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| S NO | APPLICATION DOMAIN | COMPLEX PROBLEM IDENTIFIED | JUSTIFICATION |
| 1 | ENVIRNOMENTAL | The humanity mitigate the effect is the climate change and reduce carbon emissions to limit global warming . | It’s a pressing and complex challenge. It will take not just technological innovation in renewable energy and carbon capture but also radical economic, social and political change. Moves away from fossil fuels, managing land use and changing consumption patterns are all difficult, given entrenched interests and international inequalities. Also, the long tail of climate change makes for perplexing short-term policymaking, and feedback loops in ecosystems make uncertainty a tighter shroud. |
| 2 | Quantum of gravity | How can the quantum mechanics and of general relativity be the unified into a single coherent theory of quantum gravity. | Quantum mechanics and general relativity are the two pillars of modern physics. But in very extreme conditions — for example, extremely near a black hole or at the beginning of the universe (Big Bang) — they are incompatible. The problem of quantum gravity is that it needs a theory that applies at both very large (cosmic) and very small (subatomic) scales, where the known laws of physics cease to function. |
| 3 | Universal grammar | the universal of grammar that underlies all human languages | The theory of universal grammar posits all human languages are built on a common structure, but pinning down this universal framework is an enormous challenge. However, the challenge is that languages vary tremendously in syntax, morphology, phonology, and semantics. Languages, moreover, are influenced by cultural, historical, and cognitive variables, meaning that it is hard to identify underlying structures that would be genuinely universal across all human speech communities. |