01. Explain with examples how the knowledge of factors like Translation, Transmutation, ambiguity, and diglossia could be utilized in Science and Legal Translations.

02. Explain with examples how the knowledge of Intra-lingual Translation, Inter-lingual Translation denotive, connotative and pragmatic meanings in the Science and Legal Translator.

03. Explain with examples how a Science and Legal Translator can use his practical knowledge of Technical and Non-Technical translation, in his task of translating Science fiction, formal scientific documents and Legal documents.
Artificial intelligence

Artificial intelligence (AI) is the intelligence exhibited by machines. In computer science, an ideal "intelligent" machine is a flexible rational agent that perceives its environment and takes actions that maximize its chance of success at an arbitrary goal. Colloquially, the term "artificial intelligence" is likely to be applied when a machine uses cutting-edge techniques to competently perform or mimic "cognitive" functions that we intuitively associate with human minds, such as "learning" and "problem solving". The colloquial connotation, especially among the public, associates artificial intelligence with machines that are "cutting-edge" (or even "mysterious"). This subjective borderline around what constitutes "artificial intelligence" tends to shrink over time; for example, optical character recognition is no longer perceived as an exemplar of "artificial intelligence" as it is nowadays a mundane routine technology. Modern examples of AI include computers that can beat professional players at Chess and Go, and self-driving cars that navigate crowded city streets.

AI research is highly technical and specialized, and is deeply divided into subfields that often fail to communicate with each other. Some of the division is due to social and cultural factors: subfields have grown up around particular institutions and the work of individual researchers. AI research is also divided by several technical issues. Some subfields focus on the solution of specific problems. Others focus on one of several possible approaches or on the use of a particular tool or towards the accomplishment of particular applications.

The central problems (or goals) of AI research include reasoning, knowledge, planning, learning, natural language processing (communication), perception and the ability to move and manipulate objects. General intelligence is still among the field's long-term goals. Currently popular approaches include statistical methods, computational intelligence and traditional symbolic AI.
The development of new and improved types of ammunition requires a continuous program of research and development. Adoption of an explosive for a particular use is based upon both proving ground and service tests. Before these tests, however, preliminary estimates of the characteristics of the explosive are made. The principles of thermochemistry are applied for this process.

Thermochemistry is concerned with the changes in internal energy, principally as heat, in chemical reactions. An explosion consists of a series of reactions, highly exothermic, involving decomposition of the ingredients and recombination to form the products of explosion. Energy changes in explosive reactions are calculated either from known chemical laws or by analysis of the products.

For most common reactions, tables based on previous investigations permit rapid calculation of energy changes. Products of an explosive remaining in a close calorimetric bomb (a constant-volume explosion) after cooling the bomb back to room temperature and pressure are rarely those present at the instant of maximum temperature and pressure. Since only the final products may be analyzed conveniently, indirect or theoretical methods are often used to determine the maximum temperature and pressure values.

Some of the important characteristics of an explosive that can be determined by such theoretical computations are:

- Oxygen balance
- Heat of explosion or reaction
- Volume of products of explosion
- Potential of the explosive

Some observation you might want to make as you balance an equation:

- The progression is from top to bottom; you may skip steps that are not applicable, but you never back up.
- At each separate step there are never more than two compositions and two products.
- At the conclusion of the balancing, elemental nitrogen, oxygen, and hydrogen are always found in diatomic form.
Child Labour in India

The Indian Parliament time and again has passed Laws and Acts to ensure the protection of children from child labour. The Fundamental Rights enshrined in our Constitution prohibit child labour below the age of 14 years in any factory or mine or engaged in any hazardous employment under Article 24. Apart from this, it is also provided under Article 21-A that State shall provide infrastructure and resources for free and compulsory education for children of the age six up to 14 years.

There exists a set of laws which under the Constitution govern the protection of children from child labour. The Factories Act of 1948 prevents the employment of children below 14 years in any factory. The Mines Act of 1952 prohibits the employment of children below the age of 18 years. The Child Labor (Prohibition and Regulation) Act of 1986 prevents the employment of children below the age of 14 years in life-threatening occupations identified in a list by the law. Further, the Juvenile Justice (Care and Protection) of children Act of 2000 made the employment of children a punishable offence.

It needs to be highlighted that the violation of these provisions means a deprivation of the basic human rights and demeaning the childhood of the children. The law also isn’t very clear as to how where can the children work. The Acts covers only 10 percent of the total working children and thus not applicable to the unorganized sector. The Act also exempts the family of the child labourer from its purview if they all are working with the same employee as that of the child. Although the Act prohibits the employment of children in certain hazardous industries and processes, it does not define what constitutes hazardous work. It only provides a list of hazardous occupations.
Legal Framework for Drug Trafficking


An important purpose of the first two treaties is to codify internationally applicable control measures in order to ensure the availability of narcotic drugs and psychotropic substances for medical and scientific purposes, and to prevent their diversion into illicit channels. They also include general provisions on illicit drug trafficking and drug abuse.

The 1988 United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances extends the control regime to precursors, and focuses on establishing measures to combat illicit drug trafficking and related money-laundering, as well as strengthening the framework of international cooperation in criminal matters, including extradition and mutual legal assistance.

The Commission on Narcotic Drugs, composed of 53 Member States elected by the Economic and Social Council for a four-year term, is the central policy-making body with regard to drug-related matters, including the monitoring of the global trends of illicit drug trafficking and abuse. This functional commission of the Economic and Social Council adopts and recommends for adoption by the Council or to the General Assembly through the Council, resolutions on new concerted measures or agreed policies to better address the drug phenomenon. It decides whether new substances should be included in one of the schedules of the conventions and if changes or deletions in the schedules are required.