# SSC

## Sub-Inspector and Assistant Sub-Inspector Exam

**Time : 2 Hours**  |  **(Based on Memory)**  |  **Max. Marks : 200**

## PART-A : GENERAL INTELLIGENCE & REASONING

**DIRECTIONS (Qs. 1-5) :** *In questions below, select the related word/letters/number from the given alternatives.*

**1.** 9 : 24 :: ? : 6
 (a) 3   (b) 2
 (c) 1   (d) 5

**2.** hive : bee :: eyrie : ?
 (a) Pigeon   (b) Sparrow
 (c) Parrot   (d) Eagle

**3.** STAR : RATS :: WARD : ?
 (a) MICE   (b) SHINE
 (c) FAME   (d) DRAW

**4.** DCBA : WXYZ :: IJKL : ?
 (a) SRQP   (b) QPON
 (c) PONM   (d) RQPO

**5.** DHLPTX : BFJMRV :: CGKOSW : ?
 (a) AIOMUQ   (b) UMQEIA
 (c) IJKLMN   (d) AEIMQU

**6.** Choose the similar group of numbers on the basis of certain common properties they possess
 (31, 19, 41)
 (a) (23,33,51)   (b) (16,27,11)
 (c) (27,29,47)   (d) (29,17,37)

**DIRECTIONS (Qs. 7-12) :** *In questions below, find the odd number/letters/number pair form the given alternatives.*

**7.** (a) ( 47,49 )   (b) ( 5,7 )
 (c) ( 29,31 )   (d) ( 11,13 )

**8.** (a) Marigold   (b) Lotus
 (c) Tulip   (d) Rose

**9.** (a) mmm qqq ttt   (b) ccc ggg kkk
 (c) kkk ooo sss   (d) bbb fff jjj

**10.** (a) 8110   (b) 1234
 (c) 9100   (d) 1189

**11.** (a) Brass   (b) Tin
 (c) Bronze   (d) Steel

**12.** (a) TEAP   (b) QIEM
 (c) HIUL   (d) ZOIV

**13.** Arrange the following according to Dictionary.
 1. Fenestration   2. Feather
 3. Feed head   4. Feature   5. Feminine

 (a) 4,2,3,1,5   (b) 2,4,3,5,1
 (c) 2,4,1,5,3   (d) 4,2,3,5,1

**14.** Which one of the given responses would be a meaningful order of the following?
 1. Rivulet   2. Ocean   3. Tributary
 4. River   5. Sea   6. Rain
 (a) 6 5 3 1 2 4   (b) 5 6 1 3 2 4
 (c) 6 4 1 3 5 2   (d) 6 1 3 4 5 2

**DIRECTIONS (Qs. 15-16) :** *In questions below, which one set of letters when sequentialy placed at the gaps in the given letter series shall complete it?*

**15.** LU_TUPLUBTU_LUBT_P_UBTUP
 (a) LBPU   (b) BPUL
 (c) PBUL   (d) BUPL

**16.** B_CCABB_CABBC_AB_CCA
 (a) BCBC   (b) BCCB
 (c) BBCC   (d) BBBC

**DIRECTIONS (Qs. 17-18) :** *In questions below, a series is given, with one/two term/ s missing. Choose the correct alternative from the given ones that will complete the series.*

**17.** 24, 35, 20, 31, 16, 27, __, __
 (a) 9, 9   (b) 5, 30
 (c) 8, 25   (d) 12, 23

**18.** $7\frac{1}{7}, 8\frac{2}{6}, 9\frac{5}{5}, 12\frac{2}{4}, 16\frac{2}{3}, \underline{\quad?\quad}$

 (a) 35   (b) $\frac{50}{2}$

 (c) $15\frac{2}{4}$   (d) $16\frac{4}{4}$

**19.** Two persons A and B get the same salary. Their Basic pay are different. The allowances are 65% and 80% of the basic pay respectively. What is the ratio of the basic pay ?
 (a) 7:5   (b) 17:15
 (c) 12:11   (d) 11:10

**20.** A man climbing up a wall of 24 metres high, climbs 16 m on one day but slipped back by 3m 40cms in the evening. How far had the man reached on that day ?
 (a) 12.6m   (b) 19 m 40 cm
 (c) 12 m 40 cm   (d) 11.4m

**21.** Two horses A and B run at a speed of 3:2 ratio in the first lap; during the second lap the ratio differs by 4:7; during the third lap the ratio differs by 8:9. What is the difference in ratio of speed altogether between the two horses.

(a) 3  (b) 2
(c) 4  (d) 1

**DIRECTIONS (Qs. 22-23) :** *In questions below, from the given alternative words, select the word which* **cannot** *be formed using the letters of the given word:*

**22.** ADMINISTRATION
(a) Station  (b) Mind
(c) Ration  (d) Minister

**23.** CHARACTER
(a) Tracer  (b) Hearty
(c) Crate  (d) Charter

**24.** If a represents ÷, 'b' represents +, 'c' represents – and 'd' represents x then 24a 6d 4b 9c 8 = ?
(a) 6  (b) 17
(c) 20  (d) 19

**25.** Some equations are solved on the basis of certain system. find out the correct answer for the unsolved equation on that basis: $7 \times 6 \times 4 = 674, 8 \times 5 \times 3 = 583, 9 \times 1 \times 2 = ?$
(a) 727  (b) 292
(c) 192  (d) 462

**26.** In a language FIFTY is written as CACTY, CAR as POL, TAR as TOL, how can TARIFF be written in that language?
(a) TOEFEL  (b) TOEFDD
(c) TOLADD  (d) TOLACC

**27.** Change the symbol and solve accordingly to find out correct answer from the alternatives given below $9 \times 8 \times 7 = 24, 4 \times 7 \times 3 = 14, 2 \times 1 \times 9 = ?$
(a) 12  (b) 11
(c) 18  (d) 10

**28.** If GOODNESS is coded as HNPCODTR, how can GREATNESS be written in that code?
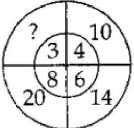(a) HQFZSMFRT  (b) HQFZUFRTM
(c) HQFZUODTR  (d) HQFZUMFRT

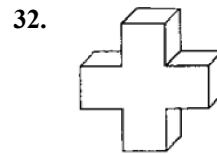**DIRECTIONS (Qs. 29-31) :** *In questions below, Select the missing number from the given responses.*

**29.**

| | 8 | | | 12 | | | 14 | |
|---|---|---|---|---|---|---|---|---|
| 6 | 54 | 7 | 8 | 51 | 4 | 9 | ? | 5 |
| | 4 | | | 7 | | | 9 | |

(a) 53  (b) 71
(c) 76  (d) 68

**30.**



(a) 24  (b) 12
(c) 18  (d) 19

**31.**
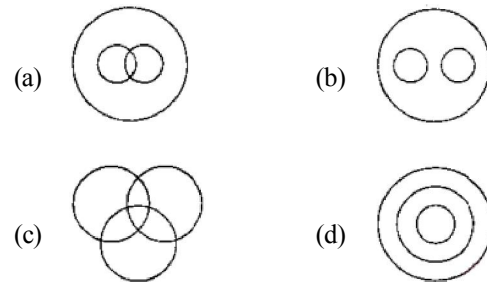
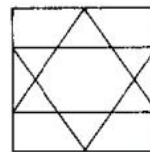| 9 | 6 | ? |
|---|---|---|
| 8 | 5 | 6 |
| 7 | 4 | 3 |
| 65 | 26 | 39 |

(a) 8  (b) 7
(c) 10  (d) 9

**32.**



How many faces can you count in this 3 dimensional model?
(a) 18  (b) 14
(c) 12  (d) 16

**33.** Which of the following states the relationship between Sociology, Psychology and Humanities ?



**34.** How many triangles are there in the following square ?



(a) 7  (b) 12
(c) 6  (d) 9

**35.** Keeping his back towards the rising sun, Reshma starts walking. After a few minutes, she turns left and keeps on walking. Then a little later she turns right and then left. In which direction is she going at the moment?
(a) East or South  (b) South or West
(c) North or South  (d) West or North

**36.** From her home facing south west, Kavita walks 15m and turns northward and walks 12 m. How far was she from her home. Which was her starting point ?
(a) 12m  (b) 9m
(c) 15m  (d) 10m

**37.** Which venn diagram truly represents Teachers, Scholars and Students ?



(a)  (b)  (c)  (d)
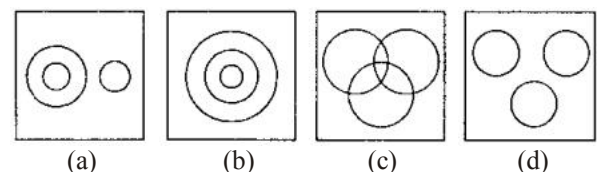
**38.** Which figure best represents the relationship between Editor, Newspaper and Journalist?

(a)    (b) 

(c)    (d) 
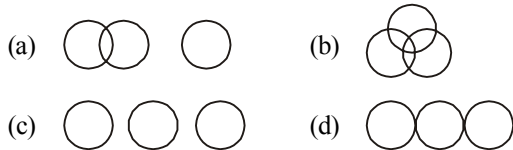
**DIRECTIONS (Qs 39-40) :** *In question below one or two statements are given followed by two conclusions I and II. You have to consider the statement to be true, even if it seems to be at variance from commonly known facts. You are to decide which of the given conclusions can definitely be drawn from the given statement. Indicate your answer.*

**39. Statements:** (a) Some schools are Laboratories
                          (b) All Laboratories are theaters
   **Conclusions:** I. Some theatres are schools
                         II. No school is a theater
   (a) Neither conclusion I nor II follow
   (b) Conclusion I follows
   (c) Conclusion II follows
   (d) Conclusion I & II follows

**40. Statement :** Cactus plants are fleshy but need least water
   **Conclusions:** I. All fleshy plants are cactus
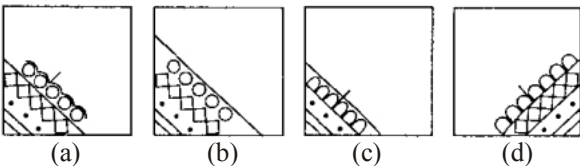                         II. Cactus plants need least water
   (a) Neither I nor II follows (b) Only II follows
   (c) Both I and II follows    (d) Only I follows

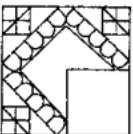**DIRECTIONS (Qs. 41-42) :** *In questions below, which anwser figure will complete the pattern in the question figure ?*
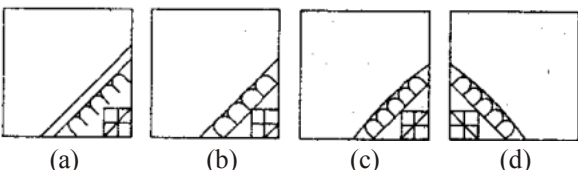
**41. Question figure :**



**Answer figures :**



    (a)        (b)        (c)        (d)
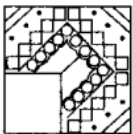
**42. Question figure :**



**Answer figures :**



    (a)        (b)        (c)        (d)

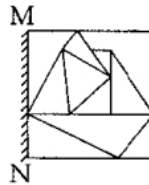**43.** If a mirror is placed on the line MN, then which of the answer figures is the right image of the given figure.

**Question figure :**



**Answer figures:**



    (a)        (b)        (c)        (d)
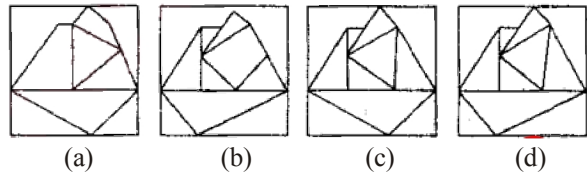
**44.** A Circular sheet of paper is folded in particular manner, punched once and then unfolded. Find Out the manner in which the paper was folded and punched from amongst the answer figures.

**Question figure :**



**Answer figure:**



    (a)        (b)        (c)        (d)
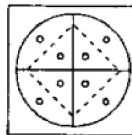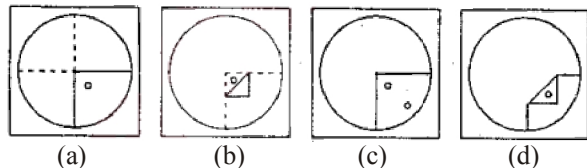
**45.** A piece of paper is folded and cut as shown below in the question figures. From the given answer figures, indicate how it will appear when opened.

**Question figure :**



**Answer figures:**



    (a)        (b)        (c)        (d)

**46.** Select the answer figure which is the same as question figure.

**Question figure:**



**Answer figures:**



    (a)        (b)        (c)        (d)

**47.** Which is the correct image if the picture is held in front of a mirror?

**Question figure:**



**Answer figures:**



    (a)         (b)       (c)       (d)
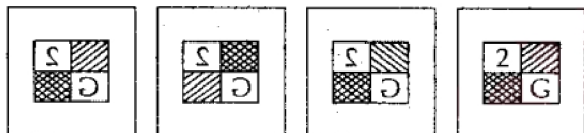
**48.** From the given answer figures, select the one in which the question figure is hidden/embedded.

**Question figure :**



**Answer figures:**



    (a)         (b)       (c)       (d)

**DIRECTIONS (Qs. 49-50) :** *A word is represented by only one set of numbers as given in any one of the alternatives. The sets of numbers given in the alte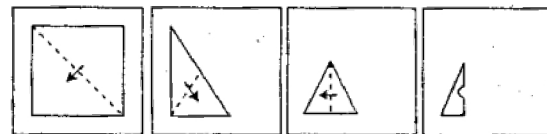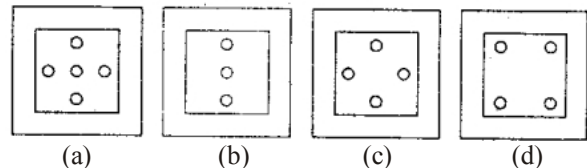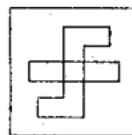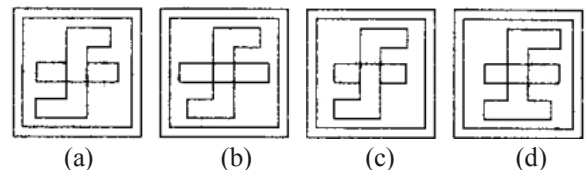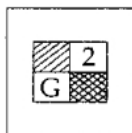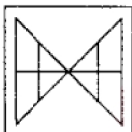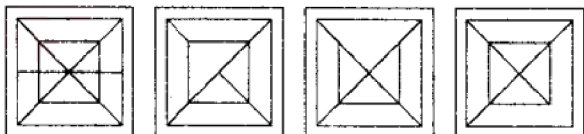rnatives are represented by two classes of alphabets as in two matrices given below. The columns and rows of Matrix I are numbered from 0 to 4 and that of Matrix II are numbered from 5 to 9. A letter from these matrices can be represented first by its row and next by its column e.g., 'E' can be represented by 01, 13 etc., and 'L' can be represented by 56, 77 etc. Similarly, you have to identify the set for the word given in each question.*

**49.**        Matrix I                    Matrix I

| | 0 | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|
| 0 | Z | M | G | R | C |
| 1 | J | L | D | B | G |
| 2 | M | B | C | M | H |
| 3 | R | L | N | G | I |
| 4 | B | D | M | R | J |

| | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|
| 5 | X | K | T | E | S |
| 6 | Q | A | U | X | P |
| 7 | U | V | O | W | E |
| 8 | T | Y | A | F | U |
| 9 | O | O | E | V | A |

LANE
(a) 11, 66, 33, 96       (b) 31, 87, 32, 97
(c) 31, 66, 33, 97       (d) 11, 67, 32, 97

**50.**        Matrix I                    Matrix I

| | 0 | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|
| 0 | A | E | M | N | P |
| 1 | N | P | A | E | M |
| 2 | E | M | N | P | A |
| 3 | P | A | E | M | N |
| 4 | M | N | P | A | E |

| | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|
| 5 | I | L | R | S | T |
| 6 | R | S | T | I | L |
| 7 | T | I | L | R | S |
| 8 | L | R | S | T | I |
| 9 | S | T | I | L | R |

AIRS
(a) 12, 76, 99, 78       (b) 43, 55, 86, 95
(c) 00, 68, 78, 88       (d) 24, 69, 56, 78

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**51.** The forests which act as barriers against cyclones are:
(a) Evergreen forests    (b) Mangrove forests
(c) Monsoon forests    (d) Alpine Forest

**52.** A reversible and an irreversible engine are working between the same limits of temperature. The efficiency of.
(a) The reversible engine is greater than the irreversible engine.
(b) Each engine is 100%.
(c) The two engines are equal
(d) The irreversible engine is greater than the reversible engine.

**53.** Name the Kingdom which first used elephants in wars?
(a) Avanti          (b) Champa
(c) Magadha       (d) Kosala

**54.** Which of the following is used in the treatment of cancer?
(a) Electrotherapy    (b) Psychotherapy
(c) Chemotherapy    (d) Physiotherapy

**55.** The most abundant element is :
(a) Silicon         (b) Calcium
(c) Nitrogen       (d) Oxygen

**56.** An electron microscope gives higher magnifications than an optical microscope because :
(a) The electrons have more energy than the light particles.
(b) The electron microscope uses more powerful lenses.
(c) The wavelength of electrons is smaller as compared to the wavelength of visible light.
(d) The velocity of electrons is smaller than that of light.

**57.** RAM is used as a short memory in a computer because it.
(a) is very expensive    (b) is programmable
(c) is volatile       (d) has less capacity

**58.** Who among the following was named as "Haryana Hurricane" ?
(a) Ajay Ratsa      (b) Nawab Pataudi
(c) Kapil Dev      (d) Ajay Jadeja

**59.** The states recorganisation in 1956 created :
(a) 17 States and 6 Union Territories.
(b) 17 States and 9 Union Territories.
(c) 14 States and 6 Union Territories.
(d) 15 States and 9 Union Territories.

**60.** A low interest policy is also known as :
(a) investment policy
(b) income generating policy
(c) dear money policy
(d) cheap money policy

**61.** The resources which are obtained from biosphere and have life are :
(a) Renewable resources  (b) Potential resources
(c) Biotic resources    (d) Abiotic resources

**62.** In a solar or lunar eclipse, the region of earth's shadow is divided into.
(a) Four parts      (b) Five parts
(c) Two parts      (d) Three parts

**63.** Tulsidas wrote Ramacharitamans during the reign of :
(a) Akbar
(b) Krishnadeva Raya
(c) Jahangir
(d) Rama Raya

**64.** What does the word 'amphibian' mean ?
(a) Two lives
(b) Four lives
(c) Three lives
(d) One life

**65.** Reservation for the Scheduled castes and Scheduled tribes in the service has been provided in the Indian Constitution under :
(a) Article 365
(b) Article 375
(c) Article 315
(d) Article 335

**66.** Government of India has decided to integrate -------- with recent launched Pradhan Mantri Krishi Sinchayee Yojana.
(a) Accelerated Irrigation Benefit Programme.
(b) Haryali.
(c) National Rural Livlihood Mission.
(d) Mahatma Gandhi National Rural Employment Guarantee Act.

**67.** The largest current, because of its dark waters is known as the "black current" and that is :
(a) California current
(b) Antarctic current
(c) Gulf stream
(d) kuroshio currrent

**68.** The founder of the 'Arya Samaj' was:
(a) Dayananda Saraswati
(b) Raja Ram Mohan Roy
(c) Vivekananda
(d) Annie Besant

**69.** Nitrogen in water is commonly found in the form of:
(a) Nitric oxide
(b) Nitrous oxide
(c) Nitrate
(d) Nitrite

**70.** The Members of the Constituent Assembly which enacted the constitution of India were:
(a) Nominated by Governor-General.
(b) Nominated by the Political Parties.
(c) Elected by the Legislative Assemblies of various Provinces.
(d) Directly elected by the People.

**71.** To whom the President has to submit his resignation ?
(a) Speaker
(b) Chief Justic
(c) Prime Minister
(d) Vice President

**72.** The total number of planets revolving around the sun are:
(a) Seven
(b) Eight
(c) Five
(d) Six

**73.** Immunization technique was developed by:
(a) Louis Pasteur
(b) Robert Koch
(c) Joseph Lister
(d) Edward jenner

**74.** Which one of the following chapters in the Indian Constitution guarantees fundamental rights to the people?
(a) Part III
(b) Part IV
(c) Part I
(d) Part II

**75.** The market equilibrium for a commodity is determined by:
(a) the balancing of the forces of demand and supply for the commodity.
(b) the intervention of the Government.
(c) the market demand of the commodity.
(d) the market supply of the commodity.

**76.** "Economies" of a firm are:
(a) an increase in its profits
(b) its dominance of the market
(c) saving in its production costs
(d) a reduction in its selling expenses

**77.** The hydrophilic nature of DNA is due to the presence of.
(a) a number of hydrogen bonds
(b) phosphate group
(c) deoxyribose sugar
(d) thymine base

**78.** In a computer system, which device is functionally opposite of a keyboard ?
(a) Joystick
(b) Trackball
(c) Mouse
(d) Printer

**79.** The sense of balance is achieved by:
(a) Cerebellum equilibrium
(b) Thalamus equilibrium
(c) Cerebrum equilibrium
(d) Spinal cord equilibrium

**80.** Aluminium salt commonly used to stop bleeding is:
(a) Aluminium chloride
(b) Aluminium nitrate
(c) Aluminium sulphate
(d) Potash alum

**81.** Cripps Mission came to India in:
(a) 1945
(b) 1946
(c) 1940
(d) 1942

**82.** Who among the following Sultans tried to prohibit Sati?
(a) Muhammad Bin Tuglaq
(b) Firoz Tuglaq
(c) Jalaluddin Khilji
(d) Alauddin Khilji

**83.** Total internal reflection cannot take place when light goes from:
(a) water to glass
(b) water to air
(c) glass to air
(d) glass to water

**84.** Who constructed Humayun's Tomb in Delhi ?
(a) Haji Begam
(b) Babar
(c) Humayun
(d) Akbar

**85.** Who among the following Mughal rulers banned music and dancing ?
(a) Jahangir
(b) Babar
(c) Aurangzeb
(d) Humayun

**86.** Which of the following is the major copper producing country?
(a) Indonesia
(b) Russia
(c) Sri Lanka
(d) Chile

**87.** Interferons are synthesized in response to:
(a) mycoplasma
(b) fungi
(c) virus
(d) bacteria

**88.** Who was the governor-general during the Second Anglo-Mysore War?
(a) Lord Wellesley
(b) Sir John Shore
(c) Lord Cornwallis
(d) Warren Hastings

**89.** The first law of thermodynamics is simply the case of:
(a) Charle's law.
(b) the law of conservation of energy.
(c) the law of heat exchange.
(d) Newton's law of cooling.

**90.** Mac Iver says 'Kinship creates society and society at length creates _____'.
(a) Association      (b) City State
(c) Nation           (d) State

**91.** Red rot of sugarcane is caused by:
(a) *Colletotriehum falcatum*
(b) *Cercospora personata*
(c) *Alternaria alternata*
(d) *Phylophthora Infestans*

**92.** Regarding money supply situation in India it can be said that the:
(a) Currency with the public is almost equal to the deposits with the banks.
(b) Currency with the public is inconvertible only.
(c) Currency with the public is more than the deposits with the banks.
(d) Currency with the public is less than the deposits with the banks.

**93.** A clone is a group of individuals obtained through :
(a) self pollination    (b) micropropagation
(c) hybridisation       (d) cross pollination

**94.** Chemical name of Gammaxane is:
(a) Aniline                     (b) Toluene
(c) Benzene hexachloride  (d) Chloro benzene

**95.** The equilibrium price of a commodity will definitely rise of there is a/an:
(a) increase in supply combined with a decrease in demand.
(b) increase in demand accompanied by a decrease in supply.
(c) decrease in both demand and supply.
(d) increase in both demand and supply.

**96.** The fleshy thalamus is edible in:
(a) Mango      (b) Orange
(c) Tomato     (d) Apple

**97.** The largest forest which covers 25 percent of the world's Forest land is:
(a) Monsoon Forest
(b) Temperate forests of Europe
(c) The tropical Rain forest
(d) Taiga forest of Siberia

**98.** Name the acid attack victim who was honoured with prestigious "International women of courage" award on 4 march 2014 at the state department ceremony in Washington by Michelle Obama, first lady of the U.S.
(a) Malini       (b) Shivani
(c) Nirbhaya     (d) Laxmi

**99.** If the Union Parliament is to assume legislative power over and subject included in the State List, the resolution to the effect has to be passed by which of the following ?
(a) Lok, Sabha, Rajya Sabha and legislatures of the Concerned States.
(b) Both Lok Sabha and Rajya Sabha
(c) Lok Sabha
(d) Rajya Sabha

**100.** Which Article of the Indian constitution defines the duties of the Chief Minister?
(a) Article 164      (b) Article 166
(c) Article 167      (d) Article 163

## PART-C : QUANTITATIVE APTITUDE

**101.** 2km 5m is equal to:
(a) 2.005 km       (b) 2.0005 km
(c) 2.5 km         (d) 2.05 km

**102.** A trader marks his goods 20% above C.P. but allows his customers a discount of 10. The C.P. of a blackboard, which is sold for ₹ 216, is:
(a) ₹ 200          (b) ₹ 180
(c) ₹ 108          (d) ₹ 196

**103.** A bus moving at 40km per hour covers a distance in 6 hours 15 minutes. If it travels the same distance at 50 km per hour how long will it take to cover the distance?
(a) 6 hours        (b) 2 hours
(c) 4 hours        (d) 5 hours

**104.** If a shopkeeper purchases cashewnut at ₹ 250 per kg and sells it at ₹ 10 per 50 grams, then he will have:
(a) 25% profit     (b) 20% profit
(c) 20% loss       (d) 25% loss

**105.** The simplified value of

$$\frac{(0.0539 - 0.002) \times 0.4 + 0.56 \times 0.07}{0.04 \times 0.25} \text{ is:}$$

(a) 59.96          (b) 599.6
(c) 0.5996         (d) 5.996

**106.** The height of a triangle is increased by 10%. To retain the original area of the triangle, its corresponding base must be decreased by:

(a) $9\frac{1}{8}\%$       (b) $9\frac{1}{11}\%$

(c) 10%                    (d) $9\frac{1}{7}\%$

**107.** The mean of x and $\frac{1}{x}$ is M. Then the mean of $x^2$ and $\frac{1}{x^2}$ is.

(a) $M^2$          (b) $M^2 - 2$
(c) $4M^2 - 2$     (d) $2M^2 - 1$

**108.** In a factory, the production of cycles rose to 48,400 from 40,000 in 2 years. The rate of growth per annum is:
(a) 8%             (b) 9%
(c) 10.5%          (d) 10%

**109.** A man bought a watch at 25% discount on the original price. He got ₹ 40 more than the original price by selling it at 140% of the price at which he bought. The price of buying the watch was:
(a) ₹ 900          (b) ₹ 600
(c) ₹ 800          (d) ₹ 700

**110.** How many seconds will a train 120 metres long running the rate of 36km/ hr take to cross a bridge of 360 metres in length?

(a)  48 sec  (b)  36 sec
(c)  40 sec  (d)  46 sec

**111.** Incomes of x and y are in the ratio 4 : 3. Their expenditures are in the ratio 12 : 7. Both save ₹ 3200 at the end of the month, then the income of x is :

(a)  ₹ 6000  (b)  ₹ 8000
(c)  ₹ 2000  (d)  ₹ 4000

**112.** 12 monkeys can eat 12 bananas in 12 minutes. In how many minutes can 4 monkeys eat 4 bananas ?

(a)  12  (b)  10
(c)  4  (d)  8

**113.** A certain amount of money earns ₹ 540 as Simple Interest in 3 years. If it earns a Compound Interest of ₹ 376.20 at the same rate of interest in 2 years, find the amount. (in rupees)

(a)  2100  (b)  1600
(c)  1800  (d)  2000

**114.** The average of some natural numbers is 15. If 30 is added to first number and 5 is subtracted from the last number the average becomes 17.5 then the number of natural number is:

(a)  20  (b)  30
(c)  15  (d)  10

**115.** The smallest  whole number that is to be multiplied with 59535 to make a perfect square number is x. The sum  of digits of x is:

(a)  9  (b)  6
(c)  5  (d)  7

**116.** The ratio of the ages of A and B at present is 3 : 1 Four years earlier the ratio was 4 : 1. The present age of A is :

(a)  40 years  (b)  32 years
(c)  36 years  (d)  48 years

**117.**  $\dfrac{\sqrt{10 + \sqrt{25 + \sqrt{108 + \sqrt{154 + \sqrt{225}}}}}}{3\sqrt{8}} = ?$

(a)  8  (b)  $\dfrac{1}{2}$
(c)  2  (d)  4

**118.** If  $3^{2x-y} = 3^{x+y} = \sqrt{27}$ , then the value of  $3^{x-y}$ will be :

(a)  $\dfrac{1}{\sqrt{3}}$  (b)  $\dfrac{1}{\sqrt{27}}$
(c)  $\sqrt{3}$  (d)  3

**119.** A number is increased by x%, to get back to the original number, it is to be reduced by :

(a)  $\dfrac{10x}{100+x}\%$  (b)  $\dfrac{100x}{100+x}\%$
(c)  $x\%$  (d)  $\dfrac{x}{100+x}\%$

**120.** A fruit seller buys 240 apples for ₹ 600. Some of these apples are bad and are thrown away. He sells the remaining apples at ₹ 3.50 each and makes a profit of ₹ 198. The % of apples thrown away are :

(a)  8%  (b)  7%
(c)  6%  (d)  5%

**121.** 20 men can do a piece of work in 18 days. They worked together for 3 days, then 5 men joined them. In how many more days is the work completed ?

(a)  12  (b)  14
(c)  15  (d)  13

Study the bar graph and answer Q. 122 to 125.
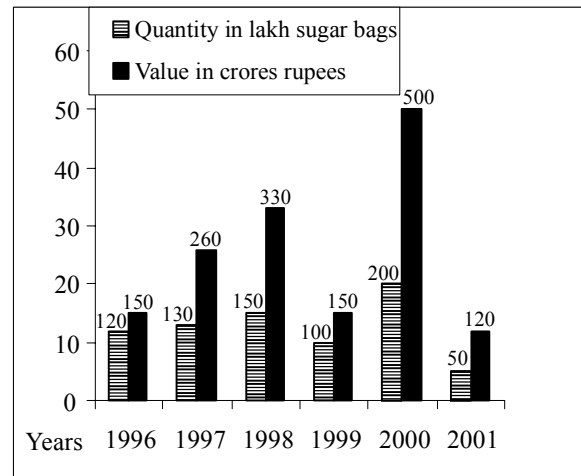


**122.** The approximate percentage increase in quantity from 1997 to 1998 was :

(a)  27.3%  (b)  27.8%
(c)  26.5%  (d)  26.9%

**123.** Percentage fall in value from 2000 to 2001 in :

(a)  50%  (b)  75%
(c)  25%  (d)  40%

**124.** The difference between the bags exported in 1999 and 2000 was.

(a)  50,000,00  (b)  1,00,000,00
(c)  1,50,000,00  (d)  2, 00,000,00

**125.** Value per bag was minimum in the year:

(a)  2001  (b)  1999
(c)  1996  (d)  1997

**126.** A man was born in the year 1896 A.D. If in the year $x^2$ A.D. his age is x-4, the value of x is:

(a)  44  (b)  36
(c)  42  (d)  40

**127.** The total surface area of a regular triangular pyramid with each edges of length 1cm is:

(a)  $\sqrt{3}$ sq.cm  (b)  $\dfrac{4}{3}\sqrt{3}$ sq.cm
(c)  4sq.cm  (d)  $4\sqrt{3}$ sq.cm

**128.** The perimeter of a sheet of paper in the shape of a quadrant of a circle is 75 cm. Its area would be $\left(\pi = \dfrac{22}{7}\right)$:

(a)  346.5 cm²  (b)  100 cm²
(c)  693 cm²  (d)  512.25 cm²

**129.** If in a triangle ABC, BE and CF are two medians perpendicular to each other and if AB=19cm and AC=22cm then the length of BC is :
(a) 20.5cm   (b) 19.5cm
(c) 13cm     (d) 26cm

**130.** The shadow of a tower standing on a level plane is found to be 40m longer when the sun's altitude is 45° than when it is 60°. The height of the tower is:
(a) $30\left(3+\sqrt{3}\right)$m   (b) $40\left(3+\sqrt{3}\right)$m
(c) $10\left(3+\sqrt{3}\right)$m   (d) $20\left(3+\sqrt{3}\right)$m

**131.** O is the circumcentre of $\Delta$ABC. If $\angle$BAC =50° then $\angle$OBC is:
(a) 130°   (b) 100°
(c) 50°    (d) 40°

**132.** If $\alpha$ is an acute angle and $2\sin\alpha + 15\cos^2\alpha = 7$, then the value of $\cot\alpha$ is:
(a) $\dfrac{4}{5}$   (b) $\dfrac{5}{4}$
(c) $\dfrac{4}{3}$   (d) $\dfrac{3}{4}$

**133.** If the base of right prism remains same and the measures of the lateral edges are halved, then its volume will be reduced by:
(a) 50%   (b) 25%
(c) 66%   (d) 33.33%

**134.** If $\sin\theta + \sin^2\theta = 1$, then the value of $\cos^2\theta + \cos^4\theta$ is:
(a) 2   (b) 0
(c) 1   (d) –1

**135.** If   999x + 888y = 1332
      888x + 999y = 555
then the value of x+y is:
(a) 888   (b) 1
(c) 999   (d) 555

**136.** The term that should be added to $(4x^2 + 8x)$ so that resulting expression be a perfect square is:
(a) 4    (b) 1
(c) 2x   (d) 2

**137.** Two circles of radii 10 cm and 8 cm intersect and the length of the common chord is 12 cm. Then the distance between their centres is:
(a) 15 cm   (b) 10 cm
(c) 8 cm    (d) 13.3 cm

**138.** The angle between the graph of the linear equation 239x – 239y + 5 = 0 and the x-axis is:
(a) 45°   (b) 60°
(c) 0°    (d) 30°

**139.** Provided $\sin(A - B) = \sin A\cos B - \cos A\sin B$, $\sin 15°$ will be:
(a) $\dfrac{\sqrt{3}-1}{\sqrt{2}}$   (b) $\dfrac{\sqrt{3}-1}{2\sqrt{2}}$
(c) $\dfrac{\sqrt{3}}{2\sqrt{2}}$   (d) $\dfrac{\sqrt{3}+1}{2\sqrt{2}}$

**140.** If $x + \dfrac{1}{x} = 2$, then the value of $x^7 + \dfrac{1}{x^5}$ is:
(a) $2^5$    (b) $2^{12}$
(c) 2        (d) $2^7$

**141.** The number of paving stones each measuring 2.5m ×2m required to pave a rectangular courtyard 30m long and 17.5m wide, are:
(a) 99   (b) 105
(c) 33   (d) 80

**142.** From two points on the ground and lying on a straight line through the foot of a pillar, the two angles of elevation of the top of the pillar are complementary to each other. If the distances of the two points from the foot of the pillar are 12 metres and 27 metres and the two points lie on the same side of the pillar, then the height (in metres) of the pillar is:
(a) 16   (b) 12
(c) 15   (d) 18

**143.** The diagonal of a quadrilateral shaped field is 24m and the perpendiculars dropped on it from the remaining opposite vertices are 8m and 13m. The area of the field is:
(a) 252 m²    (b) 1152 m²
(c) 96 m²     (d) 156 m²

**144.** Two isosceles triangles have equal vertical angles and their areas are in the ratio 9:16. Then the ratio of their corresponding heights is:
(a) 4.5 : 8   (b) 8 : 4.5
(c) 3 : 4     (d) 4 : 3

**145.** The perimetres of two similar triangles are 30 cm and 20cm respectively. If one side of the first triangle is 9cm. Determine the corresponding side of the second triangle:
(a) 15 cm   (b) 5 cm
(c) 6 cm    (d) 13.5 cm

**DIRECTIONS (Qs. 146-150) :** *The expenses of a country for a particular year is given in the pie chart. Read the pie chart and answer question below.*
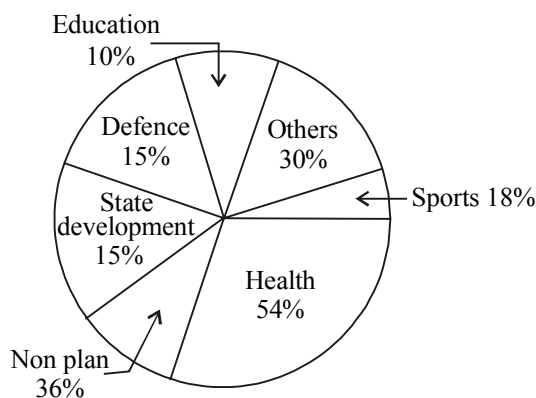


**146.** If the total amount spent by Government during the year was ₹ 3,00,000 crores, the amount spent on state development exceeds that on sports by:
(a) ₹ 25,000 crores   (b) ₹ 45,000 crores
(c) ₹ 35,000 crores   (d) ₹ 30,000 crores

**147.** The percent of less money spent on non plan than that on defence is:
(a) 12%   (b) 15%
(c) 5%    (d) 10%

**148.** The percent of more money spent on others than that on sports is:
(a) 26%        (b) 25%
(c) 28%        (d) 27%

**149.** If the total amount spent by the Government during the year was ₹ 1,00,000 crores, then the amount spent on health and education together was:
(a) ₹ 25,000 crores.        (a) ₹ 30,000 crores.
(a) ₹ 15,000 crores.        (a) ₹ 20,000 crores

**150.** The percent of the total spending that is spent on health is:
(a) 25%        (b) 30%
(c) 15%        (d) 20%

# PART-D : ENGLISH COMPREHENSION

**DIRECTIONS (Qs. 151 to 155):** *In questions below, some part of the sentences have errors and some are correct. Find out which part of a sentence has an error and blacken the circle [•] corresponding to the appropriate letter (A,B,C). If a sentence is free from error, blacken the circle corresponding to (D) in the Answer Sheet.*

**151.** The team was / now in the field and /
       (A)            (B)
about to take their place. / No error
     (C)         (D)

**152.** Everyone were happy / to hear /
        (A)        (B)
about his success. / No error
    (C)      (D)

**153.** The lions / kill the animals / and eat his meat. /
    (A)       (B)        (C)
No error
  (D)

**154.** Hearing these strange noises above, /
            (A)
the thought at once occured to me /
         (B)
that thieves had entered the house. /
        (C)
No error
  (D)

**155.** Our beloved Prime-Minister / is known to /
        (A)       (B)
the prominent figures all over the world. /
        (C)
No error
  (D)

**DIRECTIONS (Qs. 156-160) :** *In questions below sentences given with blanks are to be filled in with an appropriate word (s). Four alternatives are suggested for each question. Choose the correct alternative out of the four and indicate it by blackening the appropriate circle [•] in the Answer Sheet.*

**156.** There were so many _____ points in his speech that the audience _____ to get the message.
(a) superficial - listened
(b) relevant - hastened
(c) interesting - tried
(d) irrelevant - failed

**157.** The little boy ran _____ fast that he was _____ for breath.
(a) so - gasping       (b) too - fighting
(c) so - inhaling       (d) very - struggling

**158.** He was so _____ at his job that he was asked to give a _____ to the visitors.
(a) adept - demonstration   (b) able - disclosure
(c) agile - demolition        (d) accurate - display

**159.** She was so _____ that she was _____ by all.
(a) proud : respected     (b) excellent : warned
(c) talented : praised      (d) stupid : admired

**160.** The _____ of the 'chief' was _____ upon him.
(a) title, bestowed       (b) name, dismissed
(c) title, imposed        (d) appointment, thrown

**DIRECTIONS (Qs. 161-165) :** *In questions below out of the four alternatives, choose the one which best expresses the meaning of the given word and mark it in the Answer Sheet.*

**161.** Annihilate
(a) initiate         (b) destroy
(c) solve          (d) deduce

**162.** Query
(a) quest          (b) denounce
(c) victim         (d) quake

**163.** Interference
(a) honour        (b) deference
(c) obstruction     (d) fearful

**164.** Verisimilitude
(a) festive         (b) fantastic
(c) grotesque      (d) authenticity

**165.** Conjecture
(a) knowledge     (b) guess
(c) truth          (d) bias

**DIRECTIONS (Qs. 166-170) :** *In questions below, choose the word opposite in meaning to the given word and mark it in the Answer Sheet.*

**166.** Unscrupulous
(a) Single - minded    (b) Superfluous
(c) Dedicated        (d) Conscientious

**167.** Tranquil
(a) Perpetual       (b) Temporal
(c) Unruffled       (d) Disturbed

**168.** Enlarge
(a) amplify        (b) glorify
(c) condense      (d) augment

**169.** Obsequious
- (a) domineering
- (b) clever
- (c) opaque
- (d) careful

**170.** Vacillate
- (a) injure
- (b) relieve
- (c) decide
- (d) repel

**DIRECTIONS (Qs. 171-175) :** *In questions below, four alternatives are given for the Idiom/Phrase underlined in the sentence. Choose the alternative which best expresses the meaning of the Idiom/Phrase and mark it in the Answer Sheet.*

**171.** The shopping mall is <u>a beehive</u> of activity.
- (a) a secure place
- (b) a sweet place
- (c) a busy place
- (d) a costly place

**172.** <u>To win laurels</u>.
- (a) To be disappointed
- (b) To memories
- (c) To be victorious in a game
- (d) To earn great prestige

**173.** The officer <u>was in the soup</u> when there was a raid in his office.
- (a) preparing soup
- (b) distributing soup
- (c) to be in trouble
- (d) drinking soup

**174.** We must <u>draw the line</u> somewhere.
- (a) turn the tables
- (b) put the screw on
- (c) fix a limit
- (d) aim at the sky

**175.** <u>To cut the Gordian knot.</u>
- (a) to do a job perfunctorily
- (b) to cut a piece of cloth
- (c) to perform an easy task
- (d) to perform a difficult task

**DIRECTIONS (Qs. 176-180):** *In questions below, a part of the sentence is underlined. Below are given alternatives to the underlined part at (A), (B), (C) which may improve the sentence. Choose the correct alternative. In case no improvement is needed your answer is (D). Mark your answer in the Answer Sheet.*

**176.** She is very <u>eccentric</u> woman.
- (a) unusual
- (b) impatient
- (c) generous
- (d) no improvement

**177.** The workers should have been more <u>meticulous</u>.
- (a) precise
- (b) punctual
- (c) committed
- (d) no improvement

**178.** The chickens in his farm <u>are fatted</u> up nicely.
- (a) are fattening
- (b) are fattying
- (c) are fattened
- (d) no improvement

**179.** I was angry <u>at</u> myself for making such a big mistake.
- (a) about
- (b) with
- (c) on
- (d) no improvement

**180.** Torture and trauma has made her a <u>mental patient</u>
- (a) mad
- (b) mania
- (c) lunatic
- (d) no improvement

**181.** Walking in sleep :
- (a) Sleepy-head
- (b) Somnolence
- (c) Somnambulism
- (d) Insomnia

**182.** A person who leaves his own country in order to go and live in another :
- (a) emigrant
- (b) refugee
- (c) immigrant
- (d) expatriate

**183.** Showing a dislike of anything improper :
- (a) crude
- (b) prim
- (c) strict
- (d) rude

**184.** That which cannot be avoided :
- (a) inevitable
- (b) indifferent
- (c) inestimable
- (d) infallible

**185.** Artistic, musical or dramatic interpretation :
- (a) reparation
- (b) report
- (c) imitation
- (d) rendition

**DIRECTIONS (Qs. 186-190) :** *In questions below, four words are given in each question, out of which only one word is correctly spelt, Find the correctly spelt word and mark your answer in the Answer Sheet.*

**186.**
- (a) curiosity
- (b) quriocity
- (c) curiousity
- (d) curioucity

**187.**
- (a) Intecedent
- (b) Antecedant
- (c) Antecedent
- (d) Entecedent

**188.**
- (a) Symetry
- (b) Cemetery
- (c) Cemetary
- (d) Cemtry

**189.**
- (a) naseating
- (b) maditation
- (c) delibarate
- (d) aberrance

**190.**
- (a) ansestral
- (b) encestral
- (c) ansastral
- (d) ancestral

**DIRECTIONS (Qs. 191-195) :** *In questions below, you have a passage with 5 questions. Read the passage carefully and choose the best answer to each question out of the four alternatives and mark it by blackening the appropriate circle [●] in the Answer Sheet.*

Research is a detailed study of a subject undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications. It is used to establish or confirm facts, reaffirm the results of pervious work, solve new or existing problems or develop new theories. To test the validity of instruments, procedures or experiments research may replicate elements of prior projects, or the project as a whole. The primary purposes of basic research are documentation, discovery, interpretation or the research and development of methods and systems for the advancement of human knowledge. There are several forms of research : scientific, humanities, artistic, economic, social, business, marketing, etc.

Academic publishing describes a system that is necessary in order for academic scholars to review the work and make it available for a wider audience. Most academic work is published in book form. There is also a large body of research that exists in

**191.** How many kinds of research are there ?
  (a) There are seven different kinds of research.
  (b) There are different kinds of research.
  (c) There is only one kind of research.
  (d) There are two different kinds of research.
**192.** Select the answer which best reflects the view expressed in the passage.
  (a) Grants are not based on merit.
  (b) Researchers never apply for grants.
  (c) Research can thrive without grants.
  (d) Documentation is important in research.
**193.** Why is research conducted ?
  (a) Research is conducted in order to minimise the result of previous works.
  (b) Research is conducted in order to destroy facts.
  (c) Research is conducted in order to develop new problems.
  (d) Research is conducted in order to verify information.
**194.** What is research ?
  (a) Research is the destruction of previous works.
  (b) Research is the creation of new forms of knowledge.
  (c) Research is a process having no practical use.
  (d) Research is the attempt to limit the growth of knowledge.

**195.** Choose the most appropriate answer from this passage.
  (a) Academic publishing is meant only for academicians.
  (b) Academic publishing is meant only for professionals.
  (c) Academic publishing is meant to benefit the general public.
  (d) Academic publishing is meant only for experts.

**DIRECTIONS :** *In Questions No. **196** to **200**, in the following passage some of the words have been left out. Read the passage carefully and choose the correct answer to each question out of the four alternatives and fill in the blanks.*

A team of Indian engineers 196 shown that digital photographs of the hand may 197 cholesterol levels in the body and serve as an early warning signal 198 poor lipid health without a standard blood test. Researchers believe the programme may be 199 in the future and 200 into mobile phones to enable it to analyses digital images of the hand captured in the camera on a mobile phone.

**196.** (a) has been       (b) are
      (c) have          (d) has
**197.** (a) conceal       (b) conjecture
      (c) reveal        (d) conduct
**198.** (a) of            (b) before
      (c) at            (d) by
**199.** (a) resolved      (b) refined
      (c) retracted     (d) recorded
**200** (a) formulated     (b) featured
      (c) loaded        (d) fixed