Coursework Component

In addition to the written end test paper candidates are required to undertake a simple practical project during the course. A notebook or folder showing a record of this practical work is to be submitted for assessment towards the end of the course. This coursework component of the course will represent 25% of the final mark.

On receipt and marking of both the end test and the coursework a Planet Earth certificate will be issued stating the grade achieved for the course as well as confirming the course was to a GCSE standard.

PEC Coursework

The coursework component is weighted at 25% of the total assessment.

Choose **one** task from this list.

Unaided Observations

A1 Lunar Features
Produce a series of naked eye drawings of three lunar surface features. Use them to show their changing appearance at different lunar phases.

A2 Meteor Shower
Observe a meteor shower. Record meteor trails on a drawing of the stellar background from sketches and estimate magnitudes of the meteors. Locate and show the position of the radiant.

A3 Drawings of Lunar or Solar Eclipse
Using a suitable method of observation)lunar - direct, solar - pinhole projection) produce a series of drawings showing the progress of a lunar or solar eclipse.

WARNING: The Sun must NOT be viewed directly, with or without optical aids.

A4 Constellation Drawings
Observe and make detailed drawings of three different constellations, recording dates, times, seeing and weather conditions and noting colours (if possible) and magnitudes by comparison with reference stars.

A5 Drawings of Celestial Events
Produce a series of drawings to record the passage of a suitable celestial event, for example a transit, occultation or comet.

Aided Observations

B1 Lunar Features
Produce a series of telescopic drawings and/or photographs of three lunar surface features. Use them to show their changing appearance at different lunar phases.

B2 Meteor Shower Photography
Use long-exposure photography to obtain photographs of a meteor shower. Estimate magnitudes of the meteors. Locate and show the position of the radiant.

B3 Photographs of Lunar or Solar Eclipse
Using a suitable method of observation)lunar - direct, solar - pinhole projection) produce a series of photographs showing the progress of a lunar or solar eclipse.

WARNING: The Sun must NOT be viewed directly, with or without optical aids.

B4 Constellation photography
Observe and take detailed photographs of three different constellations, recording dates, times, seeing and weather conditions. Use the photographs to identify colours and magnitudes by comparison with reference stars.

5 Telescopic Drawings or Photographs of Celestial Event
Produce a series of telescopic drawings or photographs to record the passage of a suitable celestial event, for example a transit,

Unaided Observations

A6 Shadow Stick
Use a shadow stick to record the direction of the Sun at different times on at least two days and hence determine (a) the time of local noon and (b) the observers longitude.

A7 Levels of Light Pollution
Use repeated observations of the faintest stars observable to quantify the effect of light pollution at two different sites.

A8 Sunspots
Use a pinhole to **project**an image of the Sun onto a suitable background and observe and record sunspots over a sufficiently long period of time to determine the Sun's rotation period.
WARNING: The Sun must NOT be viewed directly, with or without optical aids.

A9 Light Curve of a Variable Star
Use a series of naked eye estimates of the magnitude of a suitable variable star over a sufficient period of time to determine the period of the star.

A10 Estimating Stellar Density
By counting the numbers of visible stars within a certain area of sky, estimate and compare the density of stars in the sky, parallel with and perpendicular to the plane of the Milky Way.

Aided Observations

occultation or comet.

B6 Sundial
On at least three widely-spaced dates, compare the time shown on a correctly-aligned sundial with local mean time. Use these data to determine the accuracy of the sundial used.

B7 Photographic Measurement of Levels of Light Pollution
Use the magnitudes of the faintest stars visible in long exposure photographs to quantify the effect of light pollution at two different sites.

B8 Sunspots
Use a small telescope to **project**an image of the Sun onto a suitable background and observe and record sunspots over a sufficiently long period of time to determine the Sun's rotation period.
WARNING: The Sun must NOT be viewed directly, with or without optical aids.

B9 Light Curve of a Variable Star
Use a series of telescopic estimates of the magnitude of a suitable variable star over a sufficient period of time to determine the period of the star.

B10 Measuring Stellar Density
Use binocular/telescopic observations or original photographs to measure and compare the density of stars in the sky, parallel with and perpendicular to the plane of the Milky Way.

B11 Drawings of Messier Objects
Use binoculars/telescope/robotic telescope to produce detailed drawings and/or photographs of at least three Messier/NGC objects.

B12 Measuring the Sidereal Day
Take long-exposure photographs of the circumpolar stars around Polaris or the south celestial pole and use them to determine the length of the sidereal day.