

Time—2:30 Hrs

M.Marks=60

**General Instructions:**

- 1) This question paper consist of 39 questions in 5 sections.
- 2) All questions are compulsory,
- 3) Section A consists of 20 objective questions carrying 1 mark each.
- 4) Section B consist of 5 very short questions carrying 02 marks each. Answer to these questions should be in the range of 30 to 50 words.
- 5) Section C consists of 4 short answer type questions carrying 03 marks each .Answer to these questions should be in the range of 50 to 80 words.
- 6) Section D consists of 02 long answer type questions carrying 05 marks each. Answer to these questions should be in the range of 80 to 120 words.
- 7) Section E consists of 2 source -based/case-based unit of assessment of 04 marks each with subparts.

**SECTION— A (1X20)= 20 Marks**

**Q1** The jet aero plane acts on Newton---

- (a) First law of motion (b) Second law of motion (c) Third law of motion (d) All the above
- Q2** In a football and stone of same size , the inertia of

- (a) football is greater (b) both is equal (c) stone is greater (d) none of the above

**Q3** The slope of velocity - time graph shows

- (a) speed (b) acceleration (c) displacement (d) speed

**Q4** A car is moving at a speed of 72km/h. its speed is

- (a) 7.2 m/s (b) 10 m/s (c) 15 m/s (d) 20m/s

**Q5.** The weight of one body is 60 kg weight on the earth ,its weight on the moon is

- (a) 36kg (b) 6kg (c) 216kg (d) none of the above

**Q6** If the distance between two objects is doubled ,the force of attraction between them will become;

- (a) one -fourth (b) half (c) double (d) it will not change

**Q7** The tissue that has dead cell I

- (a) sclerenchyma (b) parenchyma (c) collenchyma (d) all the above

**Q8** Dendrites are found in;

- (a) muscular tissue (b) nervous tissue (c) connective tissue (d) none of the above

Q9 Chromosome are made up of-

- (a) DNA and protein (b) RNA and protein (c) DNA and RNA (d) protein

Q10 Odometer of automobiles record :

- (a) Average speed (b) Acceleration (c) velocity (d) distance travelled

Q11 The undefined nuclear region of prokaryotes are also known as-

- (a) nucleus (b) nucleolus (c) nucleic acid (d) nucleoid

Q12 S.I..unit of gravitational constant is—

- (a)  $\text{Nm}^2/\text{kg}$  (b)  $\text{Nm}^2/\text{kg}^2$  (c)  $\text{N}^2\text{m}/\text{kg}$  (d)  $\text{N}^2\text{m}^2/\text{kg}^2$

Q13 The rate of change in displacement is called-

- (a) acceleration (b) velocity (c) speed (d) none of the above

Q14 Tyndall effect is not shown by—

- (a) True solution (b) Suspension (c) Colloidal (d) all the above

Q15 Prepared food is carried from leaves to different parts by –

- (a) Phloem (b) Xylem (c) Vascular tissue (d) all the above

Q16 Dry ice is -

- (a) ice without water (b) solid Carbondioxide (c) solid carbon monoxide (d) all the above

Q17 The following is a sublime substance;

- (a) ammonium chloride (b) naphthalene (c) camphor (d) all the above

DIRECTION- For question number 18 and 19 two statement are given - one labeled Assertion (A) and the other labeled Reason (R) .select the correct answer to these questions from the codes(a), (c) and(d)as given below

- (a) Both A and R are true and R is correct explanation of the A  
(b) Both A and R are true but R is not the correct explanation of the A  
(c) A is true but R is false  
(d) Both A and R are false

Q18 Assertion (A); Plasma membrane is a selectively permeable-membrane.

Reason (R); Plasma membrane allows entry and exit of substance from cell through the process of diffusion.

Q19 Assertion (A); The growth of plants occurs only in certain specific regions.

Reason (R) Meristematic tissue is located only at certain points in a plant.

Q20 Lysosomes are called-

- a) suicidal-bags (b) power house of the cell (c) kitchen of the cell (d) all the above

#### SECTION-B (2X5)= 10 Marks

Q21. What is difference between bone and cartilage

Q22 Define velocity and acceleration. Write its s. i. unit also.

Q23 Define term of—

- (a) Mass (b) Weight

Q24 What do you understand by boiling point of a liquid ?

Q25 Define Newton First law of motion.

#### SECTION—C (3X4)=12 Marks

Q26 What is meristematic tissue ? Write different part of meristematic tissue

Q27 Define term of -- True solution , Suspension solution and Colloidal solution .

- Q28 Write three difference between plant and animal cell.  
Q29 What is inertia? Write name of different types of inertia.

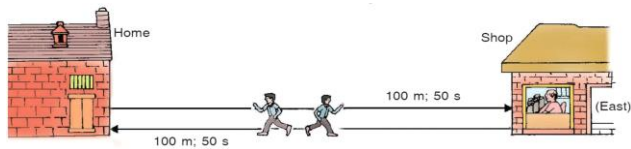
**SECTION – D (5X2)=10 Marks**

- Q30 (i) State Newton's universal law of gravitation.  
(ii) Write mathematical expression for this law.  
Q31 Define Nerve cell. Draw a well labeled diagram of Nerve cell.

**SECTION-E (4X2)= 8 Mark**

- Q32 Read the following and answer any four questions.

Suppose the body first runs a distance of 100 metre in 50 seconds in going from his home to the shop in the east direction and then runs a distance of 100 metres again in 50 seconds in the reverse direction from the shop to reach back home from where he started.



- Q1 Find the speed of the body.

(a) 1m/s (b) 2m/s (c) 3 m/s (d) none of these

- Q2 Find the velocity of the boy.

(a) 1 m/s (b) 2 m/s (c) 3 m/s (d) 0 m/s

- Q3 A boy is sitting on a merry-go-round which is moving with a constant speed of 10m/s. This means that boy is-

(a) at rest (b) moving with no acceleration (c) in accelerated motion (d) moving with uniform velocity

- Q4 A particle is moving in circular path of radius  $r$ . The displacement after half circle would be-

(a) 0 (b)  $\pi r$  (c)  $2r$  (d)  $2\pi r$

Q33 Based on complexity of organisation, cell can be divided into two types. Prokaryotic cells and eukaryotic cells are present in primitive organisms and they have simple structural organization. On the contrary, eukaryotic cells have complex structural organization and are present in unicellular or multicellular organisms.

- (a) Name any two prokaryotes.  
(b) How many chromosomes are present in a prokaryotic cell?  
(c) Which cell contains membrane bound cell organelles?  
(d) Which cell has a well defined nucleus and nuclear membrane