ANNEXURE 48

BELUR MAIN CAMPUS – DEPARTMENT OF PHYSICS UNDER THE SCHOOL OF MATHEMATICAL SCIENCES

TELESCOPES AND POSITIONAL ASTRONOMY CENTRE

Keeping in mind the lack of viable telescopic observational facilities in the state of West Bengal, the Physics department is setting up a Positional Astronomy Centre (PAC) which we hope will be unique of its kind for any University in West Bengal. It will have two important components: (1) Teaching and Research and (2) Outreach Programme.

(1) Teaching and Research :

A cosmology and astrophysical observational set up is being planned over the next 3-5 years. This is being done by building up relevant infrastructure for M.Sc. coursework which can be enhanced to carry out research in the subject. This will entail regular upgradation of equipment so that within a period of 5-7 years a dynamic research group in cosmology emerges having both theoretical and observational/experimental components. Right now, cosmology research in the Department is purely theoretical. One telescope has already been set up from the first year grant (2015) of WBDST-FIST. This telescope is a 14 inch Celestron EdgeHD computerised telescope. With this year's grant (2016) the Department has initiated the procuring of Solid State Spectrophotometers, matching computers, software, networking and other accessories. These will enable the telescope to be used for research at some modest level. Right now only sightings of heavenly objects are possible. The grant of 2017 will be utilized for procuring another telescope.

The cosmology and astrophysical observations/experiments relevant to the M.Sc. Special paper coursework will comprise of the following:

(a) Estimation of luminosity of cosmic objects

(b) Distances between cosmic objects

(c) Various identifications and associated measurements of planetary elements of our solar system

(d) Observation of the sun: photosphere, chromosphere, corona, sunspots etc.

(e) Stellar astrophysics: Hubble expansion, red-shift estimation of distant galaxies etc.

(f) Photometric studies

(2) Outreach Programme:

There will be a vigorous Outreach Programme, particularly for educational organisations in the Howrah region. There will be introductory lessons on telescopes with hands-on training on how to handle one. These are bound to become popular with young minds at the middle and high school levels. There will also be sighting programmes aimed at making children familiar with the heavenly bodies. This will break down the barriers of superstition sometimes associated with these objects.

For college level students lunar, planetary and solar system and deep sky stellar observation programmes will be arranged. College physics departments will be encouraged to send interested students to work out small projects on astronomy based on their interests.

At some specific time of the year (preferably during winter) "Open House" programmes for young students and the common public are also being planned.