



Test Booklet Code

0614

NATIONAL TEACHERS COUNCIL

All India Talent Search Examination - 2014

Class - VI

Time Allowed: 2 Hours

Maximum Mark: 100

This Test Booklet contains 20 pages. Do not open the Test Booklet until you are asked to do so.

Important instructions

1. This question paper contains 100 multiple choice questions each of one mark.
2. The question paper is divided into two sections, **A** and **B**.
3. Section **A** is **Scholastic Aptitude Test (SAT)**, contains 60 questions. This section covers **Physics, Chemistry, Biology and Mathematics**.
4. Section **B** is **Mental Ability Test (MAT)**, **Computer Awareness** and **General Knowledge**, contains 40 questions.
5. There will be no negative marks for wrong answer.
6. A separate answer sheet is provided for answering the questions. Each question should be answered by **darkening** the appropriate circle (A, B, C, or D) with a **blue or black ball pen**.
7. Answer recorded once in the answer sheet cannot be altered.
8. All rough works should be done only in the space provided for **rough work** in this question paper.
9. Calculator is not permitted in the examination hall.
10. Candidate should write his / her name in the space provided for the purpose.

Roll Number :

Candidates Name :

Candidates Signature :

.....
Invigilator's Signature

SECTION: A

PHYSICS (Q No. 1 to 15)

1. The clouds float in the atmosphere because of their low
 - (A) Pressure
 - (B) Velocity
 - (C) Temperature
 - (D) Density
2. The capacity to do work is called
 - (A) Power
 - (B) Force
 - (C) Energy
 - (D) Motion
3. Woollen clothes are warmer than the cotton ones because
 - (A) They are better absorbers of heat
 - (B) They are better insulators of heat
 - (C) They are better radiators of heat
 - (D) They are heavier than cotton clothes
4. Combing hair sometimes produces a crackling sound because
 - (A) Of friction between comb and hair
 - (B) Comb attracts the hair
 - (C) Electric charge is produced by friction
 - (D) Of dryness of hair and comb
5. Select the CORRECT statement
 - (A) A freely suspended bar magnet points north direction
 - (B) A freely suspended bar magnet is constantly oscillates
 - (C) A freely suspended bar magnet points south direction
 - (D) A freely suspended bar magnet points north-south direction
6. A device used to the intensity of earthquake
 - (A) Barometer
 - (B) Seismograph
 - (C) Altimeter
 - (D) Laser rays

Questions 7 & 8: Different animals have different hearing ranges. An animal's lower limit of hearing is the lowest frequency sound it can hear. Its upper limit of hearing is the highest frequency sound it can hear.. The hearing range of an animal is made up of all the sound frequencies in between.

The following table shows the audible range of sound of some animals

Animal	Audible range of sound (in Hz)
Bird	250 - 21000
Crocodile	20 – 6000
Dog	15 – 50000
Bat	1000 – 150000
African moth	5000 – 110000
Dolphin	150 - 150000

7. Which of these animals can hear a sound of frequency 240Hz?
- (A) Bird & Crocodile (B) Crocodile & Dog
(C) Bird, Crocodile & Dog (D) Dolphin, Dog & Crocodile
8. What is the frequency of the sound that both Dolphin and Bat can hear?
- (A) 150Hz (B) 1500 Hz
(C) 155000 Hz (D) 600 Hz
9. A sure test for magnetism is
- (A) Repulsion (B) Attraction
(C) Both (A) and (B) (D) Neither (A) or (B)
10. During photosynthesis, plants collect solar energy. When we eat food we get energy from the food. The energy is stored in the food as
- (A) Chemical energy (B) Light energy
(C) Muscular energy (D) Heat energy

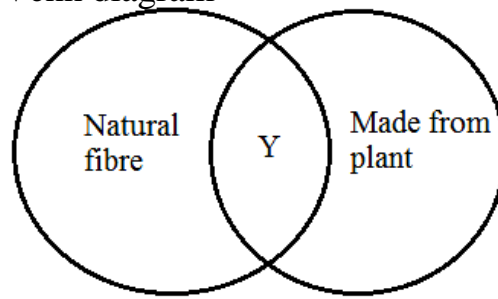
11. The two point on an electric cell to which the circuit wires can be attached are called
- (A) Switch (B) Filament
(C) Insulator (D) Terminals
12. A girls standing 100cm away from a plane mirror. If the girl moves 30cm towards the mirror, what will happen to the size of the image?
- (A) The size of the image will increase
(B) The size of the image will decrease
(C) The size of the image will remain same
(D) Cannot say
13. Which of the following statement is NOT CORRECT?
- (A) Shadows cannot be formed when an object allows some light to pass through it
(B) Shadows are always formed on the opposite side of the light
(C) A shadow has a similar shape to the object that forms the shadow
(D) An object can form as many shadows as there are light sources around it
14. Which of the following processes will not make a magnet to lose its magnetism?
- (A) Heating the magnet strongly over a flame
(B) Dropping the magnet on the floor repeatedly
(C) Coating the magnet with a layer of oil
(D) Hitting the magnet with a hammer repeatedly
15. A lunar eclipse occurs when
- (A) The Sun is in between the Earth and the Moon
(B) The Earth is in between the Sun and the Moon
(C) The Moon is between the Sun and the Earth
(D) It is a new moon day

CHEMISTRY (Q No. 16 to 25)

16. Pure water is obtained from sea water by the process of
- (A) Filtration (B) Distillation
(C) Evaporation (D) Fractional distillation
17. Which one of the following is NOT a property of air?
- (A) Air is not a matter (B) Air is highly compressible
(C) Air exert pressure (D) Air is a homogenous mixture
18. Vinegar dissolves in water. So they are called
- (A) Solvent and solution (B) Solution
(C) Immiscible liquid (D) Miscible liquid
19. A process in which heat is absorbed is called endothermic and heat is released is called exothermic. ***Burning of cooking gas is***
- (A) An endothermic reaction (B) Exothermic reaction
(C) Chemical reaction (D) Both (B) & (C)
20. The correct ascending order of gases as per their composition in air is
- (A) Oxygen < Carbon dioxide < Nitrogen
(B) Hydrogen < Oxygen < Nitrogen
(C) Nitrogen < Hydrogen < Oxygen
(D) Oxygen < Carbon dioxide < Hydrogen
21. Compounds are chemical substances. They contain
- (A) Only one kind of atoms (B) Only one kind of elements
(C) Only one kind of molecule (D) Different kinds of molecules
22. If **P** represents the fibre and **Q** represents the fabric, find out the correct order in which **Q** is made from **P**
- (A) P, obtained from plant, spinning, yarn, weaving, Q
(B) P, weaving, spinning, obtained from plant, yarn, Q
(C) P, obtained from plant, spinning, yarn, weaving, Q
(D) None of the above

23. Identify **Y** in the following Venn diagram

- (A) Silk
- (B) Rubber
- (C) Cotton
- (D) Nylon

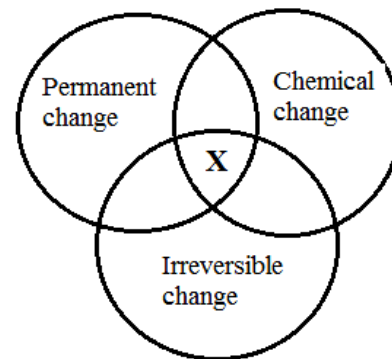


24. A pure substance is one which

- (A) Has a uniform texture through out
- (B) Has a fixed boiling point or melting point
- (C) Is made up of only one kind of particles
- (D) All of the above

25. Study the Venn diagram and identify **X**.

- (A) Melting of ice
- (B) Rusting
- (C) Condensation
- (D) Boiling of water



BIOLOGY (Q No. 26 to 35)

26. The largest bone of human body.

- (A) Femur
- (B) Backbone
- (C) Bone of the lower arm
- (D) Bone of upper arm

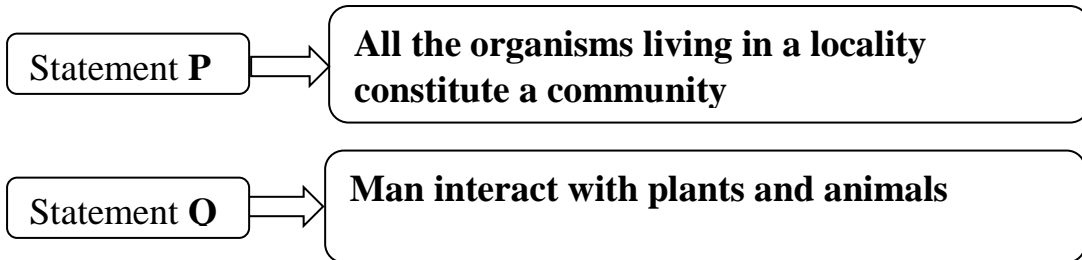
27. Which one of the following is used by green plants for the manufacture of sugar?

- (A) Carbon dioxide
- (B) Water
- (C) Sunlight
- (D) All of the above

28. Which of the following is not a terrestrial ecosystem?

- (A) Forest
- (B) Grassland
- (C) Aquarium
- (D) Desert

29. Read the following statements carefully and mark the correct option



- A) Both statements P and Q are true, Statement Q is correct explanation for statement P
- (B) Both statements P and Q are true, Statement Q is not the correct explanation for statement P
- (C) Statement P is true and statement Q is false
- (D) Statements P and Q are false

30. Match the following and select the correct option

Column I Column II

- | | |
|--------------------------|-----------------------|
| (P) Fixed joints | (1) Head on back bone |
| (Q) Ball & Socket joints | (2) Backbone joints |
| (R) Pivot joints | (3) Skull joint |
| (S) Gliding joints | (4) Shoulder joint |
| | (5) Elbow joint |

	P	Q	R	S
A	3	4	2	5
B	3	4	1	2
C	2	1	4	5
D	3	5	2	1

31. The study of the relationship of organism to each other and their environment is called

- (A) Ecology
- (B) Ecosystem
- (C) Biome
- (D) Biosphere

32. Read the following statements carefully and select the correct statement

(1) *Producers are plants*

(2) *Consumers are animals*

(3) *Decomposers are microscopic non-green plants*

The correct statements are

(A) 1 and 2

(B) 1 and 3

(C) 2 and 3

(D) 1, 2 and 3

33. Which one of the following is (are) involuntary movements

(A) Muscular movements in the food pipe

(B) Beating of heart

(C) Movements of legs

(D) Both (A) & (B)

34. Which one of the following is used to see the shape of bones?

(A) ECG

(B) Ultrasound

(C) X-ray

(D) Photograph

35. Given below are the symptoms of a disease

Weak muscles, Very little energy to do work.

These are the symptoms of

(A) Scurvy

(B) Rickets

(C) Beriberi

(D) Anaemia

MATHEMATICS (Q No. 36 to 60)

36. When half of a number is added to 32, then the sum is 80. The number is

(A) 96

(B) 48

(C) 32

(D) 64

37. A badminton player won 6 games and lost 4. The fraction of the games he won is
- (A) $\frac{3}{2}$ (B) $\frac{2}{3}$
- (C) $\frac{3}{5}$ (D) $\frac{1}{2}$
38. A machine produces 2825 screws a day and after a month (30days), these screws are distributed equally to five dealers in different parts of the city. The number of screws each dealer got is
- (A) 17000 (B) 17500
- (C) 84750 (D) 16950
39. The square of a negative integer is
- (A) Always Negative (B) Always Positive
- (C) Either Positive or Negative (D) Always Zero
40. $\frac{0.1}{0.01} + \frac{0.01}{0.1}$ is equal to
- (A) 10.1 (B) 1.10
- (C) 1.01 (D) 10.01
41. The number of envelopes that can be made out of a sheet of paper 384cm by 172cm, if each envelope requires a piece of paper of size 16cm by 12 is
- (A) 340 (B) 338
- (C) 344 (D) 342
42. If $(k - 8)$ is the highest common factor of **56** and **77**, then the value of **k** is
- (A) 15 (B) 16
- (C) 7 (D) 11
43. If the numerator and denominator of a proper fraction are increased by the same quantity, then the resultant fraction is
- (A) Always less than the original fraction
- (B) Always greater than the original fraction
- (C) Always equal to the original fraction
- (D) None of these

Questions 44 to 47: Study the grid given below.

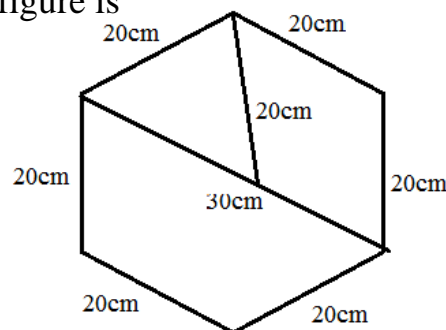
The number at the end of each row or column gives the total cost of items in that row or column. Use this information and answer **Questions 44 to 47.**

Soap	Hair Oil	Shampoo	Rs. 127
Hair Oil	Tooth Paste	Soap	Rs. 97
Soap	Soap	Soap	Rs. 66
Tooth Paste	Shampoo	Shampoo	Rs. 150
Rs. 119	Rs. 157	Rs. 164	

44. What is the cost of one Shampoo?
 (A) Rs. 45 (B) Rs 30
 (C) Rs. 50 (D) Rs. 60
45. The total cost of two shampoos and three Soaps is
 (A) Rs. 172 (B) Rs. 127
 (C) Rs. 186 (D) Rs. 196
46. How many Tooth Paste can be purchased at cost of two Shampoos?
 (A) 4 (B) 2
 (C) 6 (D) 8
47. What is the cost of 4 Hair Oils?
 (A) Rs.240 (B) Rs. 180
 (C) Rs. 120 (D) Rs. 88

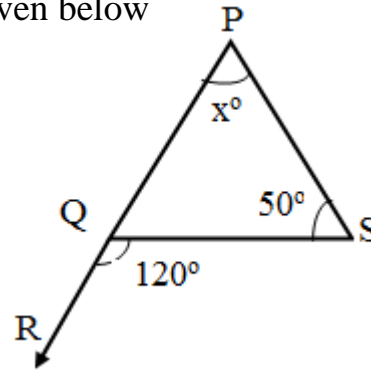
48. The perimeter of the following figure is

- (A) 170cm
 (B) 150cm
 (C) 120cm
 (D) 100cm



49. Find the measure of x° in the figure given below

- (A) 70°
 (B) 60°
 (C) 80°
 (D) 55°



50. The identity element with respect to subtraction is

- (A) 0
 (B) 1
 (C) -1
 (D) Does not exist

51. Which one of the following describes the relationship between P and Q as shown in the pairs of numbers in the table?

- (A) $Q = P + 4$
 (B) $Q = 2P + 1$
 (C) $Q = P^2 + 1$
 (D) $Q = P^2 - 1$

P	Q
2	5
3	10
4	17
5	26

52. The simple interest on Rs.7200 at 8% per annum for 5 years is

- (A) Rs. 2800
 (B) Rs. 2880
 (C) Rs. 576
 (D) Rs. 720

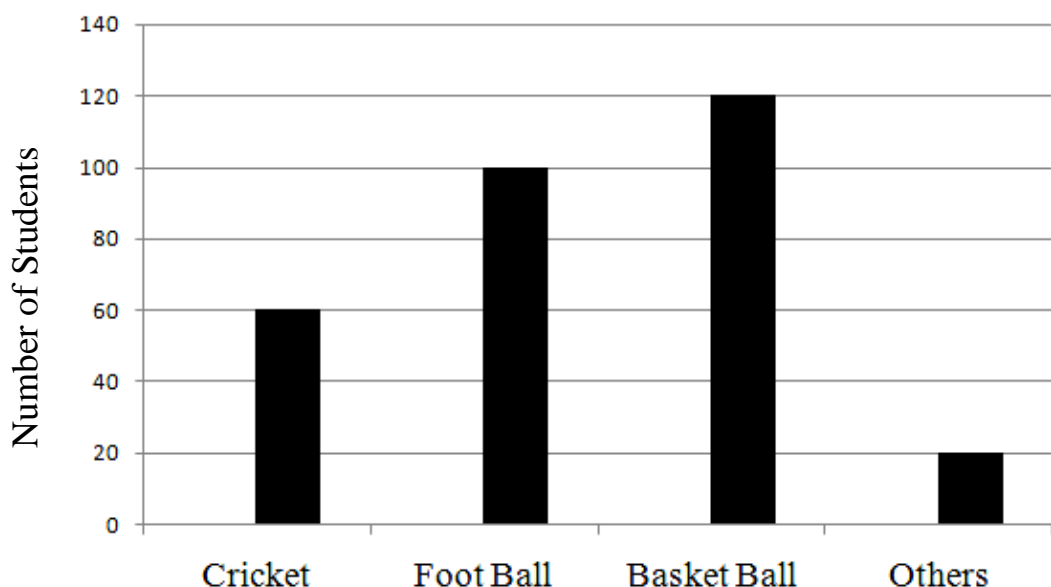
53. Find the value of 'y' for which the equation given below is true.

$$-16 + (-4y) = 0$$

- (A) -4
 (B) 4
 (C) 16
 (D) -5

54. Which one of the following is greater than $\frac{1}{2}$?
(A) 0.229 (B) 0.49
(C) 0.25 (D) 0.7
55. Which expression completes the equation given below?
 $(19 \times 3) + (19 \times 1) =$
(A) $(19 + 3) \times (19 + 1)$ (B) $(19 + 19) \times (3 + 1)$
(C) $19 \times (3 + 1)$ (D) $19 + (3 + 1)$
56. The negative of a negative integer is
(A) Negative (B) Positive
(C) Zero (D) None of these
57. A bottle is full of Dettol. One-third of it is taken out and then equal amount of water is poured into the bottle to fill it. The ratio of Dettol to Water in the bottle is
(A) 2 : 1 (B) 3 : 1
(C) 1 : 2 (D) 1 : 3

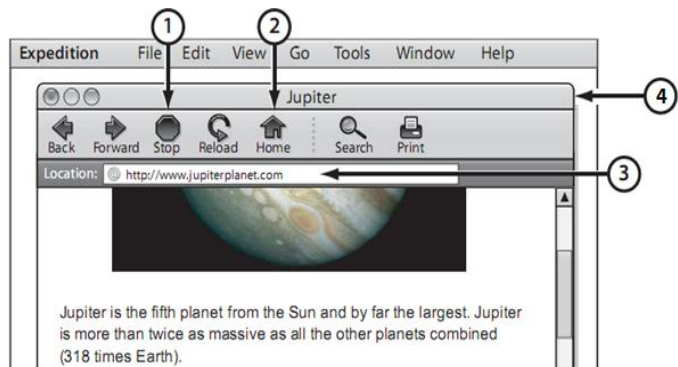
Questions 58 to 60: Amit surveyed the students at his school to determine their favourite sports. The result is shown in the bar graph below. Study the graph and answer the Questions 58 to 60.



58. How many students' favourite game is Foot Ball?
 (A) 60 (B) 100
 (C) 120 (D) 20
59. What is the total number of students in the school?
 (A) 120 (B) 180
 (C) 300 (D) 360
60. What percentage of students selects Cricket as their favourite Game?
 (A) 20% (B) 30%
 (C) 40% (D) 60%

SECTION:B

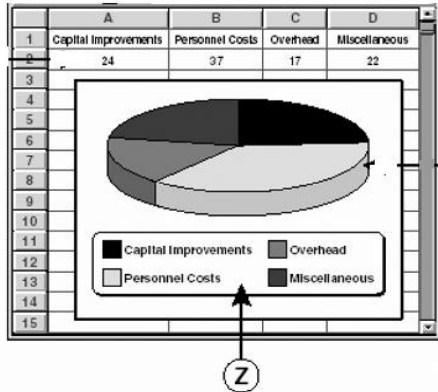
61. Sheela's teacher brought some new software in CD. Where in the computer will she put this in order to run the new software?
 (A) Hard drive (B) CD - ROM drive
 (C) Memory (D) Floppy Drive
62. In the following window web address indicated by the number.



- A) 1
- B) 2
- C) 3
- D) 5

63. Find the odd term out:
 (A) Mouse (B) MICR
 (C) Cursor (D) OCR

64. The area labeled by “Z” is best to explain:



- (A) Spreadsheet
- (B) Legend
- (C) Diagram Area
- (D) Data

65. Maya scanned a picture from a magazine. He decided he only wanted to print part of the picture. Maya ’s *best* strategy is to—

- A) use the Crop tool to edit out unwanted parts of the picture
- B) use the Rotate tool to edit out unwanted parts of the picture
- C) use the Highlight tool to highlight the part of the picture to print
- D) use the Zoom tool to select the part of the picture he wants to print

66. In MS – Word, setting up page margin is done through:

- (A) Page Layout
- (B) Insert
- (C) Word wraps
- (D) Text Formatting

67. Which one of the following act is an interface between the user and the hardware?

- (A) OS
- (B) Monitor
- (C) Software
- (D) Program

68. If you want to become a well known engineer you should try to get admission in IITs in India. What does IIT stands for?

- (A) Indian Industrial Technology
- (B) Indian Institute of Technology
- (C) Indian Information Technology
- (D) International Institute of technology

69. Which one of the following is a cheapest method of transportation?



A)



B)



C)



D)

70. Who discovered X - Ray?

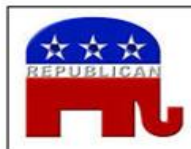
(A) Rene Laennec

(B) Edward Jenner

(C) Wilhelm Rontgen

(D) Stephen Hawkins

71. Which one of the following is not a political party of India?



REPUBLICAN

A)



CPM

B)



INC

C)



BJP

D)

Questions 72 and 73:- Read the following passage and answer the questions that follow:

Of all the secular literary sources on the history of the Mauryas the single most important source is Arthashastra written by Kautilya also known as Vishnu Gupta and Chanakya. This is a treatise on statecraft and public administration. It is written in prose as well as in verse in Sanskrit. "A full treasury is a guarantee of the prosperity of the state" said Kautilya in Arthashastra thus advocating that most important duty of a King was to keep the treasury full at all times.

72. Chanakya was lived during the period of:

(A) Gupta Empire

(B) Maurya Empire

(C) Nanda Kingdom

(D) The Sangam Age

73. The main theme of Arthashastra is:

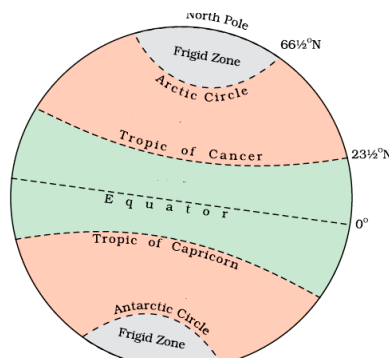
(A) Political Invasion

(B) Statecraft and Public administration

(C) Secular View

(D) Mauryan Rulers and their achievement.

Questions 74 to 76:- study the Heat Zone diagram and answer:

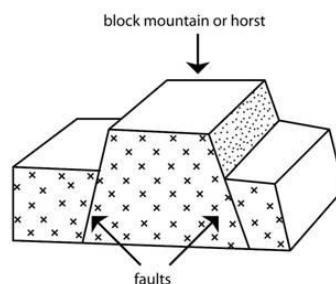


74. How many heat zones are there in the world?
 (A) 3 (B) 4 (C) 5 (D) 6
75. If a person moves from Equator to South or North, the temperature gradually:
 (A) Decreases (B) Increases
 (C) Remain same (D) Progressively increases
76. The heat zone lies between Tropic of cancer and Arctic Circle is known as:
 (A) North Temperate Zone (B) South Temperate Zone
 (C) Torrid Zone (D) Frigid Zone
77. Give the name of continent with the help of following hints.
It is the second largest continent in the world. It is surrounded by the Mediterranean Sea in the north, the Red sea in the north east, the Indian ocean in the east and Atlantic ocean in the west.

- (A) Asia (B) Africa (C) Australia (D) South America

78. Which type of mountain formation shows in the following diagram?

- (A) Fold mountain
 (B) Block Mountain
 (C) Volcanic Mountain
 (D) Fault Mountail



79. Which of the following country is smaller than India in terms of area?

- (A) Argentina
- (B) China
- (C) Australia
- (D) Canada

80. Which of the following mountain range is not situated in India?

- (A) Aravalli Range
- (B) Western Ghat
- (C) Blue Mountain Range
- (D) Satpura Range

81. The following map is best to explain:

- (A) Indian Monsoon
- (B) Winter Season
- (C) Pressure Distribution
- (D) Temperature Distribution



82. The following medal Talley is associated with which one of the following game?

Rank	Country	Gold	Silver	Bronze	Total
1	China	151	108	83	342
2	Republic of Korea	79	71	84	234
3	Japan	47	76	77	200
4	Kazakhstan	28	23	33	84
5	Iran	21	18	18	57
6	Thailand	12	7	28	47
7	DPR Korea	11	11	14	36
8	India	11	10	36	57

- (A) Asian Games 2014
- (B) Commonwealth Games 2013
- (C) Winter Olympics 2014
- (D) London Olympics 2012

83. Jim Corbett National Park situated in which one of the following state?

- (A) Chhattisgarh
- (B) Uttarakhand
- (C) West Bengal
- (D) Madhya Pradesh

84. Which one of the following is not true related to “Universal adult Franchise”?

- (A) It is based on the concept of political equality.
- (B) It ensures ‘Right to vote’ for adult citizens
- (C) It is the basic features of democratic countries
- (D) It is necessary in Monarchy

85. The following teams are related to:

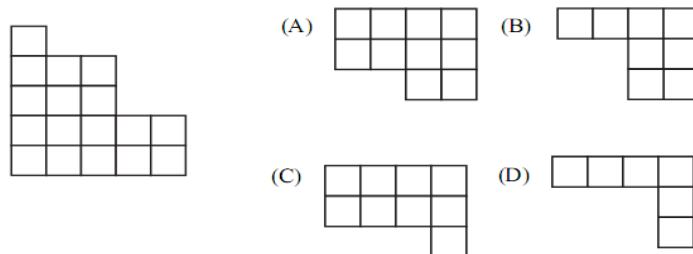
- (A) Indian Super League Football Teams
- (B) Indian Super League Hockey Teams
- (C) Indian Super League Volley Ball Teams
- (D) Champions League 20 – 20 teams



Questions 86 to 88:- In each of the following questions four words or letters have been given of which three are alike in some way and one is different. Choose out the odd one.

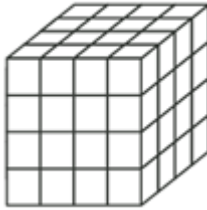
- 86. (A) Listen (B) Swim (C) Walk (D) Climb
- 87. (A) Cricket (B) Chess (C) Volleyball (D) Table Tennis
- 88. (A) Where (B) Near (C) Beside (D) Above

89. Which piece would complete the diagram to a square?



90. How many small cubes are being used to build the large cube?

- (A) 32
- (B) 48
- (C) 64
- (D) 96



91. Replace the question mark?

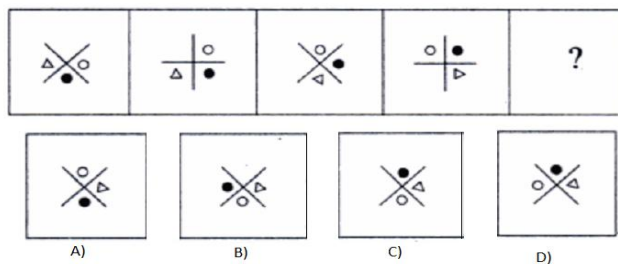
- (A) J
- (B) K
- (C) L
- (D) M

1	G		2
	2	2	
	3	2	
2	?		3

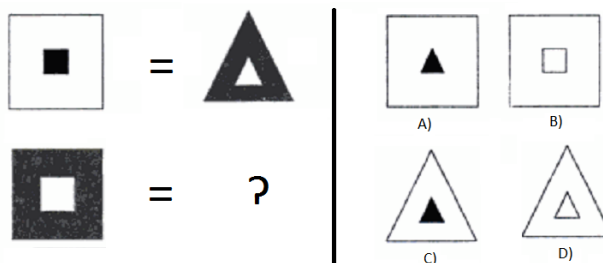
92. Pointing to a girl, Raju said “she is the only daughter of my grandfather’s only child”. How is the girl related to Raju?

- (A) Daughter
- (B) Sister
- (C) Niece
- (D) Mother

93. Replace question mark:



94. Replace question mark:



Questions 95 to 98:- Select the related letter/word/number from the given alternatives

95. **Cobbler : Leather :: Carpenter : ?**

- (A) Furniture (B) Wood (C) Hammer (D) Chair

96. **5 : 50 :: 10 : ?**

- (A) 50 (B) 200 (C) 50 (D) 100

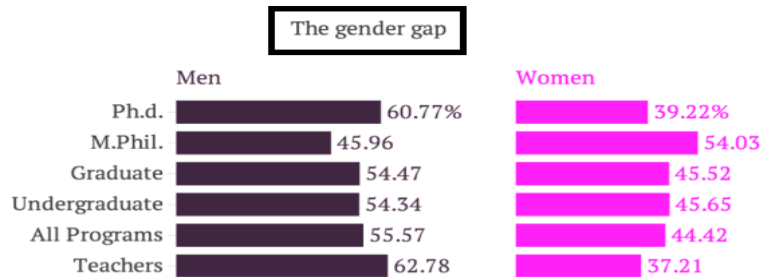
97. **Ship: Sea: : Camel: ?**

- (A) Land (B) Plain (C) Desert (D) Mountain

98. **USA : North America :: South Korea : ?**

- (A) Europe (B) Africa (C) Asia (D) North Korea

Questions: 99 to 100:- Refer the following graph and answer questions given below



99. Compared to all other courses which one of the following women are representing more compared to men

- (A) Ph.d. (B) Teachers
(C) M. Phil. (D) Undergraduate

100. The difference between male and female is highest in:

- (A) Teachers (B) Ph.d.
(C) Graduate (D) M. Phil