

Section-1

Q-1 Impact of Jet: If a plate, which may be fixed or moving is placed in the path of jet, a force is exerted by the jet on the plate. The force is obtained from Newton's second law of motion and known as impact of jet.

1. Force exerted by a Jet on a stationary plate when

- (a) Plate is vertical to the jet
- (b) Plate is inclined to the jet
- (c) Plate is curved

2. Force exerted by the jet on the moving plate when

- (a) Plate is vertical on the jet
- (b) Plate is inclined on the jet
- (c) Plate is curved.

Jet propulsion: - It is the propulsion of an object in one direction, produced by ejecting a jet of fluid in the opposite direction. By Newton's third law the moving body is propelled in the opposite direction to the jet.

Reaction engines operating on the principle of jet propulsion include the

jet engine. used for air craft propulsion and the pump-jet used for marine propulsion and the rocket engine and plasma thruster use for spacecraft propulsion.

Biological systems include the propulsion mechanism of certain marine animals such as Cephalopods, sea hares, arthropods and fish.