GIMs – Genesis Ignited Minds Scholarship Test:- 1ˢᵗ April

Class-9ᵗʰ Moving 10ᵗʰ

Time: 3 Hrs.   **M.M.: 455 Marks**

General Instructions

- Answers have to be marked on the sheet provided
- Blank Papers, Cell phones & Calculators are not allowed inside the hall.
- Each Objective Question carries +4 marks & -1 mark for the wrong answer.
- Question Paper consists of 2 Sections:
  Objective Questions
  - Section A-Physics-20 Questions
  - Section B-Chemistry-20 Questions
  - Section C-Biology-20 Questions
  - Section D-Mathematics-20 Questions
  - Section E-English-25 Marks (No negative marking)
  - Section F-Mental Ability-20 Questions
  - Section-G Puzzles 30 Marks (No negative marking)

**Dear GIMS Aspirant
As a student you must put your 100% dedicated efforts.
The success or failure is temporary but it is the attitude
that makes all the difference.**
         All the Best

PANCHKULA CENTRES

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Section-A (Physics)

1. A particle of mass m is moving along a circular path of radius r and F is the centripetal force acting on it. The work done in moving it along a semicircular path is:

    (a) zero   (b) F. πr   (c) 2Fr

    (d) Fmr

2. The adjoining diagram shows the velocity versus time plot for a particle. The work done by the force on the particle is positive form:

    (a) A to B   (b) B to C

    (c) C to D   (d) D to E

3. A constant force F is applied to a body of mass m moving with initial velocity u. If after the body undergoes a displacement S its velocity becomes v, then the total work done is :

    (a) m[$v^2 + u^2$]   (b) m/2 [$u^2 + v^2$]   (c) m/2[$v^2 - u^2$]   (d) m/[$v^2 - u^2$]

4. Due to propagation of longitudinal wave in a medium, the following quantities also propagate in the same direction :

    (a) Energy, momentum and mass   (b) Energy

    (c) Energy and mass   (d) Energy and linear momentum

5. The transverse sound waves are produced in:

    (a) both gases and solids.   (b) neither in the gases nor in the solids.

    (c) the gases but not in solids.   (d) the solids but not in gases.

6. To produce sound it is necessary that source :

    (a) must vibrate longitudinally.   (b) must vibrate transversely.

    (c) may vibrate in any way.   (d) may not necessarily vibrate.

7. Which of the following quantity is independent of other quantities for a wave :

    (a) amplitude   (b) velocity   (c) frequency   (d) wavelength

8. A sphere of mass 40 kg is attracted by a second sphere of mass 60 kg with a force equal to 40 N. Calculate the distance between them. Acceleration due to gravity = 10 ms^{-2}.

    (a) 46 cm   (b) 23 cm   (c) 16 cm   (d) 6 cm

9. If the radius of the earth shrinks by 2%, mass remaining same, then how would the value of acceleration due to gravity change?

    (a) 4%   (b) 6%   (c) 8%   (d) 13%

10. A ball of mass 2.5 kg is thrown upwards with a speed of 20m/s what is the force acting on the ball when it reaches the maximum height. Take g = 10m/s^2

    (a) 0   (b) 5 N   (c) 25 N   (d) 20 N

11. A planet has twice the density of earth but the acceleration due to gravity on its surface is exactly the same as that on the surface of earth. Its radius in terms of earth R will be

(a) R / 4   (b) R / 2   (c) R / 3   (d) R / 8

13. A uniform rod has a mass attached to one end to make it float upright in liquid. If 3.0 cm of the rod is immersed when float in water and 3.5 cm when it floats in a liquid of relative density 0.9, what length of it will be immersed, when it floats in a liquid of relative density 1.2 ?

(a) 4.25 cm   (b) 3.25 cm   (c) 2.25 cm   (d) 5.25 cm

14. A body starts from rest with a uniform acceleration of 2m/ s^2 for 10 sec, it moves   with constant speed for 30 sec then decelerates by 4 m/s^2 to zero. What is the distance covered by the body?

(a) 750 m   (b) 850 m   (c) 600 m   (d) None of these

15. When a particle moves in a circle with a uniform speed
    (a) Its velocity and acceleration are both constant
    (b) Its velocity is constant but the acceleration changes
    (c) Its acceleration is constant but the velocity changes
    (d) Its velocity and acceleration both change

16. A bus begins to move with an acceleration of 1 m s^{-2}. A man who is 48 m behind   the bus starts running at 10 m s^{-1} to catch the bus. The man will be able to catch   the bus after:
    (a) 6 s   (b) 5 s   (c) 3 s
    (d) 7 s   (e) 8 s

17. An aluminum ball X and an iron ball Y of the same volume are thrown horizontally with the same velocity from the top of a building. Neglecting air resistance, X reaches the ground
    (a) before Y and at the same distance from the building
    (b) at the same time as Y and at a near distance from the building
    (c) at the same time as Y and at a same distance from the building
    (d) at the same time as Y and at a farther distance from the building

18. A body moves with uniform acceleration, then which of the following graphs is   correct?

(a)   (b)   (c)   (d)
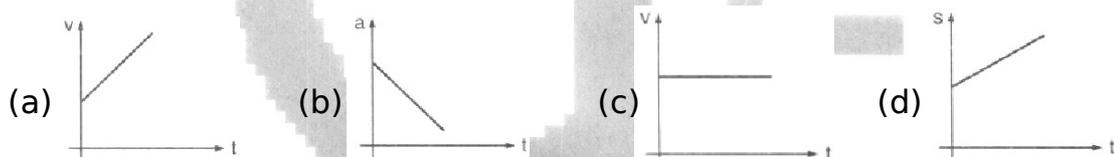
19. Which of the following statements is false?
    (a) Force of friction is almost independent of macroscopic area of the surface in   contact
    (b) Force of friction depends on the nature of materials of the surfaces in contact   (i.e., force of adhesion)
    (c) Force of friction does not depend on the relative velocity between he surfaces
    (d) Force of friction is independent of roughness or smoothness of the surfaces in   contact

20. For the displacement time graph shown in figure, the ratio of the magnitudes of the speeds during the first two second and the next four second is
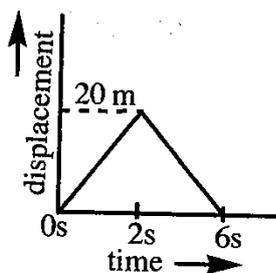
1) 1:1   2) 2:1   3) 1:2   4) 3:2

Section-B (Chemistry)

1. A change in the physical state can be brought about
   (a) only when energy is given to the system
   (b) only when energy is taken out from the system
   (c) when energy is either given to, or taken out from the system
   (d) without any energy change

2. The chemical symbol for nitrogen gas is
   (a) N_1 (b) N_2 (c) N^+ (d) N

3. Which of the following would weigh the highest?
   (a) 0.2 mole of sucrose ($C_{12} H_{22} O_{11}$) (b) 2 moles of CO_2
   (c) 2 moles of $CaCO_3$ (d) 10 moles of H_2O

4. The ion of an element has 3 positive charges. Mass number of the atom is
   27 and the number of neutrons is 14. What is the number of electrons in the ion?
   (a) 13   (b) 10   (c) 14   (d) 16

5. In the Thomson's model of atom, which of the following statements are correct?
   (i) the mass of the atom is assumed to be uniformaly distributed over the   atom
   (ii) the positive charge is assumed to be uniformaly distributed over the atom
   (iii) the electrons are uniformaly distributed in the positively charged sphere
   (iv) the electrons attract each other to stabilise the atom
   (a) (i), (ii) and (iii) (b) (i) and (iii)   (c) (i) and (iv)   (d) (i), (iii) and (iv)

6. The number of electrons in an element X is 15 and the number of neutrons is 16. Which of the following is the correct representation of the element?
   (a) $^{31}_{15}X$ (b) $^{31}_{16}X$ (c) $^{16}_{15}X$ (d) $^{15}_{16}X$

7. Which of the following correctly represent the electronic distribution in the
   Mg atom?
   (a) 3, 8, 1   (b) 2, 8, 2   (c) 1, 8, 3   (d) 8, 2, 2

8. When a rod dipped in concentrated HCl is brought near the mouth of test tube containing ammonia (NH_3) gas. Which of the following set up are correct?

Crystals on rod — II
NH₃ gas + Conc. HCl

I
NH₃ gas + Conc. HCl

Liquid droplets on rod — III
NH₃ gas + Conc. HCl

White fumes — IV
NH₃ gas + Conc. HCl
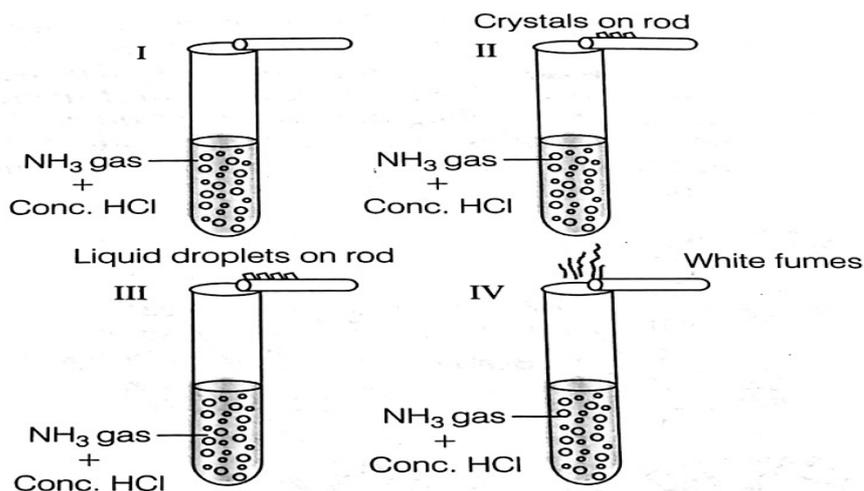
    (a) I   (b) II   (c) III   (d) IV

9.   The sequence commonly followed for separating a mixture of Sand, common   salt and ammonium chloride

(a) Use of magnet, dissolving in water, filtration

(b) Dissolving in water, filtration. Evaporation and sublimation

(c) Sublimation, use of magnet, dissolving in water and filtration

(d) Sublimation, dissolving in water, filtration and evaporation

10.   Four students performed the following experiments and recorded their observations. Who is right?

Student	Procedure	Observation
(a)	Mixed powder of barium chloride and sodium sulphate.	The mixture turns yellow.
(b)	Mixed solutions of barium chloride and sodium sulphate.	Thick white precipitate is formed.
(c)	Added sodium sulphate powder to barium chloride solution.	Solution becomes turbid.
(d)	Added barium chloride powder to sodium sulphate solution.	No change is observed.

11.   While determining the boiling point of water, the teacher suggested to add   some pumice stone pieces to the hard glass test tube containing water. This   was done to

(a) Avoid bumping

(b) Avoid melting of hard glass test tube

(c) Prevent unnecessary loss of heat energy

(d) Spread the heat uniformly

12.   A student heats a beaker containing ice and water. He measures the temperature of the content of the beaker as a function of time. Which of the
following (Fig.) would correctly represent the result?

Time (min) → (a) | Time (min) → (b) | Time (min) → (c) | Time (min) → (d)
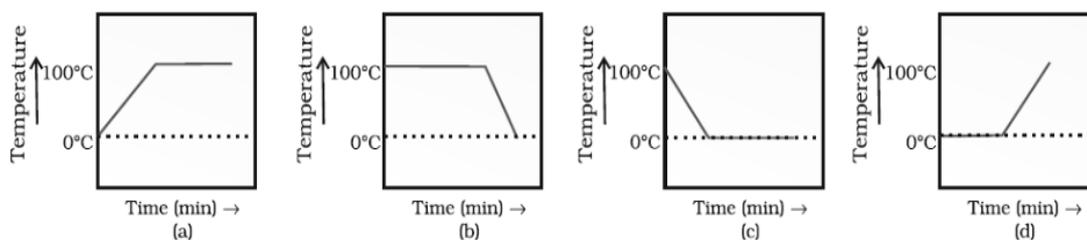
13. The ratio of the number of atoms of gold and silver in the silver ornament of mass 'm' gram polished with gold equivalent to 1%mass of the mass of silver is :

(a)1:182.41   (b)1:150.5   (c)1:211.5   (d)1:116.7

14. A compound $XMnO_4$ is formed by the combination of an element X with hydrogen. What will be the formula of X with Nitrogen?

(a)XN_3 (b)X_3N (c)X_3N_2 (d)X_2N_3

15. The ratio of the radii of hydrogen atom and its nucleus is $\sim 10^5$. Assuming the atom and the nucleus to be spherical, the ratio of their sizes is:

(a)10^5:1   (b)10^{10}:1   (c)10^{15}:1   (d)10^{11}:1

16. The average atomic mass of a sample of an element 'X' is 16.2u. What is the %age of each of isotope $^{16}_8X$ and $^{18}_8X$ in the sample?

(a) 90% and 10%   (b) 85% and 15%
(c) 10% and 90%   (d) 1% and 99%

17. 1.25g of copper carbonate was added to a beaker containing 20g of HCl. After completion of chemical reaction, the mass of the beaker and its contents were less than 21.25g. why does this happen?

(a) Law of conservation of mass is not true in every case

(b) Some atoms destroy during a reaction, hence reducing the mass

(c) Some atoms (molecules) might have escaped during the reaction

(d) Actual reason is not known

18. When the solution of sodium sulphate is added to the solution of Barium chloride, we immediately get a precipitate. Which of the following diagrams make correct identification of the precipitate?

White ppt of NaCl — A | White ppt of $BaSO_4$ — B | Yellow ppt of $BaSO_4$ — C | Grey ppt of NaCl — D
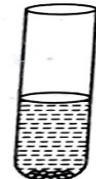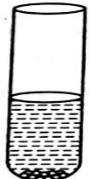
(a) A   (b) B   (c) C   (d) D

19. In the gold foil experiment of Geiger and Marsden, that paved the way for Rutherford's model of an atom,$\sim 1.00\%$ of the α particles were found to deflect at angles$>50°$. If one mole of α particles were bombarded on the gold foil, compute the number of α particles that would deflect at angles less than 50°

(a)5.96 X 10^{24} (b) 5.96 X 10^{22}
(c) 5.96 X 10^{21} (d) 5.96 X 10^{23}

20.   The mass of Neon having same number of atoms as present in 4g of Calcium
        (At masses Ne = 20u and Ca = 40u) is:
        (a) 8g   (b) 2g   (c) 5g   (d) 12g

Section-C (Biology)

1)   Which of the following is not a characteristic of DNA?
        a) Only component of chromosome   b) complementary
        c) composed of nucleotides   d) double-stranded
2)   Haversian Canals are Found In:
        a) Cartilage   b) Liver
        c) Heart   d) Bone
3)   Lysosome Arises:
        a) Golgi Apparatus   b) From Plasma
        Membrane
        c) From Nuclear Envelope   d) From Replication
4)   The most common ground tissue is:
        a) Epidermis   b) Collenchyma
        c) Parenchyma   d) Sclerenchyma
5)   Study Of Microorganisms Is Called:
        a) Microculture   b) Biochemistry
        c)Mycology   d) Microbiology
6)   How many mitotic divisions must occur in a cell of a root tip to form 128 cells?
        a) 128 divisions   b) 127 divisions
        c) 7 divisions   d) None of these
7)   Below are a few diseases
        I. Tuberculosis   II. Carcinoma
        III. Influenza   IV. Bronchial Asthma
        Which of the above mentioned diseases are classified as infectious disease?
        a) I & II   b) II & III
        c) III & IV   d) I &III
8)   Which of the following statements is incorrect?
        a) AIDS can be prevented from spreading
        b) Wearing inadequate warm clothes in winter is the reason for
           common cold
        c) Vaccination provides protection against specific disease
        d) Anti-venom is a kind of passive-artificial immunity
9)   The movement of water across a semi – permeable membrane is affected by
        a) The amount of substances dissolved in it.
        b) Membrane are made up of organic molecules like proteins and lipids
           so it won't get affected
        c) Molecules soluble in organic solvent, can easily pass through the
           membrane.
        d) Plasma membrane contain chitin and sugar in plants
10)   'Centrioles' are associated with synthesis/formation of

        a) Fats   b) Protein
        c) Flagella   d) Enzymes
11)   Hormonal imbalance is an example of:

a) Intrinsic source of a disease.   b) Extrinsic source of a disease

c) Communicable disease   d) Acute infection

12) In HIV positive patients, which cells show dysfunction?

a) T- helper cells(T4 cells)   b) Cytotoxic T cells

c) B- Lymphocytes   d) Plasma cells

13) A symptom of Jaundice is :

a) Hyperactivity of liver levels   b) Increased serum bilirubin

c) Increased appetite   d) All of the above

14) Which of the following is absent in plant cell

a) Vacuole   b) Centriole

c) Cell Membrane   d) None Of These

15) Which Plant part is best suited for the Study Of Meiosis

a) Root Tip   b) Anther

c) Shoot Apex   d) None Of These

16) Tissue culture of plants is preferred Meristematic Tissue because of the following reasons-

a) it can be easily isolated form the plant

b) The cells are already in an active phase of division

c) The cells will not completely differentiated

d) All of the above

17) Consider the following terms-

i. Leukaemia   ii. Leucoderma   iii. Leucocytes   iv. Leucoplasts

Which among the following is/are a kind of animal cell?

a) I and IV   b) III only

c) I, II and III   d. II, III and IV

18) Which of the following is not related to Osmoregulation in cell?

a) Pinocytosis   b. Aquaporins

c) Contractile Vaculole   d. None of the above

19) *Ascaris*worm lives in which part of the human body?

a) Kidney   b) Liver

c) Small Intestine   d) Large Intestine

20) Anti-viral drugs are difficult to make because-

a) Virus lives inside the host cell

b) Our body is defenceless in front of a virus

c) Virus usually travels through blood stream

d) all of the above

Section-D (Mathematics)

1. An irrational number between 5/7 and 9/11 is

(a) 0.27027002700027…   (b) 0.72072007200072…

(c) 0.72072007207200…   (d) 0.720720720720…

2. $\left(\sqrt[6]{27} - \sqrt{6\frac{3}{4}} \right)^2$ is

(a) $\dfrac{\sqrt{3}}{2}$ (b) $\dfrac{\sqrt{3}}{4}$ (c) $\dfrac{3}{2}$ (d) $\dfrac{3}{4}$

3. The value of $\dfrac{\left(10^2 - 15^2\right)^3 + \left(15^2 - 20^2\right)^3 + \left(20^2 - 10^2\right)^3}{\left(10 - 15\right)^3 + \left(15 - 20\right)^3 + \left(20 - 10\right)^3}$ is

(a) 26250   (b) 39375   (c) 78750   (d) 78755

4. If a + b + c = 0, then the value of $\dfrac{(a + b)(b + c)(c + a)}{abc}$ is

(a) –9   (b) –3   (c) –1   (d) 1

5. The value of $(a + b)^3 + (a - b)^3 + 6a(a^2 - b^2)$

(a) $8a^2$ (b) $7a^3$ (c) $8a^3$ (d) $18a^3$

6. The value of $(a^{1/8} + a^{-1/8})(a^{1/8} - a^{-1/8})(a^{1/4} + a^{-1/4})(a^{1/2} + a^{-1/2})$ is

(a) $(a + a^{-1})$ (b) $(a - a^{-1})$ (c) $(a^2 + a^{-2})$ (d) $(a^2 - a^{-2})$

7. If $\left(a + \dfrac{1}{a}\right)^2 = b$, then $a^3 + \dfrac{1}{a^3}$ is equal to

(a) b^3 (b) $b^{3/2}$ (c) $b^{3/2} - 3b^{1/2}$ (d) $b^{3/2} + 3b^{1/2}$

8. If x – (1/x) = 7 then the value of $x^4 - (1/x^4)$ would be

(a) 2500   (b) 49   (c) 2599   (d) 343

9. The equation of the line, which does not pass through the origin is

(a) x = 4y   (b) y = 5y   (c) y = 15x + 9   (d) y = 3x

10. From the adjoining figure the value of x is

(a) 180°
(b) 120°
(c) 106°
(d) 60°
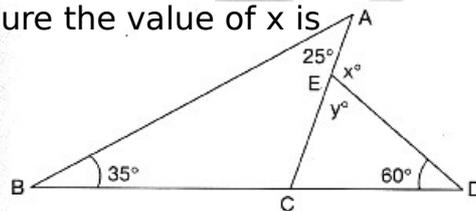
11. In the following figure the value of x is

(a) 130°
(b) 105°
(c) 75°
(d) 65°
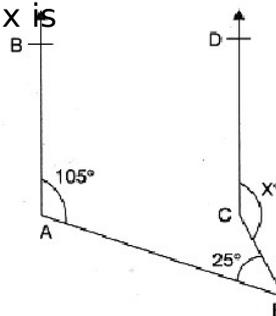
12. In the given figure if AB || CD || EF, then the value of y is

(a) 20°
(b) 60°
(c) 130°
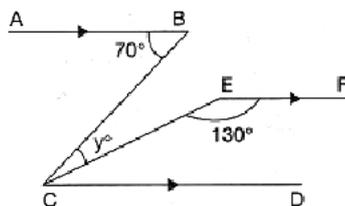
(d) 200°

13. If a right angle triangle has its base and height in the ratio of 3 : 2 and the area of

the triangle is given as 243 cm², then what will be the lengths of its base and   height?

a. 27 cm,18 cm   b. 18 cm, 24 cm   c. 24 cm, 18 cm   d. 32 cm, 48 cm

14. What will be the area of the quadrilateral ABCD?
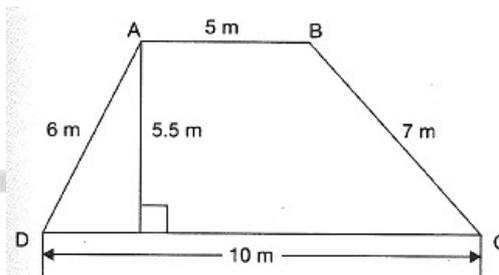
a. 28.6 m²   b. 41.25 m²   c. 29.45 m²   d. 30.25 m²

15. What will be the area of an isosceles triangle, which has the base length x cm and   length of one side is y cm.

a. $\dfrac{x}{2}\sqrt{\dfrac{x^2}{4}+y^2}$ b. $\dfrac{x}{2}\sqrt{y^2-\dfrac{x^2}{4}}$ c. $\sqrt{y^2-\dfrac{x^2}{4}}$ d. $\dfrac{x}{2}$

16. What will be the percentage increase in the area of an equilateral triangle if each   side of the equilateral triangle is tripled?

a. 70%   b. 80%   c. 90%   d. 800%

17. In a right-angled isosceles triangle, the area is 18 cm². What will be the perimeter

of this triangle?

a. $12 + 4\sqrt{3}$ b. $12 + 6\sqrt{2}$ c. $14 + 4\sqrt{3}$

d. $14 + 6\sqrt{2}$

18. A trapezium has parallel sides of length 25 cm and 13 cm, and length of both of   its nonparallel sides is 10 cm. What will be the area of the trapezium?

a. 128 cm²   b. 360 cm²   c. 152 cm²   d. 190 cm²

19. The perimeter of floor of a hall having rectangular shape is175 m. The height of   the hall, when the cost of painting four walls is Rs.12000 at the rate of Rs. 10 per   m² will be

a. 6.85 m　　　　b. 7.25 m　　　　c. 6.25 m　　　　d. 4.85 m

20.　　The amount of paint in a container can paint an area equal to 9.375 m². Number　　　of bricks measuring 22.5 cm × 10 cm × 7.5 cm that can be painted from the　container is/ are

　　　　　a. 1　　　　　b. 10　　　　　c. 100　　　　　d. 1000

Section-E (English)

1) Read the passage carefully and answer the questions that follow:

1.　　From the moment a baby first opens its eyes, it is learning. Sight and Sensation sparks off a learning process which will determine in large measure the sort of person it will become. Language stands head and shoulders　over all other tools as an instrument of learning. It is language that gives man his　　lead in intelligence over all other creatures. No other creature can assemble a list　of ideas, consider them, draw conclusions and then explain his reasoning. Man　can do all this because he possesses language. And if thought depends on　language, clearly the quality of an individual's thought will descend on that　person's language- rudimentary or sophisticated, precise or approximate,　　stereotyped or original.

2.　　Very young babies are soothed by human voice uttering comforting words close　to them. This essentially emotional response provides early evidence that feeling　is an important component of language learning. Children learn to use language　in interaction with other human beings, and this learning precedes best against a　background of affectionate feedback from the person who is closest to them.

　　　　This is seen to perfection in the interaction between parent and baby: eyes locked　together, the adult almost physically drawing 'verbal' response from the baby,　both engulfed by that unique experience of intimate and joyful 'connecting'　which sets the pattern of relationships between two people.

3.　　Thus, long before they can speak, children are involved in a two-way process of　communication which is steadily building a foundation on which their later use　of language will be based. Constantly surrounded by language, they are　unconsciously building structures in their minds into which their speech and reading will later fit-grammatical constructions, tense sequences and so on.

　　　　The forms of these structures will depend on the amount and complexity of　speech they hear. The fortunate children are those who listen to articulate adults　expressing ideas and defending opinions. They will know, long before they can　contribute themselves that relationships are forged through this process of　speaking and listening; that warmth and humour have a place in the process, as　have all other human emotions.

4.　　Using books is the most important means of ensuring a child's adequate　language development. None of us can endlessly initiate and maintain, speech with very small children; we run out of ideas, or just get plain sick of it. Their　lives are limited and the experience just isn't there to provide the raw material　for constant verbal interaction, without inevitable boredom on the child's part　and desperation on the adult's.

5.   Parents and children who share books share the same frame reference. Incidents   in everyday life constantly remind one or the other of a situation, a character, an   action, from a jointly enjoyed book, with all the generation of warmth and well-   being that is attendant upon such sharing. All too often, there is a breakdown of   communication between parents and children when the problems of adolescence   arise. In most cases this is most acute when the give-and14 take of shared   opinion and ideas has not been constantly practiced throughout childhood. Books can play a major part in the establishment of this verbal give-and- take,
       because they are rooted in language.

6.   Young children's understanding greatly outruns their capacity for expression as   their speech strains to encompass their awareness, to represent reality as they see it. Shades of meaning which may be quite unavailable to the child of limited   verbal experience are startlingly talked-to toddler. All the wonderful modifying   words-later, nearly, tomorrow, almost, wait, half, lend begin to steer the child away from the simple extremes of "yes" and 'no' towards the adult word of compromise; from the child's black and white world to the subtle shades and   tints of the real world. The range of imaginative experience opened up by books expands the inevitably limited horizons of children's surroundings and allows   them to make joyful, intrigued, awe-struck acquaintance with countless people,
       animals, objects and ideas in their first years of life, to their incalculable   advantage.

7.   Books also help children to see things from other points of view besides their   own as they unconsciously put themselves into other people's places - 'if that   could happen to him, it could happen to me.'
       This imaginative self-awareness brings apprehensions and fears as well as   heightened hopes and joys.

8.   In books children can experience language which is subtle, resourceful, exhilarating and harmonious; languages which provides the human ear (and understanding) with a pointed and precise pleasure, the searing illuminating impact of good and true words.

(A) Fill in the blanks appropriately.
       (5)
(1) The learning process ignited by sight and sensation in a baby will determine _____.
(2) Man can assemble a list of ideas, consider them and draw conclusions because he _____.
(3) Uttering comforting words close to babies can _____.
(4) The fortunate children are the ones who _____.
(5) Often a breakdown of conversation between a parent and a child is witnessed at the
       stage of _____in the life of a child.

(B) Find words from the passage that mean:
       3 Marks
(a) Pronounce distinctly (para 3)
(b) accompany (para 5)
(c) give and take (para 6) 3 marks
    1) Fill in the blanks with appropriate word
           (7)

a) _____foundation is collapsing (Its , It's)

b) Do you have a _____ tooth? (lose, loose)

c) Please give me an _____ (advice ,advise)

d) Her _____pricked her hard (conscience , conscious , concious)

e) She is one of the prettiest _____ in the class. (girl, girls)

f) Suresh is as tall as _____ (I , me)

g) Evans was found in a _____session while we called him. (practice, practice)

2) Give the meanings of the words and also make sentences
(4)

a) capricious

b) excruciating

c) valour

d) philanthropist

3) Do as directed   (4)

1) She is too tired to stand.

(Use so in this sentence without changing the context)

2) It is dangerous as well as illegal to drive a bike without helmet.

(start : it is not ....)

3) Use the word beautiful contextually as an adjective and adverb in a sentence.

4) The house _____ was built upon the rock caught fire yesterday.

(which, that)

4) Differentiate between a simile and a metaphor by making a sentence of each.
(2)

Section-F (Mental Ability)

1.   If in a code NECKLACE in written as ECALKCEN, how HURRY can be written   in that code?
     (a) YRURH   (b) HUYRR   (c) YRRUH   (d) UHRYR

2.   If (i) A * B means A is the brother of B
     (ii) A ● B means A is the daughter of B
     (iii) A Δ B means A is the sister of B

Which one of the following shows the relation that P is the maternal uncle of Q?

(a) P Δ R ● Q   (b) P * R ● Q   (c) Q ● R Δ P

(d) Q ● R * P

3. If a certain language GONE is coded as ILPB, then for what word do the letters EOKY stand?

(a) IBCR   (b) CIRB   (c) CRBI   (d) RIBC

(e) CRIB

4. If 'ROSE' is coded as 6821
'CHAIR' is coded as 73456
'PREACH' is coded as 961473
what will be the code for 'SEARCH'?

(a) 246173   (b) 214673   (c) 214763   (d) 216473

5. Ram is the brother of Shyam and Mahesh is the father of Ram. Jagat is the brother of Priya and Priya is daughter of Shyam; who is the uncle of Jagat?

(a) Shyam   (b) Mahesh   (c) Ram   (d) None of these

6. Pointing to a boy Ramesh said, "His only brother's mother is my father's wife." How is Ramesh related to that boy?

(a) Uncle   (b) Father   (c) Nephew   (d) Brother

(e) None of these

7. If the word KNIFE is coded as MPKHG, what do the letters DTGCF stand for?

(a) BRADE   (b) BARED   (c) BRAED   (d) BREAD

(e) BRDAE

8. Six boys are standing so that they form a circle each facing the centre. Alok is to the left of Prabhat. Sunil is between Ashok and Vikash. Hari is between Alok and Ashok. Who is to the left of Vikash?

(a) Prabhat   (b) Hari   (c) Ashok   (d) Sunil

(e) Alok

9. The following question is based on a code language in which PERCEPTION is written as QMPTMQXDCL and RELAYED is written as PMZDNMO. How is NOTICED written in that code?

(a) LCXDOTM   (b) LCXDTQM   (c) LCXDTMO   (d) CLXDTOM

10. In a certain code language

(1) 'po ki top ma' means 'Usha is playing cards'
(2) 'kob ja ki ma' means 'Asha is playing tennis,
(3) 'ki top sop ho' means 'they are playing football'
(4) 'po sur kob' means 'Cards and tennis'

Which word in that language means 'Asha'?

(a) ja   (b) ma   (c) kob   (d) top

(e) ki

11. If in a certain language THEN is coded as RLBS, then for what word AEPJ is coded?

(a) CSAE   (b) SACE   (c) CASE   (d) CAES

12. In a certain code language
'Pat Zoo Sim' means 'Eat Good Mangoes'
'Pus Sim Tim' means 'Mangoes and Sweets' and 'Tim Zoo Kit' means 'Purchase Good Sweets'.
Which word in that language means 'Good"?

(a) Zoo   (b) Pus   (c) Sim   (d) Tim   (e) Kit

13.   A class starts after lunch at 1.00 p.m. and lasts till 3.52 p.m. In this duration four   periods are held. Before every period 4 minutes are allowed for going from one   room to another. What is the exact duration for each period?

    (a) 42 min.   (b) 39 min.   (c) 41 min   (d) 40 min

14.   There are some cows, bulls and 45 hens in a group. One care taker looks after 15   animals. The number of bulls is twice the number of cows. If the number of head   is less than the total number of feet by 186 (including the care taker), how many   care takers are there?

    (a) 8   (b) 5   (c) 9   (d) 6

15.   If   A stands for +
        B stands for –
        C stands for ×
        D stands for ÷

    What is the value of (10 C 4) A (4 C 4) B 6?

    (a) 46   (b) 50   (c) 56   (d) 60

16.   Which of the following names will appear in the middle if they are arranged   alphabetically?

    (a) Parakashji   (b) Prakashji   (c) Parakashjee   (d) Prakashjee
    (e) Parkashji

    Read the following information and answer the questions given below:
    Prakash is heavier than Arun who is lighter than Varun. Prabodh is lighter than   Prakash and heavier than Varun.

17.   Who among them is in the third place from the top when they are arranged in   descending order of their weight?

    (a) Arun   (b) Prabodh   (c) Varun   (d) Prakash
    (e) Data inadequate

18.   Who among them is the heaviest?

    (a) Prakash   (b) Arun   (c) Varun   (d) Prabodh
    (e) Data inadequate

19.   Sudha is taller than Pooja but shorter than Rama. Pooja is just as tall as Neha but   taller than Neeru. Which of the following statements is definitely true for Neha?

    (a) Shorter than Neeru   (b) Tallest among all
    (c) Shortest among all   (d) Taller than Neeru
    (e) None of these

20.   If '–' stands for addition, '+' for multiplication, '÷' for subtraction, '×' for division,   which one is wrong?

    (a) 5 – 2 + 12 × 6 ÷ 2 = 27   (b) 5 + 2 – 12 ÷ 6 × 2 = 13
    (c) 5 + 2 – 12 × 6 ÷ 2 = 10   (d) 5 ÷ 2 + 12 × 6 – 2 = 3

Section-G Puzzles

Sudoku
Rule One

    In every ROW, you must have each of the numbers 1, 2, 3, 4, 5, 6, 7, 8 and 9.

    Rule Two

    In every COLUMN, you must have each of the numbers 1, 2, 3, 4, 5, 6, 7, 8 and 9.

    Rule Three

    In every MINI-GRID, you must have each of the numbers 1, 2, 3, 4, 5, 6, 7, 8 and   9.

1.

			5	4		1	2	
		6	1	8			9	4
	3					9	8	5
	2		6		8		7	
7	5	8					4	
3	8			2	1	4		
	1	9		6	5			

2.

C	T	B	D	C
D	A	E	L	L
F	U	S	D	D
E	D	T	K	C

Here's an easy spelling test for you. In the above grid of twenty letters are hidden the names of twenty items found around the house. When spelling an item start at any letter and move one letter at a time horizontally, vertically or diagonally until a word is spelled. During the spelling of anyone word you cannot enter any box more than one time. If you can find more than the twenty words that we give, then you're eligible for a double gold star.

3.

One of the most famous acrobatic teams of all time was the celebrated Shanghai Six. Here they are about to perform their, record-breaking feat of standing six high on
each other's shoulders. Before they take off, study this picture and count how many complete faces you see. Are there six, or five, or only one?