(12)

Your Roll No. .....

UNIVERSITY OF DELHI

Department of Physics & Astrophysics

M. Sc. (Physics), III Semester

PHYS-555 (Astronomy & Astrophysics-I)

Internal Assessment-2013

Max Marks:30 Time:1hr 30mins

1. A star has an apparent magnitude of +3.5 when seen from outside the atmosphere. What is the magnitude of the star appears to be when seen through an atmosphere with optical thickness 2.9? 7

2. Find the zenith distance of the Sun on 22nd June at LST=24h at Delhi ($\varphi = 28^0 46'$). 5

3. You make two telescopes of same diameter. If one works at optical wavelength 453nm and the other works at radio wavelength 1cm; which has the better resolution and by what factor? 4

4. At Delhi ($\varphi = 28^0$) at LST=20h, the coordinates of two stars are measured as; for Star1 RA and Dec as 10h and 60^0 & for Star2 the HA and Dec as 5h and 30^0 respectively. Find the angular distance between the stars. 7

5. There are three stars very close to each other and are not eclipsing. If their individual magnitudes are +1.0, 0.0 and -1.0; What is the total magnitude of the triple star system? 7