

Shivagadhi English School
3rd terminal Examination 2081

Class :9 Subject: Science

F. M. 75

Time :2:15hrs

P.M. 30

Group A

1. Encircle the correct alternative. 10x1=10

a. Which part of the nervous system controls reflex action?

- i) cerebrum ii) cerebellum iii) Medulla oblongata
iv) Spinal cord

b. What is the study of interrelation of living beings and the environment called ?

- i) Ecosystem ii) Ecosystem services
iii) Ecology iv) Climate change

c. On what factor does inertia depend?

- i) Acceleration ii) Mass
iii) Force iv) Weight

d. What is the efficiency of the complete machine?

- i) 50% ii) 70% iii) 90% iv) 100%

e. By which process is energy produced in the sun ?

- i) Nuclear fission ii) Chemical reaction
iii) Nuclear fusion iv) Photoelectric effect

f. What distance is required between a source of sound and the reflector for an echo to occur ?

- i) 14m ii) 15m iii) 16m iv) 17m

g. Which technology is used to know bleeding in the brain after an accident?

- i) x-ray imaging ii) CT Scan
iii) Endoscopy iv) Sonography

h. What is the melting point of nichrome?

- i) 900°C ii) 1000°C
iii) 1400°C iv) 1800°C

I) Who invented the big Bang theory?

- i) Newton ii) Archimedes iii) John Dalton iv) Georges Lemaitre

j) What type of satellite is the international space station?

- i) LEO ii) MEO
iii) GSO iv) both LEO and MEO

Group B

2. Give short answer to the following questions. 9x1=9

1. Who is known as father of taxonomy?
2. What is the fossil fuel ?
3. What is the relation of acceleration of a body to its mass & applied force?
4. What should be done to make a simple machine more efficient?
5. Give two examples of renewable source of energy .
6. Define wave.
7. How many light years are equivalent to one parsec ?
8. What was the name given to the first satellite of Nepal ?
9. What is nebula?

Group C

3. Write short answer to following questions 14x2=28

1. What is a scientific notation? What is its importance in scientific learning?
2. Write the scientific name of human being and pea.
3. Write the characteristics of poisonous mushrooms.
4. What are fossils called? How are fossils formed?
5. Name the membranes of meninges .
6. In a village , campaign against snake was launched in which about all the snakes were killed. The farmers of that region were troubled by rats that year. Explain .
7. Derive that $F=ma$.
8. What are the most useful alternative sources of energy for Nepal? Give two reasons.
9. Write two merits and two demerits of ultraviolet rays.
10. State Ohm's law and show that $V=IR$

11. Differentiate between amplitude modulation & frequency modulation.
12. Derive that 1 LY is equivalent to 9.46×10^{12} Km.
13. What is computer virus? Write some systems of computer virus.
14. When an electric iron is connected to a 220V circuit 5A electric current flows in it. Calculate the electric resistance of the iron.

Group D

Answer the following questions in detail. $7 \times 4 = 28$

1. Explain the process of small scale cultivation of mushroom.
2. In a hostel, 20 electric fans of 60 w each and 40 lamps for 8 hours daily. Similarly, 4 electric irons of 750w each and 2 heaters of 2000w each are being used for 4 hours daily. Calculate the bill amount of their use for 1 month. The rate is Rs.9.5 per unit.
3. How is a star born in a nebula? Explain the lifecycle of star with labelled diagram.
4. What is electrovalent compound? How is it formed? Explain with an example write the characteristics of such compounds.
5. What do you mean by cyberbullying? List the effects of cyberbullying in our lives. List the controlling measures against it.
6. In wheel and axle, the radius of the wheel is 20cm and the radius of axle is 20 cm and the radius of axle is 20 cm . if a load of 2000N is lifted upto 4m with an effort of 1000N calculate.
 - a. Mechanical advantage
 - b. Velocity ratio
 - c. Efficiency
 - d. Input work
7. Frequencies of some sound waves are shown in the table.

Wave	F(Hz)
A	6000 Hz
B	100 Hz
C	10 Hz
D	600 Hz

- a. Which of the sound you hear? Why?
- b. Which sound has the greatest wavelength?
- c. Which sound is the sharpest? Why?
- d. How many compressions & rare fractions are formed per second in Wave 'C'?

Best of luck