FAISALABAD BOARD 2019

"Physics" Class 9th

Marks : 48 ☆ **Subjective (Part-I)** ☆ **(Group II)** **Time: 01:45**

2. Write short Answers of any five part. **(5 × 2 = 10)**

(i) Write the formula of least count of screw gauge and write its value.

(ii) Define atomic physics and nuclear physics. (iii) What is meant by prefixes?

(iv) Cheetah can run at a speed of $70kmh^{-1}$. Change this speed in SI unit.

(v) What is the difference between distance and displacement?

(vi) Define momentum. Is it vector or scalar?

(vii) Write two differences between weight and mass.

(viii) State the law of conservation of momentum.

3. Write short Answers of any five part. **(5 × 2 = 10)**

(i) What is the difference between like parallel forces and unlike parallel forces?

(ii) Define torque and moment arm. (iii) Define the force of gravitation.

(iv) State the law of gravitation. (v) What is GPS (Global Positioning System)?

(vi) Define work and write its SI unit.

(vii) Define kinetic energy and write its mathematical equation.

(viii) Define power and its SI unit.

4. Write short Answers of any five part. **(5 × 2 = 10)**

(i) Define pressure and write its SI unit. (ii) State Hook's law.

(iii) Define elasticity. (iv) Define specific heat.

(v) Differentiate between temperature and heat.

(vi) What is meant by convection currents in air?

(vii) Define thermal conductivity. (viii) What is meant by gliding?

☆ SUBJECTIVE (Part-II) ☆

Attempet any two Questions. Each question has 9 marks. **9 × 2 = 18**

5. (a) Derive third equation of motion with the help of speed-time graph.

(b) A cyclist of mass 40kg exerts a force of 200N to move his bicycle with an acceleration of $3ms^{-2}$. How much is the force of friction between the road and the tyres?

6. (a) What is meant by resolution of force? A force F is making angle θ with x-axis. Find the values of its horizontal and vertical components.

(b) A motor boat moves at a steady speed of $4ms^{-1}$. Water resistance acting on it is 4000N. Calculate the power of its engine.

7. (a) Define and explain the volume thermal expansion. Also derive the equation $V = V_0(1 + \gamma\Delta T)$.

(b) A steel wire 1m long and corss-sectional area $5\times10^{-5}m^2$ is stretched through 1mm by a force of 10000N. Find the Young's modulus of the wire.