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| 1 | Describe stars and interstellar medium. | №1 |
| 2 | Describe the birth of stars. | №1 |
| 3 | Give definition and describe galaxies and quasars. | №1 |
| 4 | Give definition and describe clusters of galaxies. | №1 |
| 5 | Explain the use of physical laws to the study of space objects (stars, cosmic, plasma). | №1 |
| 6 | Describe interaction of radiation with matter. | №1 |
| 7 | Give definition and describe elementary bases of the interaction of matter and radiation. | №1 |
| 8 | Describe radiative transfer equation and its simple solutions. | №1 |
| 9 | Analyze physical processes in celestial sources of radiation. | №1 |
| 10 | Give definition and describe nuclear reactions in stars. | №1 |
| 11 | Analyze nuclear reactions in astronomical objects. | №1 |
| 12 | Characterize the main interactions in stars. | №1 |
| 13 | Explain the theory of weak interactions. | №1 |
| 14 | Explain the theory of strong interactions. | №1 |
| 15 | Explain the theory of electromagnetic interactions. | №1 |
| 16 | Explain the theory of gravity interactions. | №2 |
| 17 | Give the characteristics of the interactions and reactions of two-particle types. | №2 |
| 18 | Energy and mechanisms of nuclear fission. | №2 |
| 19 | Characterize the structure and properties of neutron stars, quasars. | №2 |
| 20 | Describe the explosions of supernovae. | №2 |
| 21 | Analyze modern theoretical ideas about the nature of stars and their systems. | №2 |
| 22 | Explain modern problems of astrophysics. | №2 |
| 23 | Analyze physical methods of research of space objects. | №2 |
| 24 | Describe the use of the achievements of nuclear physics to the study of cosmic phenomena. | №2 |
| 25 | Give the characteristics of nuclear reactions in astrophysical objects. | №2 |
| 26 | Give the characteristics of databases on nuclear reactions. | №2 |
| 27 | Give the characteristics of astrophysical observations. | №2 |
| 28 | Give the characteristics of nuclear interactions in compact objects. | №2 |
| 29 | Give the characteristics of physical observables in High Density astrophysical objects. | №2 |
| 30 | Describe the latest discoveries and developments in the study of the universe in recent years. | №2 |
| 31 | Explain Big Bang Theory (first five minutes). | №3 |
| 32 | Describe first nuclear reactions in BBT | №3 |
| 33 | Analyze formation and evolution of Stars | №3 |
| 34 | Explain the relict radiations | №3 |
| 35 | Give definition and describe fundamental Interactions and Forces. | №3 |
| 36 | Give definition and describe physics of Elementary particles | №3 |
| 37 | Explain types of nuclear reactions that happen inside of stars | №3 |
| 38 | Explain interstellar and stars medium. | №3 |
| 39 | Explain the use of physical laws to the study of the universe as a whole. | №3 |
| 40 | Give the characteristics of the explosions of quasars. | №3 |
| 41 | Describe the periodic emissions of radiation waves from pulsars. | №3 |
| 42 | Describe the explosions of neutron stars. | №3 |
| 43 | Explain astrophysical observations. | №3 |
| 44 | Analyze the latest discoveries and developments in the study of the universe in recent years. | №3 |
| 45 | Physical methods of research of space objects. | №3 |