Code No: RT22033 **R13** SET - 1

II B. Tech II Semester Regular/Supplementary Examinations, April/May-2017
PRODUCTION TECHNOLOGY
(Mechanical Engineering)

Time: 3 hours Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B)**
2. Answer **ALL** the question in **Part-A**
3. Answer any **THREE** Questions from **Part-B**

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PART –A

1. a) List the basic ingredients of moulding sand and their purpose
   b) Explain the term weld ability. Give two examples of wieldable metals/alloys
   c) Define the term forge ability and state the commonly used test for its assessment
   d) What are the advantages of special casting processes over sand casting process?
   e) Differentiate between cold working and hot working
   f) Differentiate between oxy-acetylene and air-acetylene welding (3M+4M+4M+4M+4M+3M)

PART –B

2. a) What are the functions of gating and rise ring?
   b) Describe various materials used for making patterns. What are its merits and demerits
   c) What are the basic requirements of core sand? How does it differ from the moulding sand? (5M+6M+5M)

3. Explain in detail various process steps in investment casting process giving process details, process capabilities and their applications (16M)

4. a) Give a brief account of classification of welding processes?
   b) Explain TIG welding process variables and enumerate its advantages (6M+10M)

5. Describe in detail any two resistance welding processes with neat sketches their advantages, disadvantages and applications (16M)

6. a) Describe the principle of rolling. Write the various kinds of rolling mills along with their applications
   b) What are the types of power hammers available and explain the pneumatic hammer with a neat sketch (8M+8M)

7. a) What is springback effect in metal beading? Explain.
   b) Explain blow moulding process with help of sketches (6M+10M)
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Code No: RT22033 **R13** SET - 2

II B. Tech II Semester Regular/Supplementary Examinations, April/May-2017
PRODUCTION TECHNOLOGY
(Mechanical Engineering)

Time: 3 hours Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B)**
2. Answer **ALL** the question in **Part-A**
3. Answer any **THREE** Questions from **Part-B**

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PART –A

1. a) Define the term green strength and explain its importance in the context of moulding
b) What are the defects in casting processes?
c) What are the advantages of submerged arc welding process?
d) How special forming process is defined
e) What are the general advantages of forging as a manufacturing process?
f) Differentiate between blanking and piercing (4M+3M+4M+4M+4M+3M)

PART –B

2. a) What are the factors which govern the selection of a proper material for pattern making?
b) What are the specific advantages of match plate patterns? Explain how they are used for making mould (8M+8M)

3. Explain in detail various process steps in centrifugal casting process giving process details, process capabilities and their applications (16M)

4. a) Describe shielded metal arc welding process with suitable diagram. What are its applications?
b) What is the difference between welding, brazing and soldering process? (8M+8M)

5. Discuss in detail thermit welding and forge welding. Also list their applications. (16M)

6. Explain different types of forging processes with sketches. Also list out product applications of each process (16M)

7. a) Explain blow moulding process with its salient features
b) What are the additives to be mixed in processing plastics and explain the purpose of each? (8M+8M)
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Code No: RT22033 **R13** SET - 3

II B. Tech II Semester Regular/Supplementary Examinations, April/May-2017
PRODUCTION TECHNOLOGY
(Mechanical Engineering)

Time: 3 hours Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B)**
2. Answer **ALL** the question in **Part-A**
3. Answer any **THREE** Questions from **Part-B**

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PART –A

1. a) Differentiate between casting and pattern
   b) Differentiate between brazing and braze welding
   c) Define the term spring back
   d) How hot working is predicted in terms of stress strain in formability
   e) Discuss in brief open die and closed die forging
   f) Explain about stretch forming. (4M+4M+3M+4M+4M+3M)

PART –B

2. a) Classify the types of patterns and sketch any three of them
   b) What is core and explain how to make a core? (8M+8M)

3. Explain in detail various process steps in investment casting process giving process details, process capabilities and their applications (16M)

4. a) Describe metal inert Gas arc welding process with a neat sketch.
   b) Briefly explain on butt welding process (8M+8M)

5. Discuss in detail plasma welding and laser welding. Also list their applications. (16M)

6. Explain with sketches impact extrusion and hydrostatic extrusion. Also list out product applications of each process (16M)

7. a) Explain the transfer moulding process
   b) Why screw injection moulding machine is better than a ram type injection moulding machine? (6M+10M)
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Code No: RT22033 **R13** SET - 4

II B. Tech II Semester Regular/Supplementary Examinations, April/May-2017
PRODUCTION TECHNOLOGY
(Mechanical Engineering)

Time: 3 hours Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B)**
2. Answer **ALL** the question in **Part-A**
3. Answer any **THREE** Questions from **Part-B**

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PART –A

1. a)What are different types of pattern
b) Give any two merits and demerits of investment casting process
c) What are the different types of gas flames? How are they formed?
d) Differentiate soldering and brazing
e) What is the difference between stretch forming and bending?
f) Enumerate the various machines used in sheet metal working. (4M+4M+4M+3M+4M+3M)

PART –B

2. a) What are the factors which govern the selection of a proper material for pattern making?
b) What are the specific advantages of match plate patterns? Explain how they are used for making mould (8M+8M)

3. a) Explain the construction and operation of Cupola furnace with diagram
b) Write a short note on Chills (12M+4M)

4. a) Distinguish between gas and arc welding
b) What are the advantages of welding?
c) Explain percussion welding (6M+5M+5M)

5. Describe in detail any two resistance welding processes with neat sketches their advantages, disadvantages and applications (16M)

6. Explain different types of extrusion processes with sketches. Also list out product applications of each process (16M)

7. a) What is deep drawing operation? Explain with a neat sketch.
b) Explain the characteristic features of sheet metal used in forming process (8M+8M)
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