

Question Paper

Exam Date & Time: 20-Apr-2018 (09:30 AM - 12:30 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

INTERNATIONAL CENTRE FOR APPLIED SCIENCES

FOURTH SEMESTER B.S. (ENGG)

END-SEMESTER THEORY EXAMINATIONS APRIL - 2018

DATE: 20 APRIL 2018

TIME: 9:30AM TO 12:30PM

Process Plant Materials [CHM 241]

Marks: 100

Duration: 180 mins.

Answer 5 out of 8 questions.

- 1) Identify the corrosion associated with small volume of stagnant solution caused by gasket surface and lap joints. Explain its mechanism with a neat diagram. (10)
 - A)
 - B)
- 2) List the type of inhibitors and explain the working of any four of them. (10)
 - A)
 - B)
- 2) Explain the Hydrogen blistering with its mechanism. Also write a note on its prevention. (10)
 - A)
 - B)
- 3) With a neat diagram explain the process of injection moulding used in shaping of polymeric material. (10)
 - A)
 - B)
- 3) Starting from design of vessel lining, explain the manufacturing of rubber lined equipment. (10)
 - A)
 - B)
- 4) Give the uses (any 4) of the following in chemical industry. (10)
 - (i) Stoneware (ii) carbon/ graphite (iii) Wood (iv) Natural rubber (v) Asbestos
- 4) Write a note on (20)
 - (a) Types of stainless steel.
 - (b) Styrene Butadiene rubber.
 - (c) Alloys of copper.
 - (d) Cement (6+4+6+4)
- 5) Describe how Brinells test for metals performed . (10)
 - A)
 - B)
- 6) List the stages in liquid dye penetration test and explain each one of them. (10)
 - A)
- 6) Explain the working of the extrusion equipment used for fabrication of metal. (10)
 - A)

- B) Explain the five stages in selection of any material used in industry. (10)
- 7) Compare and contrast LDPE and HDPE (any 5 points) (10)
- A)
- B) Write about the advantage and disadvantage of Fiber reinforced Plastic (10)
- 8) Explain the mechanism of Cavitation damage with neat diagram. List out any three prevention methods. (10)
- A)
- B) Define (10)
- (i) ductility
 - (ii) resilience
 - (iii) fatigue
 - (iv) creep
 - (v) brittleness

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