

STUDENT ID:    -

1. 1. Launch of the Hubble Space Telescope
2. Viking probes arrived at planet Mars
3. Discovery of Phobos and Deimos
4. Latest perihelion of comet 1/P Halley
5. Discovery of Ceres (asteroid / dwarf planet)
6. Discovery of Uranus (planet)
7. First successful measurement of a stellar parallax
8. Discovery of the first planetary nebula
9. Discovery of stellar populations
10. First identification of a quasar with an optical source
11. Discovery of the expansion of the Universe

2. a)  YES  NO
- b)  YES  NO

3. c)  (A)  (B)  (C)  (D)  (E)

4. b)  YES  NO

6. a)  (A)  (B)
- b)  (A)  (B)  (C)  (D)
- d)  (A)  (B)  (C)  (D)  (E)

8. e)  (A)  (B)  (C)  (D)

11. a) • Heart-beat star
- RR Lyrae type (RRab subclass) pulsating variable star
- Eclipsing binary of Algol type (semi-detached) with a pulsating component
- $\alpha^2$  CVn pulsating variable star
- W Vir type (Population II) Cepheid pulsating variable star
- Detached eclipsing binary with strong reflection effect
- Contact eclipsing binary of W UMa type
- Rotationally variable (spotted) star

- b) 1. RW Dor  $P \approx \dots\dots\dots d$
2. FO Eri  $P \approx \dots\dots\dots d$
3. UY Eri  $P \approx \dots\dots\dots d$
4. ST Pic  $P \approx \dots\dots\dots d$
5. AH Col  $P \approx \dots\dots\dots d$
6. VV Ori  $P \approx \dots\dots\dots d$
7. TIC 147272181  $P \approx \dots\dots\dots d$
8. 24 Eri  $P \approx \dots\dots\dots d$

- c)  (A)  (B)  (C)  (D)  (E)

13. f)  (A)  (B)  (C)  (D)  (E)

14. b)  YES       NO
- c)  DEFINITELY YES  
 DEFINITELY NO  
 CLOSE TO THE LIMIT