

NOTES : B.Sc. I-S-I P-II CELL BIOLOGY

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Q - write an account on Lake's Model of Ribosomes ,

The fully asymmetrical model of ribosomes was discovered by James Lake in 1981. The smaller subunit 30S is differentiated into head, base & platform. An indentation divides the subunit into two unequal parts referred to as head (Upper one third) and body (lower two third).

Extending from the lower two third is a region called platform. There is a cleft between the platform and the upper one third region. The cleft is an important functional region. It is the site of codon-anticodon interaction and as a part of binding site for initiation factors of protein synthesis i.e. IF-1, IF-2, IF-3.

It is asymmetrical, and does not contain a mirror image. The 50S subunit is also asymmetrical. Lateral projections incline at an angle of about 50° from a central protuberance. The smaller subunit is asymmetrically positioned on the large subunit in the ribosome. The platform of the small subunit faces the large subunit. The larger subunit consists of (50S) a ridge and the central protuberance are separated with the help of valley.

