

Competitive Exams: Experiments in Space

In the skylab space station, and its smaller Russian counterpart called Salyut, astronauts have begun to extend the survey of earth's resources and astronomical observations begun by satellites. Of the three sky lab crews each of the three men brought back a total of 72 km (45 miles) of magnetic tape logging instrumental results, 46, 000 earth resources pictures and 1, 75, 000 images of the sun taken through the special sky lab solar telescope. Space stations allow scientists and engineers to take advantage of the condition of weightlessness and total vacuum when developing new manufacturing processes.

Space Shuttle

Before it missing applications of space can be fully exploited, the cost of space launches must be brought down. This has been the incentive for the development in the USA of a new transportation scheme called the space shuttle. The shuttle's main component is reusable spacecraft, the Orbiter, which is launched by means of rockets but can glide back to earth like an aircraft, landing on a runway. The shuttle can therefore launch several satellites at a time, and bring others back to earth, If necessary, for repairs. Each shuttle orbiter will be re-used upto 100 times (replacing conventional rockets which can be used once only). It is hoped that the shuttle's re-usability will bring down the cost of space mission by 90 percent.

Space Repair

Shuttle has been used successfully in retrieving back two malfunctioning satellites. These satellites could be used again. Shuttle made successful retrieval and repair of satellite Solar Max (April, 1984). For this historic feat astronauts had to get out of the spacecraft and 'walk on space' for as long as 6 hours and 44 minutes.' The American space program received. 3 setback in January 1986 when their space shuttle Challenges exploded in mid air, 75 seconds after lift of crew-six astronauts and a woman school teacher named Chrisia Mcauliffe-were all dead. Challenger tragedy was a setback not only for the US, but also for many other countries including India which had programmed multipurpose satellites to be launched by the US shuttles. The working will be rescheduled and very soon likely to begin but NASA has announced that it would-not be launching any private satellites. Other Space Powers: The European consortium China, Japan, India and Brazil are also going ahead with their space programs. China is looking for foreign customers for a launch program-only Sweden has accepted so far and a Japanese project is on the paper only.