ$, $\angle B = 105^\circ$ and $\angle C = 105^\circ$.
2. AB = BC = 3 cm, AD = 5 cm, $\angle A = 90^\circ$ and $\angle B = 105^\circ$.
3. AB = 5 cm, BC = 3.5 cm, CD = 5 cm, AD = 3 cm and AC = 8.5 cm.
4. AB = 4.5 cm, BC = 4 cm, CD = 6.5 cm, AD = 3 cm and BD = 6.5 cm.

39. Let $x$ be the angle (in degrees) which is $32^\circ$ less than its supplement and $y$ be the angle (in degrees) which is $24^\circ$ more than its complement. The sum of $x$ and $y$ is:

1. 126
2. 131
3. 137
4. 121

37. दो संकेत ने दो पत्रों में तोड़क को ₹ 1232 में सेवित बनाया। एक पत्री पर 12% लाभ तथा दूसरी पत्री पर 12% हानि हुई। इस सीजरे में हुआ लाभ/हानि का प्रतिशत है:

1. हानि, $\frac{11}{25}$ %
2. लाभ, $\frac{71}{154}$ %
3. हानि, $\frac{71}{154}$ %
4. लाभ, $\frac{11}{25}$ %

38. निम्न स्थितियों में से किस स्थिति में चतुर्भुज ABCD की रचना संभव नहीं है?

1. AB = 5.5 cm, BC = 4 cm, $\angle A = 60^\circ$, $\angle B = 105^\circ$ और $\angle C = 105^\circ$.
2. AB = BC = 3 cm, AD = 5 cm, $\angle A = 90^\circ$ और $\angle B = 105^\circ$.
3. AB = 5 cm, BC = 3.5 cm, CD = 5 cm, AD = 3 cm और AC = 8.5 cm.
4. AB = 4.5 cm, BC = 4 cm, CD = 6.5 cm, AD = 3 cm और BD = 6.5 cm.

39. मान स्थिति कि $x$ एक ऐसा कोण (ढंगी में) है, जो अपने संपूरक से $32^\circ$ कम है और $y$ एक ऐसा कोण (ढंगी में) है, जो अपने पूरक से $24^\circ$ अधिक है $\angle x$ और $y$ का योग है:

1. 126
2. 131
3. 137
4. 121
40. In a \( \triangle ABC \), \( D \) is the mid point of \( BC \) and \( \angle C = 40^\circ \). \( A \) is joined to \( D \) and \( AD = BD \). The measure of \( \angle BAC \) is:
   (1) 70°
   (2) 90°
   (3) 100°
   (4) 60°

41. On increasing each side of a square by 25% the increase in area will be:
   (1) 55%
   (2) 50%
   (3) 56.25%
   (4) 25%

42. A 22 cm \( \times \) 8 cm rectangular piece of paper is folded and taped without overlapping to make a cylinder of height 8 cm. The volume (in cm\(^3\)) of the cylinder so formed is:
   (1) 308
   (2) 616
   (3) 1232
   (4) 176

43. There are two pieces of wire each of length 30 cm. Using one piece a square is formed and from the other piece a triangle of sides 5 cm, 12 cm and 13 cm is formed. The ratio of the area of the triangle to that of the square is:
   (1) 8 : 15
   (2) 15 : 8
   (3) 15 : 2
   (4) 2 : 15

SPACE FOR ROUGH WORK / रफ कार्य के लिए जगह
44. A teacher in Class VII asks her students to draw circles of different radii. She then asks them to calculate the ratio of circumference to diameter. The students find that this ratio is almost the same in case of each circle. The teacher is using:
(1) Inductive approach
(2) Project method
(3) Analytical approach
(4) Deductive approach

45. CBSE has recommended Mathematics Laboratory as part of Mathematics Curriculum at upper primary and secondary stage. The main purpose of Mathematics Laboratory is:
(1) to enable students to score more marks in Mathematics.
(2) to reduce Examination stress.
(3) to break monotony of classroom teaching.
(4) to provide opportunities for hands on learning.

46. Which one of the following statements is true about ‘axioms’?
(1) Axioms are the same as propositions.
(2) Axioms can be proved.
(3) Axioms are the same as theorems.
(4) Axioms are Mathematical statements which cannot be proved.

44. कक्षा VII की अध्यापिका ने अपने विद्यार्थियों को विभिन्न त्रिकोणों का वृत्त खींचने के लिए कहा। उसने कि उन्हें उनके परिमेटर का व्यास से क्रम में अनुपात निकालने के लिए कहा। विद्यार्थियों ने हास्य किया कि अपने बुद्धि के लिए यह अनुपात लगभग समान है। अध्यापिका ने प्रयोग किया:
(1) आध्यात्मिक उपाधि
(2) धार्मिक पद्धति
(3) सांकेतिक उपाधि
(4) नियमित उपाधि

45. उच्च प्रामाण्य और माध्यमिक स्तर पर के.मा.शिक्षा (CBSE) ने गणित प्रायोगिका को गणितीय पादरीक रूप में सुझाव दिया है।
गणित प्रायोगिका का मुख्य प्रयोजन है:
(1) विद्यार्थियों को गणित में अधिक अंक प्राप्त करने में सहायता करना।
(2) परीक्षा के तनाव को कम करना।
(3) कक्षा कक्षा के शिक्षण को एकसाथ करना।
(4) विद्यार्थियों ने सुझाव दिया कार्यक्रम पूरा करना।

46. अभिमूहित के बारे में निम्नलिखित में से कौन-सा कथन सही है?
(1) अभिमूहित व साधारण एक जैसे ही है।
(2) अभिमूहित को सिद्ध किया जा सकता है।
(3) अभिमूहित व प्रमाण एक जैसे ही है।
(4) अभिमूहित गणितीय कथन है जिनको सिद्ध
नहीं किया जा सकता है।
47. Which one of the following is the most essential aspect of mathematics planning in upper primary classes?
   (1) Present Mathematical concepts in a hierarchical manner.
   (2) Write activities in a register for reference.
   (3) Provide learning opportunities to allow learners to construct concepts.
   (4) Follow the sequence of textbook.

48. Consider this theorem –
   “If \( n^2 \) is odd, then \( n \) is odd”.
This can be proved by:
   (1) Contrapositive proof
   (2) Direct proof
   (3) Proof by contradiction
   (4) Method of disproof

49. Which one of the following statements is not true about a Mathematical theorem?
   (1) A theorem can be in the form of implication.
   (2) A theorem can be proved.
   (3) A theorem becomes axiom if proved.
   (4) A theorem can be biconditional.

50. Which one of the following Mathematical processes is an important aspect of algebra in Class VI?
   (1) Generalisation
   (2) Memorisation
   (3) Estimation
   (4) Visualisation

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47. उच्च प्राथमिक कक्षाओं में गणितीय योजनायें के लिए निम्नलिखित में से कौन-सा पहलू आवश्यक है?
   (1) गणितीय संकल्पनाओं को श्रेणीवाद रूप से प्रस्तुत करना।
   (2) क्रियाकलापों को एक रेखा में संचालन के लिए लिखना।
   (3) अवधारणाओं के लिए विवरण सुझाव देने को उपलब्ध कराना जिससे कि वे संकल्पनाओं को समझना सके।
   (4) पाठ्यपुस्तक के अनुसार का अनुसरण।

48. यह प्रमेय पर विचार कीजिए:
   “यदि \( n^2 \) विषम है, तो \( n \) विषम होगा।”
इसे सिद्ध किया जा सकता है?
   (1) प्रतिसमता सूत्र से
   (2) प्रतिविद्यमान सूत्र से
   (3) विरोध सूत्र से
   (4) खंडन (डिस्प्रॉफ) से

49. एक गणितीय प्रमेय के बारे में निम्नलिखित में से कौन सा कपन नहीं है?
   (1) प्रमेय विश्वसनीय रूप से हो सकता है।
   (2) प्रमेय को सिद्ध किया जा सकता है।
   (3) यदि प्रमेय सिद्ध हो जाए तो वह अभिगृहीत बन जाता है।
   (4) प्रमेय में दो प्रतिविद्यमान (दो सती) हो सकते हैं।

50. कक्षा VI के बीजगणित में गणितीय प्रक्रिया का कौन-सा पहलू महत्वपूर्ण है?
   (1) व्यापकसंकेत करना
   (2) क्षेत्रसंकेत करना
   (3) आकलन करना
   (4) साक्षात्कार करना

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SPACE FOR ROUGH WORK/रफ्तार कार्य के लिए जगह

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51. A teacher of Class VII finds that despite her regular teaching, a student makes errors. The teacher should:
   (1) give a lot of questions for practice.
   (2) refer the student to the counsellor.
   (3) study the errors and their possible causes and design her teaching strategy.
   (4) repeat the method two-three times.

52. Which one of the following assessment strategies is best suited to assess the Mathematical creativity in learners?
   (1) Investigatory project
   (2) Annual examinations
   (3) Field trips
   (4) Olympiad examination

53. Which one of the following activities is most appropriate in teaching-learning of data interpretation in Class VII?
   (1) providing survey reports from newspapers
   (2) providing worksheet with a variety of questions
   (3) conducting group discussions in the class
   (4) taking questions from different text books

51. कक्षा VII की अध्यापिका ने अनुभव किया कि उसके नियमित पढ़ाने के बावजूद, एक विद्यार्थी गुलामी करता है। अध्यापिका का:
   (1) अभ्यास के लिए बहुत सारे प्रश्न देने चाहिए।
   (2) विद्यार्थी को परम्परागतता के पास भेजना चाहिए।
   (3) ट्रूतियाँ और उनके संबंध कारणों का ध्यान से विश्लेषण करके शिक्षण योजना को उसके अनुरूप तैयार करना चाहिए।
   (4) विधि को दो-तीन बार और दोहराना चाहिए।

52. शिक्षार्थियों में गणितीय सर्जनात्मकता के आकर्षण के लिए निम्नलिखित में से कौन-सी मूल्यांकन योजना सर्वोत्तम रूप में उपयुक्त है?
   (1) अनुसंधानात्मक परियोजना (ओपे).
   (2) वार्षिक परीक्षा।
   (3) शेषीय प्रमाण
   (4) ओलिम्पियाड परीक्षा

53. कक्षा VII में औद्योगिक के प्रस्तुतीकरण के शिक्षण-अभ्यास के लिए निम्नलिखित में से कौन-सा विश्लेषण सबसे अधिक उपयुक्त है?
   (1) समाचार-पत्रों से संबंधित रिपोर्ट उपलब्ध कराये।
   (2) कार्यक्रम उपलब्ध कराया जाए जिनमें विभिन्न प्रश्न हों।
   (3) कक्षा में छात्रों में विचार-विमर्श संचालित किया जाए।
   (4) विभिन्न पत्र-पत्रिकाओं से प्रश्न लिए जाएः
54. If \( x = \frac{-2}{3} \) and \( y = \frac{-3}{4} \), then a rational number between \((x + y)^{-1}\) and \((x^{-1} + y^{-1})\) is:

- (1) \( \frac{-361}{102} \)
- (2) \( \frac{-361}{204} \)
- (3) \( \frac{361}{204} \)
- (4) \( \frac{29}{204} \)

55. If \(0.109 + 0.2 + 0.111 - x + (0.19 \times 0.1) + (0.11 + 0.2) = 8 \times (10)^{-1}\), then the value of \(x\) is:

- (1) 0.189
- (2) 0.989
- (3) 0.998
- (4) 0.198

54. यदि \( x = \frac{-2}{3} \) और \( y = \frac{-3}{4} \), तो \((x + y)^{-1}\) और \((x^{-1} + y^{-1})\) के मध्य एक परिमेय संख्या है:

- (1) \( \frac{-361}{102} \)
- (2) \( \frac{-361}{204} \)
- (3) \( \frac{361}{204} \)
- (4) \( \frac{29}{204} \)

55. यदि \(0.109 + 0.2 + 0.111 - x + (0.19 \times 0.1) + (0.11 + 0.2) = 8 \times (10)^{-1}\), तो \(x\) का मान है:

- (1) 0.189
- (2) 0.989
- (3) 0.998
- (4) 0.198
56. If \(3x - 2 (x + 3) = 2 (2x - 5) - 8\), then the value of \(\frac{5x-2}{3x-5}\) is:

(1) 2

(2) \(2\frac{4}{7}\)

(3) \(2\frac{3}{7}\)

(4) \(\frac{11}{17}\)

57. If \(\sqrt{768} \times \sqrt{3267} = 44 \times y\), then the value of \(y\):

(1) 44

(2) 72

(3) 88

(4) 36
58. If $\sqrt[3]{-2688} \times \sqrt[3]{1764} = 24 \times z$, then the value of $z$ is:
   (1) - 7
   (2) - 16
   (3) - 21
   (4) - 3

59. The value of
   \[
   \left( \frac{2}{3} \right)^2 \times \left( \frac{1}{3} \right)^{-4} + 3^{-1} \times \frac{1}{6}
   \] is:
   (1) $\frac{325}{48}$
   (2) $\frac{215}{96}$
   (3) $\frac{215}{48}$
   (4) $\frac{325}{96}$

60. Gaurav has ₹ $(7^2 \times 10^4)$ in his account and his brother has ₹ $(2^7 \times 10^5)$ in his account. If the total amount in their accounts is written in standard form as $m \times 10^n$, then the value of $m + n$ is:
   (1) 7
   (2) 11.18
   (3) 12.7
   (4) 9
61. Consider the following columns A and B in which some names of scientists are given in Column A and the discoveries made by them are given in Column B.

<table>
<thead>
<tr>
<th>Column A</th>
<th>Column B</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Alexander</td>
<td>i. Bacillus</td>
</tr>
<tr>
<td>b. Edward Jenner</td>
<td>ii. Anthracis</td>
</tr>
<tr>
<td>c. Louis Pasteur</td>
<td>iii. Lactobacillus</td>
</tr>
<tr>
<td>d. Robert Koch</td>
<td>iv. Penicillin</td>
</tr>
<tr>
<td></td>
<td>v. Smallpox vaccine</td>
</tr>
</tbody>
</table>

The correct match of the items of Column A with that of Column B is:

a b c d
(1) iv i ii iii
(2) iv v ii i
(3) v iv iii i
(4) iv iii ii i

62. Name the two endocrine glands which secrete their hormones when they receive orders from the pituitary through its hormones.

(1) Adrenal and pancreas
(2) Thyroid and testis
(3) Adrenal and thyroid
(4) Pancreas and ovary

63. Column A lists the cell parts and Column B lists the functions of the cell part.

<table>
<thead>
<tr>
<th>Column A</th>
<th>Column B</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. Cell wall</td>
<td>A. Controls what happens.</td>
</tr>
<tr>
<td>ii. Cell membrane</td>
<td>B. Supports the cell.</td>
</tr>
<tr>
<td>iii. Cytoplasm</td>
<td>C. Controls what passes in and out of the cell.</td>
</tr>
<tr>
<td>iv. Nucleus</td>
<td>D. Cell reactions happen in it.</td>
</tr>
</tbody>
</table>

Which one of the following options is correct?

i ii iii iv
(1) B A D C
(2) B C D A
(3) A C D B
(4) A B C D
64. Which one of the following is a combination of components of an animal cell?
(1) Cell membrane, Cytoplasm, Nucleus, Vacuole.
(2) Cell membrane, Cytoplasm, Nucleus, Plastid.
(3) Cell wall, Cytoplasm, Nucleus, Vacuole.
(4) Cell membrane, Chloroplast, Nucleus, Vacuole.

65. Which one of the following is a group of fungi?
(1) Amoeba, Spirogyra, Penicillium
(2) Aspergillus, Penicillium, Bread mould
(3) Aspergillus, Lactobacillus, Paramecium
(4) Aspergillus, Bread mould, Paramecium

66. Study the following statements about breathing.
A. It is a process which provides oxygen to the body.
B. In this process water is produced in the cell.
C. This process helps the body to get rid of carbon dioxide.
D. In this process food breaks down to release energy.
The combination of statements that gives the correct functions of breathing is:
(1) A and C only
(2) C and D only
(3) A, B and D
(4) A and B only

67. Which one of the following qualities is least developed among students by activity based science education?
(1) Open mindedness
(2) Questioning
(3) Memorization
(4) Curiosity
68. **Which one of the following statements is true about nature of science?**

   (1) Scientific knowledge has a tentative character.
   (2) Scientific knowledge can be proved through experimentation.
   (3) Science is value-neutral.
   (4) Scientific knowledge is an objective.

69. **The following are some of the views about assessment in science. Choose the most impractical idea from those given below.**

   (1) One cannot undermine the importance of informal observations that are constantly collected by the teachers whenever they are interacting with children.
   (2) Assessment needs to be flexible and manner and modalities may vary from situation to situation and sometimes from one student group to another.
   (3) Teachers will have to be more flexible when dealing with the assessment of children with special needs.
   (4) As science teachers, we must realise that we have to test everything that the student knows using a variety of tools.

70. **The following are some of the views on giving open book questions for assessment:**

   a. It helps to gauge the conceptual understanding of the student.
   b. Giving open book questions is unfair to bright students as it gives an opportunity to all students to be successful.
   c. Open book questions reduce the fear of assessment.
   d. Students find open book questions very useful as there is no burden of memorizing the answers.

Select the view/views that embrace the spirit of open book questions.

   (1) b, c, d  (2) a, c, d  (3) b  (4) a, b, c, d
71. The following paragraph is taken from Class VII science NCERT textbook-Discovery of silk:

The exact time of discovery of silk is perhaps unknown. According to an old Chinese legend, the empress Si-lung-Chi was asked by the emperor Huang-ti to find the cause of the damaged leaves of mulberry trees growing in their garden. The empress found white worms eating up mulberry leaves. She also noticed that they were spinning shiny cocoons around them. Accidentally a cocoon dropped into her cup of tea and a tangle of delicate threads separated from the cocoon. Silk industry began in China and was kept a closely guarded secret for hundreds of years. Later on, traders and travellers introduced silk to other countries. The route they travelled is still called the 'silk route'.

What is the purpose of including the above in a science textbook?

a. to develop a historical perspective
b. to develop an appreciation of how incidents/ideas give rise to discovery of new things
c. to develop a holistic understanding of science
d. to make science textbooks light as the above is just for information and not for testing

(1) Only b & c (2) Only a & d
(3) a, b & c (4) Only a & c

72. The following is an extended activity given in Class VIII NCERT textbook:

Choose any five families of your neighbourhood. Enquire whether their energy consumption (coal, gas, electricity, petrol, kerosene) has increased or decreased in the last five years. Enquire also about the measures they have adopted to conserve energy.

What is the advantage of doing an extended activity like the above? The following are the responses of a few teachers. Identify the least appropriate response.

(1) This activity helps students to go beyond textbooks and find answers for themselves.
(2) Such activities help students become confident and learn to enquire themselves.
(3) Such activity gives authentic understanding to students of an issue.
(4) Such activities make a good homework task.

(1) (2) (3) (4)
73. Students of Class VII are testing starch in food. While testing, students do mistakes in observations. The most appropriate response of the teacher will be:
A. not to give another chance to students.
B. to punish students and warn them.
C. to accept their mistakes errors.
D. to appreciate their attempt
(1) B and D  (2) C and D  (3) A and D  (4) A and C

74. Which one of the following assessment strategies is not suitable for formative assessment of learners in science?
(1) Journal writing
(2) Field trip
(3) Term-end achievement test
(4) Concept mapping

75. A Class VII teacher wraps a thin paper strip tightly around an iron rod and tries to burn the paper with candle while rotating the iron rod continuously. Does it burn? Which process skill/skills of students may be developed through this activity?
(1) observation, hypothesis and classification.
(2) only classification.
(3) observation, hypothesis and questioning.
(4) only observation.

76. A student wants to discuss swine flu showing a newspaper clipping. The disease is not mentioned in his textbook. As a science teacher you:
(1) would read the news clipping in class but tell children that it is not part of syllabus, hence is not important.
(2) would discuss swine flu and tell children to bring more science related articles to the class.
(3) ask the child to meet you after the class to discuss such articles so that the prescribed syllabus is completed first and not to waste everybody’s time.
(4) would tell the child that it is beyond the syllabus, and not to be discussed in the class.
77. Planets revolve around the Sun in a definite path. Arrange the following planets in the increasing order of their period of revolution.
   (i) Venus (ii) Saturn (iii) Uranus (iv) Earth
   (1) (iv), (i), (ii), (iii)
   (2) (i), (iv), (iii), (ii)
   (3) (i), (iv), (ii), (iii)
   (4) (i), (ii), (iii), (iv)

78. The melting point of Sulphur is 113 °C and its boiling point is 445 °C. Which one of the following statements is incorrect?
   (1) Sulphur is solid at 90 °C.
   (2) Sulphur is liquid at 400 °C.
   (3) Sulphur is liquid at 450 °C.
   (4) Sulphur is solid at 20 °C.

79. The occurrence of seasons on earth is due to the fact that:
   (1) the earth's axis is tilted.
   (2) the rotation rate of earth changes during the year.
   (3) the earth's axis points in different directions during the year.
   (4) the earth is closer to the sun during summers.

80. In which one of the following, heat is transferred by the process of conduction?
   (1) Room heater
   (2) from Sun to Earth
   (3) from one end of a spoon to the other end, when dipped in hot tea.
   (4) Sea breeze and Land breeze

81. Each cell in our body contains DNA. We also have proteins and fats in our body. What is common among DNA, proteins and fats?
   (1) All contain acids.
   (2) All are inorganic.
   (3) All are salts.
   (4) All contain bases.
82. A rubber sucker, when pressed on a surface sticks to it because of:
   (1) atmospheric pressure.
   (2) the glue on it.
   (3) surface tension.
   (4) gravitational force.

83. In the event of a thunderstorm:
   (1) one should remain in a closed car.
   (2) one should run on the roof of one's house.
   (3) one should use umbrella with a metallic end.
   (4) one should take shelter under a tall tree.

84. All of the following are non-contact forces except:
   (1) Gravitational force
   (2) Magnetic force
   (3) Frictional force
   (4) Electrostatic force

85. A book is placed in front of a plane mirror. The observer is standing behind the book. The image of this book will be formed behind the mirror and it:
   (1) will be erect and at the same distance as the observer is from the mirror.
   (2) will be erect and at the same distance as the object is from the mirror.
   (3) will be inverted and at the same distance as the observer is from the mirror.
   (4) will be inverted and at the same distance as the object is from the mirror.

86. Consider the following statements about adding organic manures to the soil:
   A. They make the soil rigid so as to hold the plants firmly.
   B. They add inorganic matter to the soil which is considered very rich in plant nutrients.
   C. They improve the texture of the soil.
   D. They enhance the water holding capacity of the soil.

The correct statements are:
   (1) B, C and D  (2) A and D only
   (3) C and D only  (4) A, B and C

86. किसी रबर नापूक को बड़ी किसी तल पर ढाब्या जाए तो वह उससे धानक जाता है, जिसका कारण है:
   (1) वायुमंडलीय दबाव
   (2) उस पर लगी गंगी
   (3) पृथ्वी तनाव
   (4) गुरुत्वकर्षण दब

83. विस्तृत झाँडा के समय हमें:
   (1) एक बंद कार के भीतर ही रहना चाहिए।
   (2) घर की छात्र पर दौड़ना चाहिए।
   (3) बाहर के लिए रात्रि दुलारा बाहर करना चाहिए।
   (4) किसी घर के पेड़ के तले शरण लेना चाहिए।

84. निम्नलिखित सभी असम्पर्क बल हैं, सिवाय:
   (1) गुरुत्वकर्षण बल
   (2) कुल्मकर्षण बल
   (3) भ्रमण बल
   (4) ध्वन्यवेयकर्षण बल

85. एक समतल दर्शन के सामने एक पुस्तक रखी है। प्रेस्पंकल पुस्तक के पीछे झाँडा है। इस पुस्तक का प्रतिकृतिव दर्शन के पीछे बननेगा और यह:
   (1) उसके बनने तथा उसी समान दूरी पर बनेगा निश्चय दूरी पर प्रेस्पंकल दर्शन से होगा।
   (2) उसके बनने तथा उसी समान दूरी पर निश्चय दूरी पर बस्तु दर्शन से होगा।
   (3) उसता बनने तथा उसी दूरी पर बनेगा निश्चय दूरी पर अवश्यकता दर्शन से होगा।
   (4) उल्लघ के हो जाएगा तथा उसी समान दूरी पर बनेगा निश्चय दूरी पर बस्तु दर्शन से होगा।

86. मृदा में काबिन्नक्त खाद्य बालने के विषय में नीचे दिए गए कथनों पर विचार कीजिए:
   A. यह मृदा की पीठ को कमकर पकड़े रखने के लिए युद्ध बनाती है।
   B. यह पीठों के लिए अनस्तमित उत्तर मानने जाने वाले अकाविन्नक्त पदार्थ मृदा में निम्नतम है।
   C. यह मृदा की गर्मी में सूखना बनाती है।
   D. यह मृदा की जल को बाध्य रखने की क्षमता में क्रोध करती है।

इनमें सबी कथन हैं:
   (1) B, C और D  (2) B, C और D
   (3) वेल्स C और D  (4) A, B और C
87. When candle burns:
   a. its size decreases.
   b. there is melting of wax.
   c. flame and soot can be seen.
   d. melted wax also solidifies.
From the above observations, which one of the following is correct?
   (1) a is a physical change and others are chemical changes.
   (2) c is a chemical change and others are physical changes.
   (3) a & b are physical changes and c & d are chemical changes.
   (4) a, b and c are physical changes.

88. Identify the incorrect statement:
   a. Acids are sour in taste whereas bases are bitter in taste and soapy to touch.
   b. Acids turn blue litmus red and bases turn red litmus blue.
   c. Solutions of substances that show different colours in acidic, basic and neutral solutions are called indicators.
   d. An acid and a base neutralise each other to form a salt and a salt is always neutral.
   (1) a, d
   (2) c
   (3) b, c
   (4) d

89. Radhika’s gums were often bleeding and her wounds were taking longer time to heal. Her diet could be deficient in which vitamin?
   (1) Vitamin B
   (2) Vitamin C
   (3) Vitamin D
   (4) Vitamin A

90. “Sodium and Potassium are stored in Kerosene. Give the reason.”
   The following reasons are given by VIII class students:
   A. Both are highly reactive and react with carbon dioxide in the atmosphere.
   B. Both are highly toxic and gives off toxic fumes.
   C. Both are highly reactive and react with oxygen in atmosphere.
   D. Kerosene helps cut off the reaction of the metals with oxygen in the air.
Select the most appropriate reason(s) given by Class VIII students.
   (1) only A
   (2) C & D
   (3) only B
   (4) C & B

90. राधिका के मसूदों से प्राप्त खून बहता रहता है तथा उसके घायल ठीक होने में लंबे समय लेते हैं। उसके भोजन में किसी हो सकती है?
   (1) विटामिन B
   (2) विटामिन C
   (3) विटामिन D
   (4) विटामिन A

90. “सोडियम और पोटसियम का भंडारण स्फुरिया के तेल (करोलो) में किया जाता है।”
   इसके लिए कक्षा VIII की सिद्धांतियों ने निम्नलिखित कारण दिए हैं:
   A. दोनों बहुत प्रतिक्रियाशील हैं और तात्विक में कार्बन डाइऑक्साइड से प्रतिक्रिया करते हैं।
   B. दोनों बहुत विशाल हैं और विशाल बुखार छोड़ते हैं।
   C. दोनों बहुत विद्यमान हैं और तात्विक में विद्यमान हैं।
   D. करोलो एवं में विद्यमान आकृतियों से प्रतिक्रिया करते हैं।
   कक्षा VIII के विषयों के लिए गए ऐसे उपयुक्त कारण का निरीक्षण है?
   (1) केवल A
   (2) C और D
   (3) केवल B
   (4) C और B