I. Telescope Tests

1. Find M15, M27 or one specified star.
2. Estimate the magnitude of a specified star.
3. Evaluate the angle distance of two stars.

II. Tests in the Planetarium

1. The showing is the night sky in Beijing on 21 o'clock tonight. You have two minutes to observe it.
The examiner will point 5 constellations using the laser pen one by one. Each constellation will be pointed about 1 minute. Write down the name of the five constellations. 25 points in total and 5 points per constellation.

Answer:

Cygnus (Cyg), south fish place (Psa), Delphinus (Del), corona borealis (Crb), proxima centauri (Sgr)

2. Write down any five constellations that lie on current celestial equator. 10 minutes, 25 points. More than five constellations, no additional points.

marking criterion:

Virgo (Vir), Serpens (Ser), Ophiuchus (Oph), Aquila (Aql), Aquarius (Aqr), Pisces (Psc), Cetus (Cet).

-- One constellation (included in the above 7 constellations), 5 points.

Libra (Lib), Hercules (Her), Scutum (Sct), Delphinus (Del), Equuleus (Equ), Pegasus

The Problem

Every team is given 10 minutes to assemble a telescope with an equatorial mount, so that it is ready for tonight's observation.

Once the competition starts, the assembling procedure will be monitored and judged by a jury, for any mistake in the process. And the assembling process will be timed. When the assembling is finished, the students of the group should raise their hands to indicate the assembling is completed. The jury should record the time taken for the assembling, after which the students should not be allowed to touch the telescope again. After the jury has checked the assembled telescope for the assembling quality, the participating group should take apart the telescope assembly and restore the various parts to the condition as they were before the assembling process.

The coordinates of Beijing is (116°48', 40°32')

Procedure:

The competition is divided into 4 rounds, with each round having 6 teams participating. The team with highest overall score wins.

Marking scheme

1. Time taken for the assembly: 50%
2. Team participation and collaborating skills: 20%
3. Major mistakes: 30%:
   a) The balance of the telescope, in both axes.
   b) Is the parts corrected put together: finder scope, fine adjustment knobs in both axes, and eyepieces, etc.
   c) Are all the screws and knobs securely fastened?
   d) Is the polar axis roughly adjusted? (The participants will be given the rough condition of the North.)