**Plastics questions for final exam**

2019

1. Describe the details of radical chain polymerization. Which polymers are polymerized by this technique?

2. Introduce the details of ionic chain polymerization and compare it to the radical chain polymerization technique.

3. Introduce the details of radical copolymerization.

4. Describe the details of step polymerization. Which polymers are polymerized using this techniques?

5. Introduce the effect of stoichiometry of step polymerization and describe those synthesis reaction, which are used to ensure the equimolar reaction.

6. Describe the industrial polymerization techniques.

7. Please describe the precondition of preparing a polymer solution. What is the importance of polymer solution.

8. Describe the state of matter, phase and physical states of polymeric materials. Please describe the mechanism of deformation in each physical state.

9. Describe the thermomechanical curve of amorphous and semicrystalline polymers.

10. Please describe the parameters, which influence the viscosity of the polymers and introduce the mechanism of flow.

11. Introduce the types of fluids and describe the change in viscosity in the entire shear rate range.

12. Please introduce the extrusion process of polymers. Describe the parts of the extruder line. What kind of products can be made using extrusion?

13. Please describe the material transport zones in the extruder and introduce the melting process in details.

14. Introduce the melt flows of the polymer in the melt pumping zone of the extruder. Interpret the optimal working point of the extruder.

15. Describe the extrusion blow process. What kind of process can be produced with this technique.

16. Introduce the injection molding process and injection molding cycle. Describe the parts of the injection molding machine.

17. Introduce the parts of the injection molding unit in details? What special part do the injection molding unit contains.

18. Describe the constitution of the mold in the injection molding machine.

19. Please describe the possible techniques, which can be used for the production of hollowed articles.

20. Describe the possible degradation and stabilization of polymeric materials.

21. Describe the process of fiber pulling and foam processing in details.

22. Introduce the technique of thermoforming. What kind of product can be made with this technique.

21. Introduce the application of polymeric materials.

22. Introduce the environmental aspects of polymeric materials.