

THE KAVERY ENGINEERING COLLEGE*(An Autonomous Institution)***B.E/B.TECH DEGREE END SEMESTER THEORY EXAMINATIONS, APRIL-MAY 2025*****Sixth Semester******Electronics and Communication Engineering*****OAS351 – Space Science*****(Common to Computer Science and Engineering)******Regulations - 2021******Duration : 3 Hrs******Maximum : 100 Marks******PART – A (ANSWER ALL QUESTIONS) (Marks 10*2=20)***

Q.No	Questions	BLT	CO	Marks
1.	What is Newton's law of gravitation?	L1	1	2
2.	Outline the applications of space science.	L2	1	2
3.	For some clusters, velocity is measured as $v = 10^3$ km/s. What is the distance? Assume $H_0 = 60$ km/s s/Mpc.	L2	2	2
4.	List the properties of cosmic microwave background.	L1	2	2
5.	What are active galaxies?	L1	3	2
6.	State the principle behind galactic rotation.	L2	3	2
7.	Infer about stellar evolution.	L2	4	2
8.	What is the use of Chandrasekhar limit?	L1	4	2
9.	What correction did newton made to Kepler's third law?	L1	5	2
10.	Define a satellite.	L2	5	2

PART – B (ANSWER ALL QUESTIONS) (Marks 5*16 = 80)

Q.No	Questions	BLT	CO	Marks
11.	a How would you summarize the historical development of space science?	L2	1	16
	Or			
	b Explain each of the fundamental physical principles with necessary equations.	L2	1	16
12.	a i Explain the Hubble's expansion modal of the universe and also explain its limitations.	L2	2	10
	i Explain the three units derived from Hubble constant.	L2	2	6

Or

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| b | i | How would you compare dark matter and dark energy? | L2 | 2 | 10 |
| | i | Explain about Neutrinos and summarize its applications in the field of science. | L2 | 2 | 6 |

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| 13. | a | How would you show your understandings in explaining the functions of Quasars? | L3 | 3 | 16 |
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Or

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| b | Identify the effects of Galactic magnetic fields and cosmic rays. | L3 | 3 | 16 |
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| 14. | a | Illustrate how the elements are formed with the aid of Nucleo – synthesis. | L2 | 4 | 16 |
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Or

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| b | Explain the Harvard classifications system of stars with their temperature ranging. | L2 | 4 | 16 |
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| 15. | a | Deduct the observations you extract from Kepler's law of planetary motion and also explain Newton's deduction from Kepler's laws. | L5 | 5 | 16 |
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Or

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| b | i | How could you determine the mass of the earth? | L5 | 5 | 8 |
| | i | How could you determine the mass of planets with respect to the earth? | L5 | 5 | 8 |