Reg.No. \_\_\_\_\_\_\_\_\_\_\_\_



**UNIVERSITY**

(Karunya Institute of Technology & Sciences)

(Declared as Deemed-to-be University under Sec.3 of the UGC Act, 1956)

**End Semester Examination – Nov/Dec – 2016**

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|  |  | **Semester :** | **2016-17 ODD** |
| **Code :** | **14PH2017** | **Duration :** | **3hrs** |
| **Sub. Name :** | **ASTROPHYSICS** | **Max. marks :** | **100** |

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

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| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | a. | What is the celestial model put forth by Ptolemy? Explain with necessary diagrams. | CO1 | 10 |
| b. | Write short notes on planets. | CO1 | 5 |
| c. | What are comets? | CO1 | 5 |
| (OR) | | | | |
| 2. | a. | Explain in detail Kepler’s laws of planetary motion with neat diagrams. | CO1 | 10 |
| b. | Describe briefly about asteroids. | CO1 | 5 |
| c. | Which is the biggest planet in the solar system? Explain in brief about its Galilean moons. | CO1 | 5 |
| 3. | a. | How are black holes created in the violent aftermath of a star death? | CO2 | 10 |
| b. | What are neutron stars? | CO2 | 5 |
| c. | White dwarf is the ultimate fate of our Sun. Describe in brief. | CO2 | 5 |
| (OR) | | | | |
| 4. | a. | What is parallax method of finding the distance between the nearby stars? | CO2 | 10 |
| b. | Write short notes on absolute and apparent magnitude. | CO2 | 5 |
| c. | What is luminosity of a star? | CO2 | 5 |
| 5. | a. | Hubble space telescope has revolutionized human understanding of the cosmic surroundings. Elucidate your response with suitable examples. | CO3 | 10 |
| b. | What are the siginificant features revealed by radio astronomy? | CO3 | 5 |
| c. | Write short notes on cosmic microwave background radiation. | CO3 | 5 |
| (OR) | | | | |
| 6. | a. | Write short notes on resolving power, magnifying power and light gathering power of an optical telescope. | CO3 | 10 |
| b. | Chromatic aberration is a big problem of refraction telescope. How can one overcome the same? | CO3 | 5 |
| c. | What are reflecting telescopes? | CO3 | 5 |
| 7. | a. | How are galaxies classified according to their shapes and sizes? With necessary illustration, explain the same. | CO4 | 10 |
| b. | Write short notes on Milky Way galaxy. | CO4 | 5 |
| c. | Stae and explain Hubble’s law. | CO4 | 5 |
| (OR) | | | | |
| 8. | a. | Explain in detail the six steps by which a galaxy is formed in space. | CO4 | 10 |
| b. | Illuminate on super clusters of galaxies. | CO4 | 5 |
| c. | Explain briefly about how galaxies were identified in the first place during the turn of twentieth century. | CO4 | 5 |
|  | | **Compulsory:** |  |  |
| 9. | a. | The Big Bang theory is the most tested theory for the origin of the universe. Illustrate your claim with suitable experimental evidence for the same. | CO5 | 10 |
| b. | Write short notes on inflation. | CO5 | 5 |
| c. | How is the universe likely to end? State one theory and explain the same about the end of the universe. | CO5 | 5 |

ALL THE BEST