

## Problem Solving Assessment (Practice Test)

Class – 9	Paper code – NE0901	Questions – 60	Time – 120 minutes
<b>Test Booklet Code</b>	<b>Problem Solving Assessment Sample Question Paper</b>	<b>Test Booklet No. : 2222222</b>	
A1			
<b>Time Allowed: Two hours</b>	<b>Class-IX</b>	<b>Maximum Marks: 90</b>	
<i>This Test Booklet contains 17 pages. Do not open this Test Booklet until you are asked to do so.</i>			

**Note: This test along with answer key will be made available to all students on Next Education website after 12<sup>th</sup> Jan 2014. Hence, schools are requested to conduct this test on or before 12<sup>th</sup> Jan 2014.**

**01.** The Answer Sheet is inside this Test Booklet. When you are directed to open the Test Booklet, take out the Answer Sheet and fill in the particulars on Side-1 and Side-2 carefully with blue/black ball point pen only.

**02.** The Test Booklet Code for this Test Booklet is A1. The candidate should check carefully that the Test Booklet Code printed on Side-2 of the Answer Sheet is the same as printed on Test Booklet. In case of discrepancy, the candidate should immediately report the matter to the invigilator for replacement of both the Test Booklet and the Answer Sheet.

**03.** The Test Booklet contains 60 questions divided into three sections A, B and C. A candidate is required to attempt all the three sections. There are 24 questions in section A, 18 Questions in section B and 18 questions in section C.

**Section A:** Language Conventions (Questions 1 to 24)

**Section B:** Qualitative Reasoning (Questions 25 to 42)

**Section C:** Quantitative Reasoning (Questions 43 to 60)

**04.** All the three sections contain Multiple Choice Questions (MCQs). Some of these questions are passage based MCQs whereas others are standalone MCQs. Each of these questions has four options out of which only ONE option is correct. A candidate has to select the correct option and fill the corresponding number in the Answer Sheet against the question.

**05.** Each question carries 1 ½ marks. For each correct response, the candidate will get 1 ½ marks. There is no negative marking for any of the questions and unattempted question earns no mark.

**06.** The candidates should not leave the Examination Hall without handing over their Answer Sheet to the Invigilator on duty and sign the Attendance Sheet. Cases where a candidate has not signed the Attendance Sheet or the Answer Sheet not handed over to the Invigilator shall be dealt as an unfair means case.

**07.** On completion of the test, the candidates MUST HAND OVER THE ANSWER SHEET TO THE INVIGILATOR in the room/hall. The candidates are allowed to take away this Test Booklet with them.

**08.** Use blue / black ball point pen only for writing particulars on this page and writing or marking responses on Answer Sheet.

**09.** The candidates should ensure that the answer sheet is not folded or damaged. Do not make any stray marks on the answer sheet.

**10.** The candidates are governed by all Rules and Regulations of the Board with regard to their conduct in the Examination Hall. All cases of unfair means will be dealt with as per Rules and Regulations of the Board.

**Registration No :** -----

**Candidate's Name :** -----

**Candidate's Signature :** ----- **Invigilator's Signature :**-----

## Section – A (Language Conventions) Questions 1 to 24

**(Questions 1 to 4) Read the following passage carefully and select the most suitable option from each list according to the corresponding number in the passage.**

Source - <http://www.timeforkids.com/news/gain-gorillas/59721>

Mountain gorillas are extremely (1) social creatures that live in a community environment. Typically mountain gorillas live in a group of about 30 individuals. The leader is a dominant older male. This male can weigh up to 500 pounds and stand nearly 6 feet tall. (2) He organizes the group for hunting and nesting. Often (3) he will have silver hair on his back, marking his senior age and dominance within the group. Like any \_\_\_\_\_ (4), gorillas depend on one another, but now they need humans to help keep them alive.

**Q1. Which of the following words can be used to replace the word “extremely” in the passage, without changing the meaning of the sentence?**

- A family
- B highly
- C violently
- D naturally

**Q2. Given below are two sentences from the passage.**

*“The leader is a dominant older male. This male can weigh up to 500 pounds and stand nearly 6 feet tall.”*

**Which of the following words is BEST to use in the given space to rewrite the two sentences as a single sentence, without changing their meaning?**

*“The leader is a dominant older male \_\_\_\_\_ can weigh up to 500 pounds and stand nearly 6 feet tall.”*

- A that
- B what
- C who
- D which

**Q3. Which of the words given below has a meaning that is opposite to “typically”?**

- A rarely
- B surely
- C ideally
- D usually

**Q4. “Like any \_\_\_\_\_, gorillas depend on one another, but now they need humans to help keep them alive.”**

**Complete the given sentence with the correctly spelt option.**

- A comunity
- B comunnity
- C comunitty
- D community

**(Questions 5 to 8) Read the following passage carefully and select the most suitable option from each list according to the corresponding number in the passage.**

Source – 100 Scientific Discoveries that Changed the World – Published by National Geographic Society.

The World Wide Web has changed(5) lives forever, by linking(6) millions of computers throughout the world, thus making all the information they contain available to everyone. The terms *World Wide Web* and the *Internet* are used interchangeably, but they are not the same thing(7). The Internet is the system that links the network of information that is the Web. It is possible to have the Internet without the Web, but(8) the Web cannot exist without the Internet.

**Q5. Which of these words can be used in the place of 'changed'?**

- A substituted
  - B transformed
  - C transferred
  - D subjected
- 

**Q6. The word 'linking' as it is used in the above passage means \_\_\_\_\_.**

- A tying
  - B joining
  - C chaining
  - D stitching
- 

**Q7. A single word that can be used in the place of "not the same thing" as used in this passage is \_\_\_\_\_.**

- A replica
  - B identical
  - C duplicate
  - D different
- 

**Q8. Which of these options has the same meaning as "but"?**

- A still
- B whether
- C however
- D otherwise

**(Questions 9 to 12) Read the following passage carefully and select the most suitable option**

**from each list according to the corresponding number in the passage.**

The other day, (9) I watched a television programme on a circus. I had not been to a circus since I was a child (10). The acrobats performed an exciting \_\_\_\_ as they dived off a high platform, somersaulted several times, before landing perfectly on their \_\_\_\_ (11). The television programme made me \_\_\_\_\_ the fun I'd had as a child. (12)

**Q9. Which of the following is the correct meaning of the phrase "the other day" as it is used in the above passage?**

- A yesterday
  - B two days ago
  - C some days ago
  - D this day, last year
- 

**Q10. What is another way of expressing this sentence:  
"I had not been to a circus since I was a child."**

- A From my childhood I had never been to a circus.
  - B I had not been to a circus because I was a child.
  - C I had not been to a circus as I was no more a child.
  - D The last time I had been to a circus was when I was a child.
- 

**Q11. In which of these options are the missing words filled correctly?**

- A The acrobats performed an exciting feat as they dived off a high platform, somersaulted several times, before landing perfectly on their feet.
  - B The acrobats performed an exciting fate as they dived off a high platform, somersaulted several times, before landing perfectly on their fete.
  - C The acrobats performed an exciting feat as they dived off a high platform, somersaulted several times, before landing perfectly on their fate.
  - D The acrobats performed an exciting fete as they dived off a high platform, somersaulted several times, before landing perfectly on their feet.
- 

**Q12. Complete the given sentence with the correct word.**

**"The television programme made me \_\_\_\_\_ the fun I'd had as a child."**

- A remind
- B remember
- C to remind
- D to remember

**(Questions 13 to 20) Read the following passage carefully and select the most suitable option**

**from each list according to the corresponding number in the passage.**

Source - Deccan Chronicle 13.12.2012 – Hyderabad Chronicle, pg 18,

### The Man Who Skipped a Day

Fitness trainer Manthry Praveen Kumar, **(13)** the unique date of 12-12-12 to achieve something special. On this day he tried to break into **(14)** the Guinness Book of World Records by skipping continuously for 12 hours, from midnight to noon. The video of his attempt **(15)** 90,000 jumps in 12 hours. The present record holder has 1,30,000 jumps in 24 hours. This makes the **(16)** of Praveen Kumar making it to the record books high.

Being a professional**(17)** trainer helps Praveen. "I practice skipping two days a week but I work out eight hours a day for the rest of the week," he says.

Praveen says his fascination with the Guinness Book started with TV shows on the world records. He has made **(18)** attempts.

"On 10-11-12, I skipped **(19)** six hours and broke the Indian record for skipping. In 2009, I **(20)** a global record by achieving 11,000 jumps in one hour," he says.

"I have been training for the last six years. My ultimate goal is to skip continuously for 35 hours and to make sure I enter the record books."

**Q13. Complete the sentence by using one of the four options given below.**

"Fitness trainer Manthry Praveen Kumar, \_\_\_\_\_ the unique date of 12-12-12 to achieve something special."

- A chose
- B choose
- C chews
- D choosed

**Q14. Which of these options can be used in the place of the underlined words?**

"On this day he tried to break into the Guinness Book of World Records by skipping continuously for 12 hours, from midnight to noon."

- A exit
- B enter
- C destroy
- D shatter

**Q15. Complete the given sentence with the correct option.**

"The video of his attempt \_\_\_\_\_ 90,000 jumps in 12 hours."

- A show
- B shows
- C shown
- D showing

**Q16. Complete the sentence with the most appropriate word.**

“This makes the \_\_\_\_ of Praveen Kumar making it to the record books high.”

- A hostility
  - B paucity
  - C audacity
  - D possibility
- 

**Q17. Which of these words means the opposite of the underlined word in the sentence given below?**

“Being a professional trainer helps Praveen.”

- A trained
  - B amateur
  - C experienced
  - D successful
- 

**Q18. “He has made \_\_\_\_ attempts.”**

- A server
  - B severe
  - C several
  - D severals
- 

**Q19. Which option completes the sentence correctly?**

“On 10-11-12, I skipped \_\_\_\_ six hours and broke the Indian record for skipping.”

- A of
  - B by
  - C in
  - D for
- 

**Q20. Which of the following sentences is correct?**

- A “In 2009, I set a global record by achieving 11,000 jumps in one hour,” he says.
- B “In 2009, I sets a global record by achieving 11,000 jumps in one hour,” he says.
- C “In 2009, I setted a global record by achieving 11,000 jumps in one hour,” he says.
- D “In 2009, I setting a global record by achieving 11,000 jumps in one hour,” he says.

**(Questions 21 to 24) Read the following passage carefully and select the most suitable option from each list according to the corresponding number in the passage.**

Source – Economic Times Magazine: July 29 – August 4, 2012

### Head in the clouds

That morning, after a breakfast of boiled eggs, bread and cheese prepared by our porters, we set off for the real climb. It was \_\_ (21) \_\_ now. Surprisingly, the cleaner air and the shady forests of oak and cedar made it even more enjoyable than the previous day. We \_\_ (22) \_\_ our destination well before evening. We spent the night, warm, in a trekkers hut. It rained \_\_\_\_\_ the night(23). The next day was a \_\_\_\_\_ (24) birthday which we celebrated with sweetened roti cake.

**Q21. Which of the following can be used to complete the sentence correctly?**

“It was \_\_\_\_\_ now.”

- A steep
  - B more steep
  - C much steep
  - D much more steep
- 

**Q22. Which of these can be used to complete the sentence correctly?**

“We \_\_\_\_\_ our destination well before evening.”

- A reached at
  - B reached to
  - C reached
  - D reaches
- 

**Q23. Which of these words can be used to complete the sentence given below?**

“It rained \_\_\_\_\_ the night.”

- A threw
  - B throw
  - C through
  - D thorough
- 

**Q24. Which of these sentences is correct?**

- A The next day was a team member birthday which we celebrated with sweetened roti cake.
- B The next day was a team members birthday which we celebrated with sweetened roti cake.
- C The next day was a team members’ birthday which we celebrated with sweetened roti cake.
- D The next day was a team member’s birthday which we celebrated with sweetened roti cake.

## Section – B (Qualitative Reasoning) Questions 25 to 42

**(Questions 25-30) Read the following passage and answer the questions that follow:**

Source: <http://www.scienceexpress.in/pdf/SEBS-Brief-Note-Eng-18-Oct-12.pdf>

*Science Express* is an innovative mobile exhibition mounted on a specially designed 16-coach AC train, travelling across India. Since its launch in October 2007, the *Science Express* exhibition train has travelled over 80,000 km across the country. With over 80 lakh (8.0 million) visitors at its 254 halts and 930 exhibition days till date, *Science Express* is the largest, longest and most visited mobile science exhibition in India and has created several records. In the current phase, in just the last four months, since 5 June 2012, it has been visited by over 16.50 lakh (1.65 million) people, mostly students.

The current decade (2011-2020) has been declared as the United Nations Decade on Biodiversity and United Nations Decade for Deserts and the Fight against Desertification. With India hosting the eleventh meeting of the Conference of Parties (COP 11) to the UN Convention on Biological Diversity (CBD), during 8-19 October 2012 in Hyderabad, it is an opportune time to showcase to the world the wide array of biodiversity in India and the conservation measures adopted thereof. The *Science Express*, therefore, primarily addresses the theme 'Biodiversity'.

The state-of-the-art exhibition aboard the *Science Express* aims to create awareness on the biodiversity of India, climate change and similar issues among various sections of the society, especially students. The exhibition, thus, targets a wide range of audience including school and college students as well as teachers.

In its ongoing phase from 5 June 2012 to 13 January 2013, *Science Express* is scheduled to travel to around 57 locations across India. At each location, it usually halts for 3-4 days during which the exhibition remains open for visitors.

In the *Science Express*, eight coaches are supported by the Union Ministry of Environment and Forests, and are solely dedicated to showcasing the myriad biodiversity spread across the bio-geographical zones of India. These include Trans-Himalaya and the Himalayas, the Gangetic Plain, North East India, the Desert and Semi-Arid Zone, the Western Ghats, the Deccan Peninsula, and the Coasts and Islands.

At every halt of *Science Express*, activities are planned in advance to engage visitors across different ages to reinforce the message of *Science Express* and these include the exciting and much sought-after Outreach Programme conducted in local schools / institutions along with interesting activities on the railway platforms. Specific outreach activities are also conducted in local schools and institutions associated with the ministry's National Environment Awareness Programme (NEAC) and National Green Corps (NGC). In addition, informative take-away material is made available for wider distribution amongst schools and visitors.

**Q25. How many visitors approximately visited the train from October 2007 to May 2012?**

- A 16 lakh
- B 63 lakh
- C 80 lakh
- D 96 lakh

**Q26. The main aim of Science Express in 2012 is to spread awareness about \_\_\_\_\_ among students and parents.**

- A Science in society
  - B Biodiversity of India
  - C Bio-geographical zones
  - D Biodiversity and climate change
- 

**Q27. How many coaches are specifically devoted to showcase the biodiversity spread across India?**

- A 6
  - B 8
  - C 10
  - D 16
- 

**Q28. In the on-going phase, if the train halts at each location for three days, then how many days would it spend in travelling between stations?**

- A 30 days
  - B 40 days
  - C 50 days
  - D 60 days
- 

**Q29. Which of these options would best fit as a title for this passage?**

- A Science Express – Awareness Campaign
  - B Science Express – Biodiversity Special
  - C Science Express – Outreach to Schools
  - D Science Express – Mobile Exhibition
- 

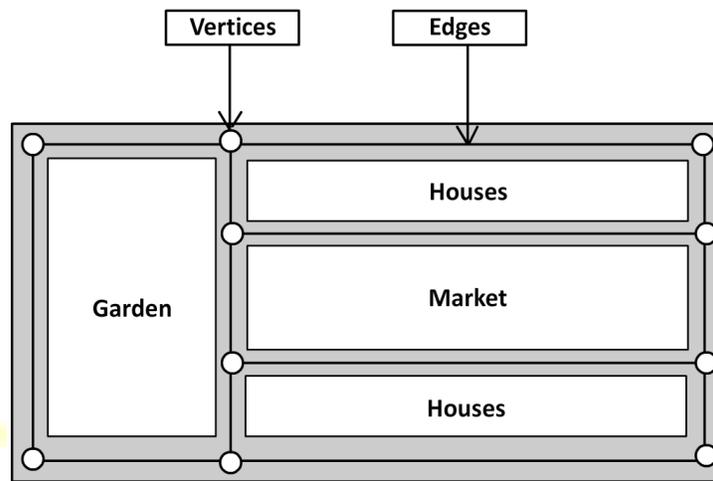
**Q30. “Around 180 countries including India are signatories to the UN Convention on Biological Diversity.” What could be the main reason for so many countries to form a group on biological diversity?**

- A India wanted to run a train to spread awareness on biodiversity.
- B The United Nations has declared 2011-2020 as the Decade on Biodiversity.
- C India hosted a meeting on biodiversity in 2012.
- D All the countries want to step up measures on biodiversity conservation.

(Questions 31-35) Read the following passage and answer the questions that follow:

Here is a portion of a housing development from Hyderabad. As part of her job, the development's lawn inspector has to walk down every street in the development making sure homeowners' landscaping conforms to the community requirements.

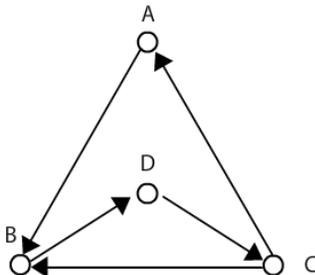
Naturally, she wants to minimise the amount of walking she has to do. The ideal situation would be a circuit that covers every street with no repeats. She can solve this problem by using the method Euler Path and Euler Circuit defined by Euler!



An **Euler path** is a path that uses every edge in a graph with no repeats. Being a path, it does not have to return to the starting vertex.

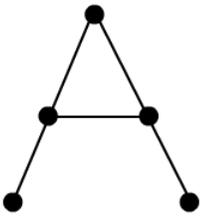
An **Euler circuit** is a circuit that uses every edge in a graph with no repeats. Being a circuit, it must start and end at the same vertex.

**Q31.** In the figure given below, identify the Euler Path based on the directional arrows.

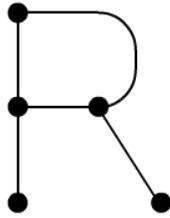


- A ABDCB
- B CABDCB
- C ABDCAB
- D BDCAB

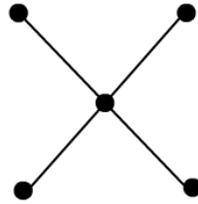
Q32. Which of the following letters confirm to Euler circuit?



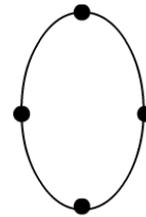
A



B



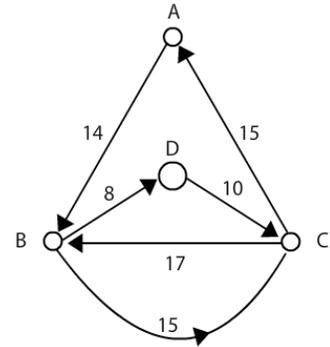
C



D

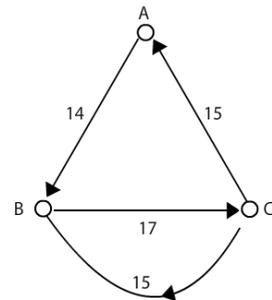
Q33. Find the length of Euler circuit in the figure shown alongside.

- A 35
- B 44
- C 46
- D 79



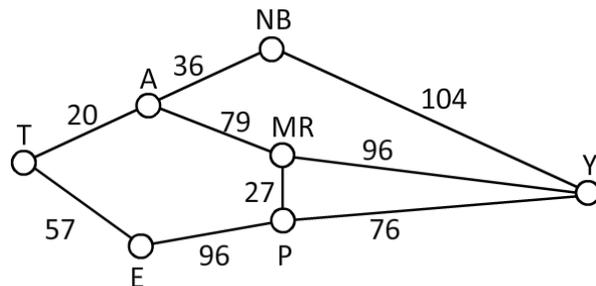
Q34. Find the length of the Euler path in the figure shown alongside.

- A 32
- B 44
- C 46
- D 61



Q35. Ram wants to visit his aunt's house in the coming week. To reach his aunt's house, he needs to explore the map below to identify the shortest travel distance from his house (T) to her house (Y). Which of these would be the shortest distance for Ram to take?

- A T to A to NB to Y
- B T to A to MR to Y
- C T to E to P to Y
- D T to A to MR to P to Y



**Q36.** Ram, Ravi, Sita, Geeta, Raghav and Usha are sitting around a table. Ravi is between Geeta and Usha, Ram does not sit next to Usha, Ram sits to the right of Geeta, Sita does not sit next to Geeta, and Raghav sits to the left of Sita.

**Usha sits between:**

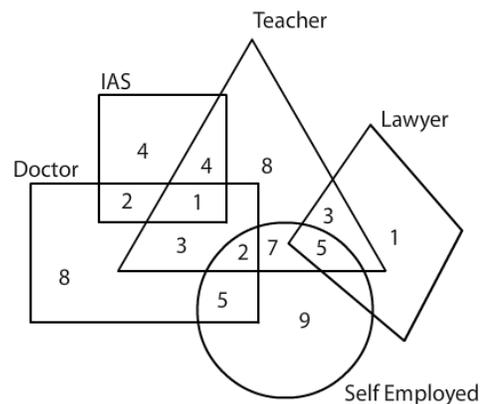
- A Raghav and Geeta
- B Ravi and Sita
- C Ram and Ravi
- D Ravi and Ram

**Q37.** If + is -, × is ÷, - is ×, ÷ is + then solve the below equation.  
 $(45 + 3) - (30 \times 10) + (73 + 3) \times (40 + 5)$

- A 24
- B 124
- C 2489
- D -2708

**Based on the Venn diagram given alongside, answer questions 38 and 39.**

- rectangle represents doctors
- square represents IAS
- triangle represents teacher
- diamond represents lawyer
- circle represents self employed



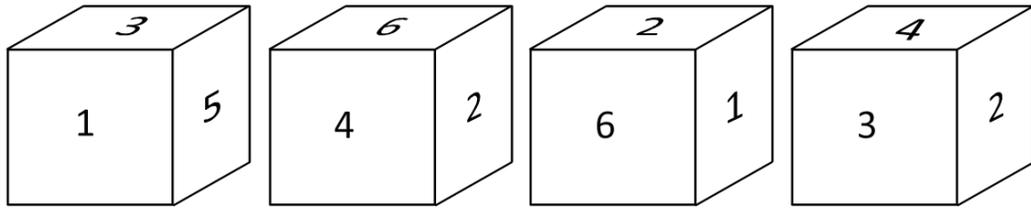
**Q38.** How many doctors are teachers as well as self-employed?

- A 1
- B 2
- C 3
- D 7

**Q39.** Which of the following professions does not exist based on the data presented in the given diagram?

- A Self-employed lawyers who are also teachers
- B Doctors who became IAS and are also teachers
- C Self-employed doctors who are also teachers
- D Lawyers who are only self-employed

Q40. Answer the following question based on the four positions of a dice shown below.



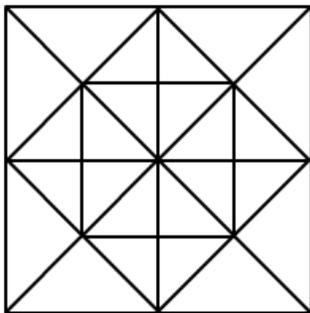
Which number will be opposite to the number 5 on the dice?

- A 1
- B 2
- C 4
- D 6

Q41. Ramesh's father and Chanda's mother are brother and sister. How is Chanda related to Ramesh's father?

- A Aunt
- B Daughter
- C Niece
- D Nephew

Q42. Count the number of squares in the figure given below.



- A 8
- B 9
- C 10
- D 15

## Section – C (Quantitative Reasoning ) (Questions 43-60)

**Q43.** The total weight of a tin and the cookies it contains is 3 kg. After  $\frac{3}{4}$  th of the cookies are eaten, the tin and the remaining cookies weigh 1.2 kg. What is the weight of the empty tin?

- A 0.4 kg
- B 0.6 kg
- C 0.3 kg
- D 0.5 kg

**Q44.** A man spends 80% of his income. His income increased by 25% and his expenditure increased by 10%. By how much did his savings increase?

- A 45%
- B 55%
- C 85%
- D 75%

**Q45.** The difference between the semi-perimeter and the sides of triangle ABC are 8 cm, 7 cm and 5 cm, respectively. Find its semi-perimeter.

- A 30
- B 22
- C 35
- D 20

**Q46.** The difference and product of two numbers are 32 and 2145, respectively. Their sum is:

- A 88
- B 98
- C 68
- D 78

**Q47.** Twenty workers can do a work in 20 days if each of them works for 6 hours daily. Calculate the number of hours needed daily for 25 workers to do the same work in 12 days.

- A 7 hrs
- B 8 hrs
- C 5 hrs
- D 6 hrs

**Q48.** A rectangular sheet of paper of length 28 cm and breadth 22 cm is rolled along its breadth to form a cylinder. Find the volume of the cylinder.

- A  $1078 \text{ cm}^3$
- B  $1272 \text{ cm}^3$
- C  $1362 \text{ cm}^3$
- D  $1372 \text{ cm}^3$

Q49. If  $a = b^2 x$ ,  $b = c^2 y$ ,  $c = a^2 z$ , then the value of  $xyz$  is:

- A  $\frac{b}{ac}$
  - B  $abc$
  - C  $\frac{1}{abc}$
  - D  $\frac{a}{bc}$
- 

Q50. A man sells a radio set at a gain of 5%. If he had it sold for ₹ 490 less, he would have lost 2%. Find the cost price of the radio set.

- A ₹ 6500
  - B ₹ 7000
  - C ₹ 7200
  - D ₹ 6000
- 

Q51. The sum of the ages of five children born at intervals of three years each is 50 years. What is the age of the middle child?

- A 8 years
  - B 10 years
  - C 6 years
  - D 7 years
- 

Q52. If  $n$  is any positive integer greater than 1, then  $n(n^2-1)$  is always divisible by:

- A 6
- B 7
- C 13
- D 23

**(Questions 53 to 56) Read the following information and answer the questions that follow:**

Ramesh had gone to ABC Company in search of employment. In the written test, he was asked to answer certain data-based questions. You need to help him in arriving at the correct answers by using the data provided in the box below and answer the questions from 53 to 56.

Level	Number of employees			Additional information
	Men	Women	Total	
I	16% of total men	28% of total women		
II	18% of total men			Women to men are 2 : 3 at level II
III			25% of total employees	
IV		18% of total women		
V	$\frac{1}{5}$ <sup>th</sup> of total men	60% of the men at level V		
<b>Total</b>			1500	The ratio of men to women in the organization is 17:13.

**Q53. What is the number of men working at level 3?**

- A 136
- B 228
- C 253
- D 163

**Q54. What is the number of women working at level 5?**

- A 147
- B 182
- C 117
- D 102

**Q55. What percentage of the total employees in the organization are men who work at level I?**

- A 9 %
- B 13 %
- C 18 %
- D 22 %

**Q56. What is the total number of women working at levels 2 and 4?**

- A 81
- B 118
- C 219
- D 264

**(Questions 57-60) Use the following information and answer the questions that follow:**

The following table shows the courier charges for sending a 1 kg parcel from one city to another. Study the table carefully and answer the questions from 15 to 18.

Cities From	Cities To				
	Hyderabad	Mumbai	Kolkata	Delhi	Lucknow
Hyderabad	---	10	5	15	10
Mumbai	10	---	7	25	20
Kolkata	5	7	---	20	15
Delhi	15	25	20	---	10
Lucknow	10	20	15	10	---

**Q57. In which of the following pairs of cities will the cost of sending a 1 kg parcel be the least?**

- A Hyderabad - Lucknow
- B Kolkata - Mumbai
- C Lucknow - Delhi
- D Kolkata - Hyderabad

**Q58. For which one of the following will the charges be different from the other three?**

- A Mumbai - Lucknow
- B Kolkata - Lucknow
- C Lucknow - Mumbai
- D Delhi - Kolkata

**Q59. If the cost per kg is assumed to be directly proportional to the distance between the cities, then it can be inferred that Mumbai is farthest from:**

- A Hyderabad
- B Kolkata
- C Delhi
- D Lucknow

**Q60. The ratio between the cost of sending a parcel from Mumbai to Delhi, and from Lucknow to Kolkata is:**

- A 3 : 5
- B 1 : 5
- C 5 : 3
- D 5 : 1

-----THE END-----