



HÖGSKOLAN I BORÅS
VETENSKAP FÖR PROFESSION

Polymer Technology

7.5 ECTS

Ladok code: 42RP07

The exam is given to:

ExamCode: _____

Date of Re-exam: 2017-03-17

Time: 09:00-13:00

Means of assistance:

Total amount of point on exam:: 50p

Requirements for grading:

ECTS: E: 26-30 p, D: 31-35 p, C: 36-40 p, B: 41-45 p, A: 46-50 p.

Additional information:

Attempt any 5 questions out of 6.



Next exam date:

The results are for the most part posted within three weeks after the exam, otherwise it's the following date:

Important! Do not forget to write the ExamCode on each paper you hand in.

Good Luck!

Examiner: Tariq Bashir

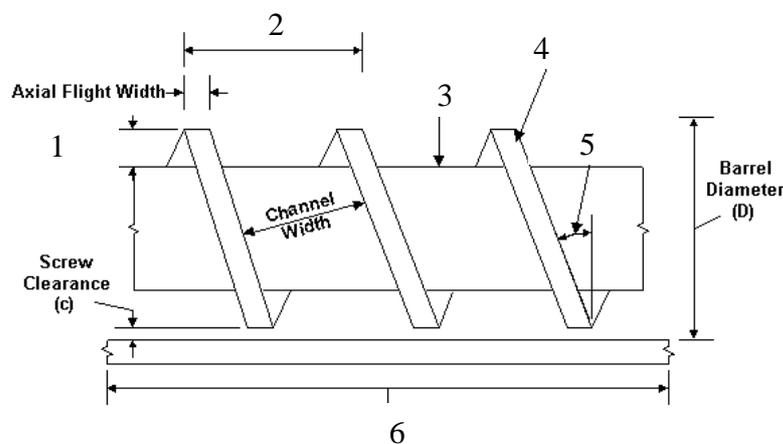
Phone number: 033-4355922, 076-0809264

Question#1

- a) What is the function of impact modifier in plastic products? How it works? (3)
- b) Under what conditions a plasticizer works as a hardener? (2)
- c) How the bleeding in plastic products can be minimized? (2)
- d) What are the master batches? Why sometime they are necessary to produce before processing plastic products? (3)

Question#2

- a) Label the diagram below? (3)



- b) What is the aspect ratio of extruder and why it is important to know? (2)
- c) What is surging phenomenon in extrusion process? Write three main reasons for this problem. (3)
- d) What is the difference between flood feeding and starve feeding? (2)

Question#3

- a) How the hot runners are beneficial as compared to the cold runners. (2)
- b) What is die swell? How it can be minimized in fiber melt spinning process. (3)
- c) How the fiber properties affected by polymer molecular weight and MFI? (3)
- d) Why the cycle time in injection molding process is important? (2)

Question#4

- a) Bulk molding compounds (BMC) and sheet molding compounds (SMC) are used to prepare polymer composite materials. What is the difference between them? How the SMC can be prepared? (3)

- b) Why fiber orientation in polymer composites is important? (2)
- c) What is resin transfer molding process (RTM)? Write some advantages and disadvantages? (2)
- d) Write the steps involved in wet hand lay-up process. (3)

Question#5

- a) What are the reasons of melt fracture in extrusion blown film process? (2)
- b) What is the Patagonia process of textile recycling? (2)
- c) What is autoclave process for the processing of PMCs? (3)
- d) What is Corona treatment? How the amount of resin can be controlled in filament winding process? (3)

Question#6

- a) Define melt flow index. Why it is so important in polymer processing? (3)
- b) Write the names of different gates used in molds of injection molding machine. (3)
- c) What is the function of breaker plate and screen pack in melt spinning process? (2)
- d) How plasticizers differ from lubricating agents? (2)