



**CBSE**  
**Class XI**  
**Problem Solving Assessment**  
**Year - 2014**

**Time: 2 hrs**

**Total Marks: 60**

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**General Instructions:**

1. 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.
2. The candidate should check carefully that the test booklet code printed on Side-2 of the answer sheet is the same as printed on the test booklet. In case of discrepancy, the candidate should immediately report the matter to the invigilator for replacement of both test booklet and the answer sheet.
3. The test booklet contains 60 questions divided into three sections Section 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 convention (question 1 to 24) to be attempted either from English language or from Hindi language. Section B: Qualitative Reasoning (question 25 to 42), Section C: Quantitative Reasoning (question 43 to 60).
4. All the three sections contain Multiple Choice Questions (MCQs). Some of these questions are passage based MCQs, whereas others are stand alone 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.
5. Each question carries one mark. For each correct response, the candidate will get one mark. There is no negative marking for any of the questions and unattempted question earns no mark.
6. On completion of the test, the candidate **MUST HAND OVER THE ANSWER SHEET TO THE INVIGILATOR** in the room/hall. The candidates are allowed to take away the test booklet with them.
7. The candidate should not leave the examination hall without handing over the 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 has not been handed over to the invigilator shall be dealt as an unfair means case.
8. Use blue/black ball point pen only for writing particulars on this page and writing or marking responses on the answer sheet.
9. The candidate should ensure that the answer sheet is neither folded nor damaged. Do not mark 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.



## वर्ग - ए (भाषीय आचार : प्रश्न 1 से 24)

परीक्षार्थियों के लिए निर्देश :

1. यह खण्ड उन विद्यार्थियों के लिए है जो भाषीय आचार (Language Conventions) खण्ड के अन्तर्गत हिंदी विषय में परीक्षा देना चाहते हैं।
2. इस खण्ड में कुल 24 वस्तुनिष्ठ प्रश्न हैं। सभी प्रश्न अनिवार्य हैं तथा प्रत्येक प्रश्न एक अंक का है।
3. सभी उत्तर केवल OMR उत्तर पत्र पर ही अंकित करें। उत्तर बदलने हेतु श्वेत रंजक का प्रयोग निषिद्ध है।

निर्देश - निम्नलिखित प्रश्नों (1-16) में प्रत्येक के लिए सबसे सही उत्तर वाले विकल्प चुनिए।

1. लेखन की दृष्टि से सही शब्द है?

- (1) संयासी
- (2) सन्यांसी
- (3) संन्यासी
- (4) सन्यासी

2. कादम्बरी' कहा गया है \_\_\_\_\_

- (1) सरस्वती
- (2) नायिका
- (3) फूल
- (4) रात



3. 'रोको मत जाने दो।' इस वाक्य में यदि वक्ता का तात्पर्य रोकने का है, तो अल्पविराम का प्रयोग कहाँ करना चाहिए?
- (1) वाक्य के अंत में
  - (2) विराम-चिह्न का प्रयोग गलत है
  - (3) रोको के बाद
  - (4) मत के बाद
4. 'मोहन पत्र लिखता है।' रेखांकित में कौन-सा कारक है?
- (1) सम्बन्ध
  - (2) कर्ता
  - (3) संप्रदान
  - (4) अपादान
5. निम्नलिखित में से कौन-सा शब्द पुल्लिंग है?
- (1) रात
  - (2) चाँदी
  - (3) दही
  - (4) बात
6. 'मोहन से लिखा नहीं जाता।' इस वाक्य में कौन-सा वाच्य है?
- (1) भाववाच्य
  - (2) कथन गलत है
  - (3) कर्तृवाच्य
  - (4) कर्मवाच्य



7. 'तेली का बैल होना' - मुहावरे का अर्थ है
- (1) मन लगाकर काम न करना
  - (2) हर समय काम में लगे रहना
  - (3) तेली के साथ बैल की तरह काम करना
  - (4) काम न करने हेतु बहाना बनाना
8. 'मधुर-मधुर मेरे दीपक जल' - पंक्ति में 'दीपक' क्या है?
- (1) छंद
  - (2) रस
  - (3) प्रतीक
  - (4) बिम्ब
9. भाषा की सबसे छोटी इकाई को क्या कहते हैं?
- (1) पद
  - (2) वर्ण
  - (3) वाक्य
  - (4) शब्द
10. अशुद्ध वर्तनी वाले शब्द को अलग कीजिए।
- (1) उच्चारण
  - (2) उस्तुक
  - (3) आवश्यक
  - (4) आर्शीवाद
11. 'शिक्षक सभी बच्चों से पेड़ लगवाते हैं।' रेखांकित शब्द का क्रिया-भेद है
- (1) सकर्मक क्रिया
  - (2) नामधातु क्रिया
  - (3) प्रेरणार्थक क्रिया
  - (4) अकर्मक क्रिया



12. 'भाइयों बिना परिचय का यह प्रेम कैसा।' वाक्य का सही रूप है?

- (1) भाइयों, बिना परिचय का यह प्रेम कैसा?
- (2) भाइयों, बिना परिचय का प्रेम यह कैसा?
- (3) भाइयों, बिना परिचय का यह प्रेम कैसा?
- (4) भाइयों ! बिना परिचय का यह प्रेम कैसा?

13. निम्नलिखित शब्दों में से कौन-सा शब्द संज्ञा है

- (1) क्रोधित
- (2) क्रुद्ध
- (3) क्रोधी
- (4) क्रोध

14. प्रश्नवाचक सर्वनाम को छाँटिए।

- (1) आप
- (2) यह
- (3) कोई
- (4) कौन

15. 'अंकित और मयंक बाज़ार जाते हैं।' वाक्य में 'और' शब्द कौन-सा अव्यय है?

- (1) विस्मयादिबोधक
- (2) समुच्चयबोधक
- (3) क्रिया-विशेषण
- (4) संबंधबोधक



16. 'जिसके चरणों में पला ताल , दर्पण-सा फैला है विशाल ' - पंक्ति में निहित अलंकार है

- (1) वक्रोक्ति
- (2) उत्प्रेक्षा
- (3) रूपक
- (4) उपमा

17. 'लुटिया डुबोना' - मुहावरे का अर्थ है

- (1) हानि करना
- (2) प्यास बुझाना
- (3) कुँएँ से पानी निकालना
- (4) लोटे से पानी निकालना

18. निम्नलिखित में से कौन-सा शब्द हमेशा 'बहुवचन' में प्रयुक्त होता है?

- (1) भक्ति
- (2) पुस्तक
- (3) प्राण
- (4) शिशु

प्रश्न संख्या 19 से 24 तक नीचे दिए गए वाक्यों में रिक्त स्थान की पूर्ति के लिए चार-चार विकल्प प्रस्तावित हैं। उचित विकल्प का चयन कीजिए।

19. मनुष्य को अपने भाग्य का निर्माता एवं भविष्य का \_\_\_\_\_ भी कहा जाता है।

- (1) विधाता
- (2) सुधारक
- (3) अधिष्ठाता
- (4) नियामक



20. खानों में उतरने के पहले यह \_\_\_\_\_ करना अत्यंत आवश्यक है कि वे सुरक्षित तो हैं।

- (1) सुनियोजित
- (2) सुनिश्चित
- (3) सिविदित
- (4) सुव्यवस्थित

21. विश्व में \_\_\_\_\_ की ही प्रधानता है।

- (1) धर्म
- (2) भक्ति
- (3) वाणी
- (4) कर्म

22. 'ताजमहल' \_\_\_\_\_ प्रतीक है।

- (1) प्रेम का
- (2) समर्पण का
- (3) उज्ज्वलता का
- (4) सुन्दरता का

23. \_\_\_\_\_ संपन्न शीलता समीर मंद गति से प्रकृति के कोने- कोने में उन्माद भर देता है।

- (1) सौरभ
- (2) सीकर
- (3) रसाल
- (4) मकरंद



24. खजुराहो मंदिर \_\_\_\_\_ की नागर शैली का उत्कृष्ट उदहारण है।

- (1) वास्तुकला
- (2) चित्रकला
- (3) मूर्तिकला
- (4) निर्माणकला







## SECTION A: Language Conventions (Questions 1 to 24)

**Note:** This section of the question paper contains 24 questions in the English Language. The candidates who have opted for English Language are required to attempt all the 24 questions.

**Directions:** (Questions 1 to 8). Read the following passage carefully and select the most suitable option from each list according to the corresponding number in the passage.

1. There is hardly anything that shows the short-sightedness or capriciousness of the imagination more than travelling does.
2. With change of place we change our ideas; also, our opinions and feelings.
3. We can by an effort indeed transport ourselves to old and long-forgotten scenes, and then the picture of the mind revives again; but we forget those that we have just left.
4. It seems that we can think but of one place at a time.
5. The canvas of the fancy is but of a certain extent, and if we paint one set of objects upon it, they immediately efface every other.
6. We cannot enlarge our conceptions, we can only shift our point of view; the landscape bares its bosom to the enraptured eye, we take our fill of it and seem as if we could form no other image of beauty and greatness.
7. We pass on and think no more of it the horizon that shuts it from our sight, also dulls it from our memory like a dream.
8. In travelling through a wild, barren country. I can form no idea of a fertile and pleasant one.

1. In sentence 3, the word 'transport' could best be replaced with
  - (1) repeat
  - (2) begin
  - (3) take
  - (4) forget



2. Which of the following words shows the correct spelling of the underlined, misspelt word in sentence 1?
  - (1) Capriousness
  - (2) Capriciousnes
  - (3) Capriciousness
  - (4) Caprisiousness
  
3. From sentence 2 one can infer that travelling makes one's thinking \_\_\_\_
  - (1) closed
  - (2) conservative
  - (3) broadened
  - (4) narrowed
  
4. In sentence 5, which of the following words cannot replace the word 'efface'?
  - (1) destroy
  - (2) smooth away
  - (3) construct
  - (4) wear away
  
5. In sentence 6, the word 'greatness' could best be replaced with \_\_\_\_
  - (1) status
  - (2) good
  - (3) grandeur
  - (4) amateur
  
6. In sentence 4, 'It seems that we can think but of one place at a time' means
  - (1) One can't think of one place at a time.
  - (2) One can think of two or more places at a time.
  - (3) One can think of many places at a time.
  - (4) One can think of only one place at a time.
  
7. In sentence 8, the phrase 'a fertile and pleasant one' could best be replaced with
  - (1) a spooky and scary one
  - (2) a woody and cultivated one
  - (3) deserted and diseased one
  - (4) flora and fauna
  
8. In sentence 7, the word 'dulls' could best be replaced with
  - (1) becomes
  - (2) blots
  - (3) bolts
  - (4) builds



**Directions:** (Questions 9 to 12). Complete this passage by selecting the most suitable word phrase from each list to fill the corresponding gap.

One of the \_\_\_9\_\_\_ features of the human condition is that the natural exploratory behaviour of human infants has to be curtailed, especially in conditions of civilisation, where the hazards of traffic, electricity, gas, stairs and many other complex dangers have been added to those which are found in primitive, rural circumstances. We are forced to \_\_\_10\_\_\_ our children psychologically, because we live in an artificial environment where small children are ill equipped \_\_\_11\_\_\_ themselves when surrounded by the dangerous \_\_\_12\_\_\_ of civilisation. We tend to guard them too carefully in situations where this is not necessary.

9. Which of these fits gap 12?

- (1) looks
- (2) circumstances
- (3) attractions
- (4) highlights

10. Which of these fits gap 9?

- (1) unwritten
- (2) unsaid
- (3) remarkable
- (4) unfortunate

11. Which of these fits gap 10?

- (1) desert
- (2) redeem
- (3) overprotect
- (4) rear

12. Which of these fits gap 11?

- (1) to look after
- (2) to quarrel
- (3) to corporate
- (4) to read



**Directions:** (Questions 13 to 16). Read the passage and select the correct form of the missing word/phrase to complete it.

Malnutrition most commonly \_\_\_13\_\_\_ between the age of six months and two years. This happens despite the child's food requirements being less than that of \_\_\_14\_\_\_ child. Malnutrition is often attributed to poverty but it has been found that even in households where adults eat adequate quantities of food, more than 50 percent of children under five \_\_\_15\_\_\_ consume enough food. The child's dependence on someone else to feed \_\_\_16\_\_\_ is primarily responsible for malnutrition.

**13.** Which of these fits gap 16?

- (1) them
- (2) him/her
- (3) him
- (4) her

**14.** Which of these fits gap 15

- (1) does not
- (2) need not
- (3) do not
- (4) dare not

**15.** Which of these fits gap 13?

- (1) comes
- (2) is often
- (3) noticed
- (4) occurs

**16.** Which of these fits gap 14?

- (1) a rich
- (2) a poor
- (3) an older
- (4) a smarter



**Directions:** (Questions 17 to 20). Complete this passage by selecting the most suitable word/phrase from each list to fill the corresponding gap.

The poem, 'Ode to the West Wind' directly \_\_\_17\_\_\_ to Shelley's poetic creed. Poetry, Shelley writes in 'A Defence of Poetry', "awakens and enlarges the mind by \_\_\_18\_\_\_ it the receptacle of a thousand unapprehended combinations of thought. Poetry lifts its veil from the hidden beauty of the world. "In the very first \_\_\_19\_\_\_ of the poem, the West Wind appears with an accumulated force — a "breath of Autumn's being" — to blow away the dead leaves. Shelley compares the West Wind \_\_\_20\_\_\_ a magician.

17. Which of these fits gap 20?

- (1) by
- (2) similar
- (3) to
- (4) from

18. Which of these fits gap 19?

- (1) passage
- (2) stanza
- (3) slogan
- (4) extract

19. Which of these fits gap 18?

- (1) ignoring
- (2) devastating
- (3) rendering
- (4) deceiving

20. Which of these fits gap 17?

- (1) gives
- (2) assembles
- (3) opposes
- (4) conforms



**Directions:** (Questions 21 to 24). Complete this passage by selecting the most suitable word/phrase from each list to fill the corresponding gap in Questions 21 to 23 and select the correct option for Question 24.

Setting goals for what we do in life gives us \_\_21\_\_\_. We need motivation to \_\_\_22\_\_\_ our future and be excited about all the opportunities available to us. We are likely to think clearly and positively if we have goals to strive \_\_\_23\_\_\_. A sense of achievement and accomplishment gives us a feeling of satisfaction. If we are able to set achievable goals, we would be more likely to achieve them.

**21.** Which phrase would be suitable for gap 22?

- (1) look for
- (2) look into
- (3) look in
- (4) look at

**22.** Which of these fits gap 21

- (1) aspiration
- (2) involvement
- (3) increment
- (4) direction

**23.** Which word will fill gap 23?

- (1) well
- (2) with
- (3) in 1
- (4) for

**24.** Based on your reading of the passage, say which of the following statements is not true?

- (1) Motivation acts as a tool for achieving the goals.
- (2) One needs to set very high unachievable goals.
- (3) To achieve something in life, one needs to set goals.
- (4) One can think positively if one has a goal to achieve.



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

25. Read the following statements A, B and C and choose the correct option from the alternatives which follow:

- A. Less than 10 percent of the Indian workforce has formal skill training.
- B. Nearly 95 percent of India's workforce is in the unorganised sector.
- C. Most unorganised sector workers have no formal skill training.

- (1) Statements A and B are true but C is not true.
- (2) All the three statements A, B and C are true.
- (3) Only statement A is true and statement B is not true.
- (4) Only statement B is true and statement A is not true.

26. Statements in Column I and Column II given below indicate the factors and their possible consequences, respectively. Match the statements in the two columns and choose the correct matching from the options which follow:

Column I	Column II
A. Increase in the cost of agricultural raw materials	I. Increase in food grains production
B. Good rainfall in II. most parts of India	II. Rise in food materials prices
C. Increase in food grain consumption	III. Increase in the nutrition level

- (1) A-II, B-I and C-III
- (2) A-III, B-II and C-I
- (3) A- I, B-III and C-II
- (4) A-I, B-II and C-III

27. Rohan has to choose an institution for his higher studies. Which one of the following factors is the least important in making a decision about this matter?

- (1) The number of teachers and students in the institution
- (2) The expertise of the teachers in the institution
- (3) The distance of the institution from his residence
- (4) The reputation of the institution



28. There are seven children P, Q, R, S, T, U and V playing in a playfield. They are wearing 4 clothes of different colours—black, blue, white, green, pink, yellow and brown. Out of these seven, three are girls.

Read the following information and answer the question which follows:

- (a) No girl is wearing black, yellow or brown.
- (b) S is wearing brown and his sister U is wearing pink.
- (c) P is wearing blue, while his sister Q is not wearing pink.
- (d) T is wearing yellow and his best friend V is a boy.

Which one of the following groups of children is girls?

- (1) R, Q, S
- (2) Q, R, U
- (3) Q, R, T
- (4) P, Q, R

29. If you practice walking as an exercise, you do not need to visit any gym. Your surroundings can be your gym. It also saves your money from buying costly equipment for the workout. You only need to buy a comfortable pair of shoes.

Which of the following statements is best conveyed in the above paragraph?

- (1) Outdoor exercises are better than indoor workouts.
- (2) Walking is a convenient and economical form of exercise.
- (3) Walking is a better form of exercise than cycling.
- (4) It is not wise to spend for joining a gym.

30. While taking a decision on an issue, it is essential to see it from 'multiple' perspectives. Read the following statements A, B and C and answer the question which follows:

- A. New economic policies led to increase in the proportion of poor in developing countries. Income inequality also increased in most of these countries.
- B. During the last 60 years, India's health policies led to increase in the life expectancy from 34 to 69 years. This is not an ordinary achievement.
- C. India's new industrial policies failed to improve industrial output. Yet, a large section of industrial workers began getting social security.

Which of the above statement(s) provide(s) scope for multiple perspectives?

- (1) Only C
- (2) Both B and C
- (3) Only A
- (4) Both A and B





**Directions:** (Questions 31 to 36). Read the following passage and answer the questions which follow:

United Nations World Tourism Organization (UNWTO) has been celebrating World Tourism Day on 27<sup>th</sup> September every year to promote the awareness of role of tourism within the international community. It claims that tourism is currently the world's largest industry with annual revenues of over \$3 trillion. A number of factors have contributed to this international growth in tourism. Some of these include more leisure time, faster and cheaper modes of travel and higher disposable incomes. According to a UNWTO report, the international tourism receipts grew by about 35% in a single year 2010–2011. The year 2011 marked the phase of recovery for international tourism demands from the strong slowdown and losses due to the recession during 2008–2009.

Tourism has become the most growing global activity today. Industrialisation with newer advanced means of communication and travel has increased our mobility and brought the world closer. Tourism is recognised as "an activity essential to the life of nations because of its direct effects on the social, cultural, educational and economic sectors of national societies and on their international relations". Tourism brings in large amounts of income in payment for goods and services available, accounting for 30% of the world's exports of services, and 6% of overall exports of goods and services. It also creates opportunities for employment in the service sector of the economy associated with tourism. These service industries include transport services, such as airlines, cruise ships and taxi-cabs; hospitality services, such as accommodation, including hotels and resorts; and entertainment venues, such as amusement parks, shopping malls, music venues and theatres.

Tourism in India is the largest service industry, which contributes 6.23% to the national GDP and 9–24% of the total employment in India. According to an estimate, tourism revenues are expected to grow by 42% from 2007 to 2017. The majority of foreign tourists come from USA and UK. Kerala, Tamil Nadu, Delhi, Uttar Pradesh and Rajasthan are the top five states to receive inbound tourists. Domestic tourism in the year 2010 was 790 million. Andhra Pradesh, Uttar Pradesh, Tamil Nadu and Maharashtra received the major share of these visitors. The 'Travel & Tourism Competitiveness Report' ranked tourism in India sixth in terms of price competitiveness and 39<sup>th</sup> in terms of safety and security. The Ministry of Tourism is active in its efforts in order to promote new forms of tourism such as rural, cruise, medical and eco-tourism.



- 31.** International tourism witnessed its recovery in the year 2011 from
- (1) global terrorism
  - (2) environmental degradation
  - (3) political instability
  - (4) economic decline
- 32.** The inbound tourists referred to in the passage are
- (1) all the foreign tourists visiting India
  - (2) all tourists going from one country to another
  - (3) the Indian tourists going from one region of the country to another
  - (4) the European tourists visiting Indian destinations
- 33.** Tourism generates large amount of income through payments made for
- (1) goods and employment
  - (2) goods and services
  - (3) services and employment
  - (4) employment and entertainment
- 34.** What has made tourism the most vibrant global activity today?
- (1) Higher earning, technological developments and cheaper means of travel
  - (2) Desire to gain knowledge through travel
  - (3) Possibility to travel to distant regions across the world
  - (4) Government policy of subsidy on tourism activities
- 35.** The main idea of the passage is to
- (1) highlight the growth of the tourism industry and its socioeconomic impacts
  - (2) discard the older forms of tourism and look for its newer forms
  - (3) promote investment in the tourism industry because it is a great revenue earner
  - (4) create awareness about earning from tourism and its use for development
- 36.** The service industries mentioned in the passage refer to
- (1) the industries processing raw materials and manufacturing goods in factories
  - (2) the industries belonging to the Government sector
  - (3) the industries that serve the interests of the buyers
  - (4) the industries that provide services meeting the interests of consumers but do not manufacture goods



**Directions:** (Questions 37 to 42). Read the following passage and answer the questions which follow:

The World Health Organization, in a recent report, put road traffic injuries as the eighth leading cause of death in the world, with an impact similar to that caused by malaria. Over 10 lakh people die every year on the world's roads. Road accidents are the top cause of death among young (15 to 29 years) people. According to year 2011 records, one person dies in a road accident in India every four minutes. There is an accident almost every minute. This trend is a part of a world-wide increase in accidents over the years due to increase in motorisation, rapid development of road networks, rise in population and lax safety norms for cars.

"In developed countries, there is more demand for spacious cars with bucket seats. This gives enough room for rear seat occupants to wear seatbelts. In India, the vehicle manufacturers compromise on safety to provide room for three at the rear," a scientist from Central Road Research Institute, Delhi says.

Another study of five most popular cars made in India reports that the safety levels were '20 years behind the five-star standards now common in Europe and North America'. Many cars made for India would not be allowed on the streets of a European country. Compared to developing nations, many developed nations like Australia, United Kingdom, Canada, Netherlands and France have brought down their accident rates significantly in recent years.

37. The study report referred to in the above passage is

- (1) trying to bring bad reputation for Indian vehicle manufacturers
- (2) prepared by private organisations and hence is reliable
- (3) helpful in understanding the status of road accidents in India
- (4) not going to change the road accident situation in India

38. In the back seats of developed country cars,

- (1) two persons can sit comfortably with seat belts
- (2) two persons can sit comfortably without seat belts
- (3) three persons can sit comfortably without seat belts
- (4) three persons can sit comfortably with seat belts

39. The main idea of the passage is that

- (1) people need not worry about malaria
- (2) only elderly persons die in road accidents
- (3) more people die of malaria than of road accidents
- (4) we need to take precautions while travelling on roads



40. Car manufacturers in India

- (1) are more worried about value for money
- (2) are mainly interested in advertisements
- (3) give importance to quality of materials in making cars
- (4) give less regard for safety standards

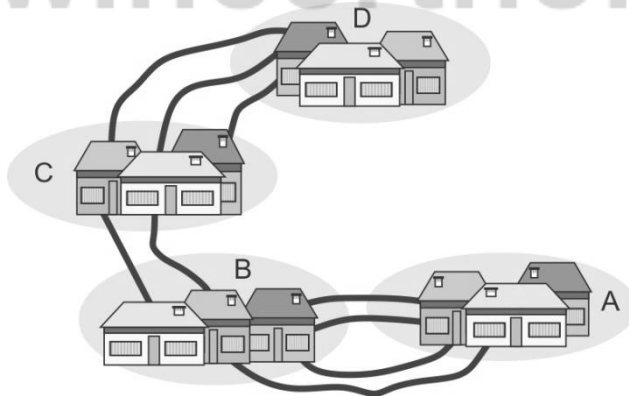
41. After reading the above passage, which one of the following suggestions would you provide to the Government of India to reduce road accidents in India?

- (1) Raise the safety norms in car manufacturing
- (2) Encourage people to travel only by cycles or motorbikes
- (3) Permit cars imported only from Europe for use on Indian roads
- (4) Permit cars imported only from North America for use on Indian roads

42. Why cars made for India would not be allowed to run on European roads?

- (1) Europeans may not like Indian cars because they were made for a developing country
- (2) Fuel required for European cars is different from fuel used in Indian cars
- (3) Indian government does not allow cars to be exported to European countries
- (4) Cars made for India do not have the safety norms required to run on European roads

43. A postman can travel from village A to village B by four different roads, from village B to village C by two different roads and from village C to village D by three different roads.



If the postman goes from village A to village D and returns by a different route, in how many ways can he do this?

- (a) 72
- (b) 144
- (c) 24
- (d) 36



44. You have one ₹1 coin in your piggy bank. Your father decides to give you daily as many ₹1 coins as you have in the piggy bank. That is, on day one he gives you one ₹1 coin, on day two he gives you two ₹1 coins, on day three he gives you four ₹1 coins, and so on. If your piggy bank becomes full in sixteen days, in how many days would it be  $\frac{1}{8}$ th full?

- (1) 14
- (2) 15
- (3) 8
- (4) 13

45. The Indian Premier League (IPL) started in 2008. The competition started with a double round robin group stage, in which each of the teams played two matches against every other team—a home match and an away match. These matches were followed by two semi-finals between the top four teams and a final. If in total 59 matches are played, how many teams participated in the league?

- (1) 8
- (2) 9
- (3) 6
- (4) 7

46. On her first day of work at a convenience store, Jaya charged the wrong tax all day. She thought the sales tax rate was 5%, when it was actually 4%. The total amount of money Jaya collected was ₹25,200. The estimated difference between the actual amount of money that should have been collected and the wrongly collected money collected by Jaya is

- (1) between ₹200 and ₹800
- (2) more than ₹300
- (3) less than ₹100
- (4) between ₹100 and ₹200

47. Supriya has two employees in her boutique who are paid according to the table below:

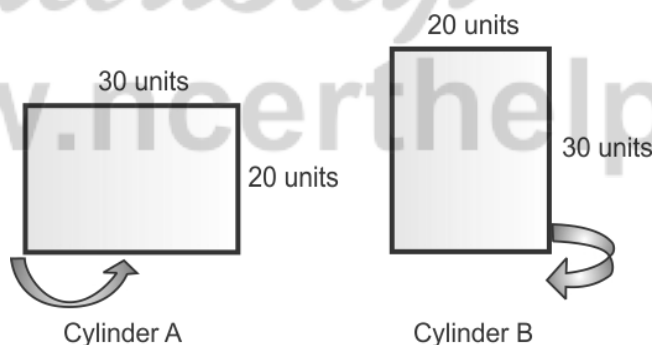
Employee	Hourly pay	Daily Bonus
Employee I	₹ 40 per hour	₹ 60
Employee II	₹ 30 per hour	₹ 100

Supriya wishes both employees should end each day working for the same number of hours and also to get the same amount of money. What is the minimum number of hours that they shall work each day to fulfil Supriya's wish?

- (1) 6
- (2) 10
- (3) 4



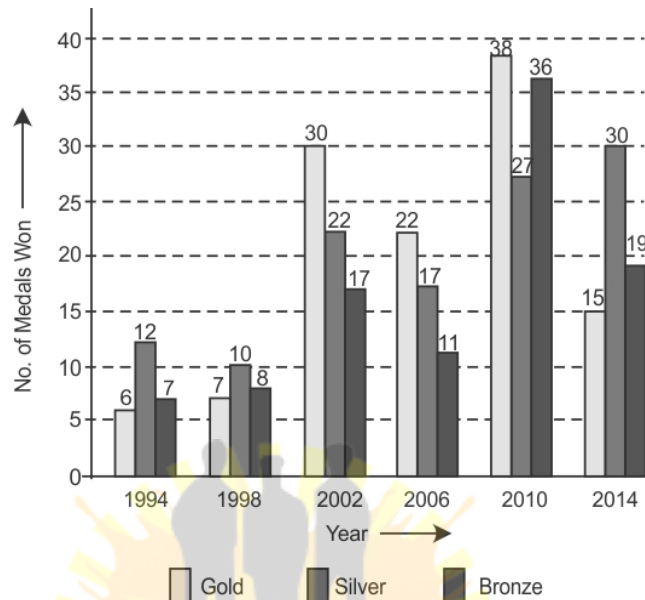
- (4) 5
48. Which one of the following digits occurs most frequently when we write numbers from 1 to 100 in digits?
- (1) 5  
(2) 9  
(3) 0  
(4) 1
49. A number of students are standing in a circle and are evenly spaced. They are numbered 1, 2, 3 ... in a clockwise manner. If the fifth student is standing directly diametrically opposite to the twenty-fifth student, how many students are standing in the complete circle?
- (1) 38  
(2) 40  
(3) 30  
(4) 36
50. Smridhi wanted to make a cylinder by rolling a rectangular sheet of  $20'' \times 30''$ . She can do so by folding it along the length or the width as shown (Figs. 1 & 2). Which of the following statements is true?



- (1) Both cylinders will have the same volume.  
(2) Volume of cylinder A will be one-third of the volume of cylinder B.  
(3) Cylinder A will have more volume.  
(4) Cylinder B will have more volume.



51. The following graph shows the number of medals won by India in the Commonwealth Games from 1994 to 2014.



By what approximate percentage was the number of silver medals in 2014 more than the number of gold medals won in 2006?

- (1) 88%
- (2) 126%
- (3) 27%
- (4) 30%

52. Nine coins are placed as shown below. If the centre of each coin is joined by the centre of each adjacent coin by line segments, then the number of equilateral triangles formed will be





- (1) 5
- (2) 6
- (3) 3
- (4) 4

**Direction:** (Question 53 to 56). Read the following passage and answer the questions which follow:

Binary number system is an integral part of the working of any computer system. With combinations of two digits 0 and 1 (called bits or binary digits), a computer reads, adds, subtracts, multiplies and does all its tasks. These binary digits refer to the two voltages corresponding to ON and OFF states of millions of digital electronic circuits a used in designing computers.

There exist standard binary encoded numbers for the decimal numbers from 0 to 9.

To transfer a message in a secured way, one needs to encode it. BCD (Binary Coded Decimal) code is one way of encoding decimal numbers by an equivalent 4-bit binary number. 8421 Is a standard BCD code. Using 8421 BCD code, each A equivalent 4 bit encoded binary number of a decimal number can be obtained as shown in the table below:

Decimal Numbers	Binary Coded Decimals (BCD) Code	Equivalent 4-bit encoded binary number
0	$0 \times 8 + 0 \times 4 + 0 \times 2 + 0 \times 1 = 0$	0000
1	$0 \times 8 + 0 \times 4 + 0 \times 2 + 1 \times 1 = 1$	0001
2	$0 \times 8 + 0 \times 4 + 1 \times 2 + 0 \times 1 = 2$	0010
3	$0 \times 8 + 0 \times 4 + 1 \times 2 + 1 \times 1 = 3$	0011
4	$0 \times 8 + 1 \times 4 + 0 \times 2 + 0 \times 1 = 4$	0100
5	$0 \times 8 + 0 \times 4 + 0 \times 2 + 0 \times 1 = 5$	0101
6	$0 \times 8 + 1 \times 4 + 1 \times 2 + 0 \times 1 = 6$	0110
7	$0 \times 8 + 1 \times 4 + 1 \times 2 + 1 \times 1 = 7$	0111
8	$1 \times 8 + 0 \times 4 + 0 \times 2 + 0 \times 1 = 8$	1000
9	$1 \times 8 + 0 \times 4 + 0 \times 2 + 1 \times 1 = 9$	1001

Note that each number of BCD code is multiplied by a binary digit either (7 or 1) and these are then added to obtain the decimal number.

An alternative method of obtaining the equivalent 4-bit encoded binary number of any decimal number using 8421 BCD code is shown below:

$$\begin{array}{r}
 5 = 8 + 4 + 2 + 1 \\
 = \downarrow \downarrow \downarrow \downarrow \\
 \text{Decimal } 5 = 0 \quad 1 \quad 0 \quad 1 \text{ (equivalent 4-bit binary number)}
 \end{array}$$





Further, as BCD is an encoding system, one can use different BCD codes (other than standard 8421 BCD) for encoding and decoding decimal numbers. For example, if one uses 7 4 2 1 BCD code, then decimal number 9 will be encoded as 1010.

One can even use negative numbers to devise a BCD code. For example, if one uses 8 4 -2 -1 BCD code, here minus 2 and minus 1 are negative numbers, then as per 8 4 -2 -1 BCD code the decimal number 3 will be encoded as 0101.

For encoding decimal numbers more than 9, sets of equivalent 4-bit binary numbers are used. For example, the encoded binary equivalent of decimal number 68 using 8421 BCD code will be 0101 0110, where 0101 is the code for 5 and 0110 is the code for 6.

**53.** For 2514 BCD code, which of the following can be 4-bit binary equivalent codes for decimal number 7?

- (1) 1010 and 1101
- (2) 0101 and 1011
- (3) 1100 and 1011
- (4) 1100 and 0111

**54.** Which of the following is the equivalent 4-bit binary number for decimal number 9 in terms

- (1) 1111
- (2) 1001
- (3) 0111
- (4) 1011

**55.** Match the following information given in columns I and II, and select the correct matching one from the given options which follow:

Column I	Column II
BCD Code	Binary equivalent for decimal number 6
(i) 4812	(p) 0111
(ii) 2147	(q) 1100
(iii) 8-2-1 4	(r) 1001
(iv) 7321	(s) 1010

- (1) (i) - s (ii) - r (iii) - q (iv) - p
- (2) (i) - s (ii) - r (iii) - p (iv) - q
- (3) (i) - r (ii) - s (iii) - p (iv) - q
- (4) (i) - r (ii) - s (iii) - q (iv) - p



56. Which one of the following statements is correct about BCD codes?

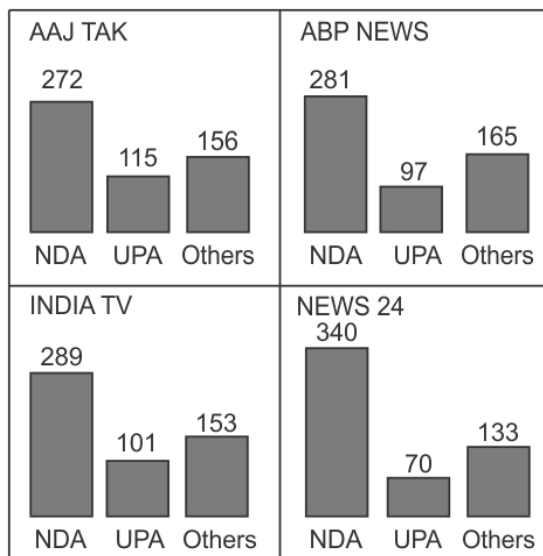
- (1) For 1248 BCD and 8421 BCD, 4-bit binary equivalent will be the same for all decimal numbers.
- (2) As per 8-4-2-1 BCD code, there will be no decimal equivalent of 9.
- (3) One can devise a BCD code with all negative numbers.
- (4) As per 8-4-2-1 BCD code, the decimal equivalent of 12 is 1100.

**Directions:** (Questions 57 to 60). Read the following passage and answer the questions which follow:

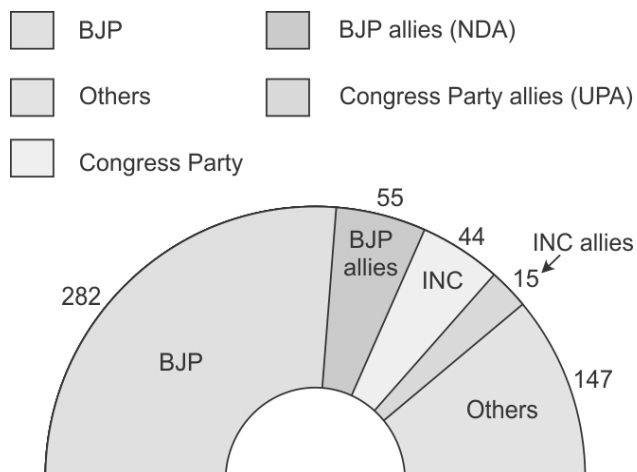
India is world's largest democratic country. Here, the government is directly elected by the people in every five years. Election Commission of India (ECI) is the constitutional authority that conducts elections in India.

In the 2014 general elections, votes were polled for 543 Lok Sabha seats. Bharatiya Janata Party (BJP) and its allies formed the National Democratic Alliance (NDA). Indian National Congress (INC) and its allies formed the United Progressive Alliance (UPA). These were two major political groups to contest the last general elections. Rest of the parties who contested the general elections are 41, referred to as 'Others'.

In the present scenario, media plays an important role in the elections by updating voters about their general issues and problems and daily affairs of political parties. Various news channels also conduct exit polls to predict the outcome of the general elections. In an exit poll, the voters immediately coming out of the polling booth are asked whom they have voted for. The exit poll predictions of four of the leading TV channels with reference to 2019 general elections in India are shown below:



Total Lok Sabha seats : 543



To form a government, a party or an alliance needs to win at least 50% of the total Lok Sabha seats for which voting took place. This is called a government with simple majority in Lok Sabha. A party or an alliance winning 2/3 of the total seats is said to have an absolute majority and can pass any bill in the Lok Sabha.

57. Which news channels exit poll prediction was closest to the overall results of general elections in India in 2014?

- (1) ABP NEWS
- (2) NEWS 24
- (3) AAJ TAK
- (4) INDIATV

58. In 2014 Lok Sabha, NDA is short of absolute majority by how many seats?

- (1) 25
- (2) 28
- (3) 20
- (4) 23

59. What is the percentage of seats won by BJP and its allies in the Lok Sabha elections in 2014?

- (1) 65%
- (2) 66%
- (3) 60%
- (4) 62%



60. With reference to actual results and exit poll predictions, match the information given in columns I and II, and select the correct matching one from the given options:

Column I

Column II

(i) Aaj Tak

(p) Closest prediction of 'NDA' seats

(ii) INDIA TV

(q) Most erroneous prediction of 'Others' seats

(iii) NEWS 24

(r) closest prediction of 'Others' seats

(iv) ABP NEWS

(s) Most erroneous prediction of 'UPA' seats

(1) (i) - s (ii) - r (iii) - p (iv) - q

(2) (i) - s (ii) - r (iii) - q (iv) - p

(3) (i) - r (ii) - s (iii) - p (iv) - q

(4) (i) - r (ii) - s (iii) - q (iv) - p



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