Section-3

Ans-(i) Casting defects :-

(i) mould shift :- It results in a mismatching of the top and bottom parts of a casting usually at the parting line.

(a) Causes :- it occurs due to following reasons :-

(1) misalignment of pattern parts, due to worn or damaged pattern

(2) misalignment of molding box or flask equipment.

(b) Remedies :- this defect can be prevented by ensuring proper alignment of the pattern, molding boxes, correct marking of pattern or pattern plates etc.

(ii) core shift :- It is an abnormal variation of the dimensions which are dependent on core position.

(a) Causes :- (1) misalignment of cores in assembling cored molds.

(2) undersized or oversized core prints.

(b) Remedies :- this defect can be eliminated by providing the core at the proper place and must be supported properly in the mold..

(iii) Swell :-

(iv) Sand wash :-

(v) Hot tear :-

(vi) Sand Blow or blow Holes :-

(vii) Cold shuts and misruns :-

→ Residual Stresses.

(1) Different sections of a non-uniform cross-section casting solidify at different rates depending on their cross-sectional areas.

(2) Another method of controlling such stress is to take out casting at an average temp. of around 750°C and putting them in insulated pit and allowing to cool at 5-5°C/hour.

(3) If high residual stresses exist in a casting, it has to be relieved by a suitable heat treatment process or by other methods of stress relieving