QPC: RJ19BTECH129 AR 19 Reg. No | | | | | | | | | | |

GIET UNIVERSITY, GUNUPUR – 765022

B. Tech (Fourth Semester – Regular) Examinations, June – 2021

BPCME 4020 – Manufacturing Science - I

(Mechanical Engineering)

Time: 2 hrs Maximum: 50 Marks

Answer ALL Questions

The figures in the right hand margin indicate marks.

PART – A: (Multiple Choice Questions) **(1 x 10 = 10 Marks)**

Q.1. Answer ***ALL*** questions			[CO#]	[PO#]
a.	Which of the following is not counted among the limitations of pressure die casting?		CO1	PO 1
	(i) High cost	(ii) Low scale production		
	(iii) Castings are porous	(iv) Only small parts can be produced		
b.	In pressure die casting, what is the minimum pressure that can be applied?		CO1	PO 1
	(i) 50 kg/cm^2	(ii) 60 kg/cm^2		
	(iii) 70 kg/cm^2	(iv) 80 kg/cm^2		
c.	In cold chamber die casting, what is the minimum pressure that can be applied?		CO1	PO 1
	(i) 140 kg/cm^2	(ii) 150 kg/cm^2		
	(iii) 180 kg/cm^2	(iv) 200 kg/cm^2		
d.	Which kind of resistance is experienced in upset butt welding?		CO2	PO1
	(i) Electric resistance	(ii) Thermal resistance		
	(iii) Air resistance	(iv) Magnetic resistance		
e.	Which of the following can be easily be welded from flash butt welding process?		CO2	PO1
	(i)Lead	(ii)Tin		
	(iii)Carbon Steel	(iv)Cast Irons		
f.	Which of the following is not a type of developer?		CO2	PO 1
	(i) Water soluble developer	(ii) Oil soluble developer		
	(iii) Water suspendible developer	(iv) Dry powder		
g.	Which of the following processes is not the type of bulk forming process in the metal forming?		CO3	PO1
	(i) Bending	(ii) Rolling		
	(iii) Forging	(iv) Extrusion		
h.	Which of the following metal forming processes is best suitable for making the wires?		CO3	PO1
	(i) Forging	(ii) Drawing		
	(iii) Extrusion	(iv) Rolling		
i.	In powder metallurgy, range of particle size (in microns) is		CO4	PO1
	(i) 0.300 to 0.003	(ii) 4 to 200		
	(iii) 5000 to 6000	(iv) 100 to 2000		
j.	Plastics are divided into thermoplastic and thermosetting on the basis of their _____		CO4	PO1
	(i) Physical properties	(ii) Structure		
	(iii) Mechanical properties	(iv) Behaviour with respect to heating		

PART – B: (Short Answer Questions) **(2 x 5 = 10 Marks)**

Q.2. Answer ***ALL*** questions	[CO#]	[PO#]
a. What are the materials used in making patterns?	CO1	PO1
b. List any four types of patterns	CO1	PO1
c. What are the power sources used in arc welding?	CO2	PO2
d. Explain the extrusion principle.	CO3	PO1
e. Describe the powder manufacturing processes.	CO4	PO1

PART – C: (Long Answer Questions) **(6 x 5 = 30 Marks)**

Answer ***ANY FIVE*** questions	Marks	[CO#]	[PO#]
3. Describe the pattern allowances with neat sketches.	6	CO1	PO1
4. Discuss the defects in castings and their remedies.	6	CO1	PO3
5. Explain the gas cutting process with suitable sketches.	6	CO2	PO1
6. Explain the arc welding process and state the advantages and disadvantages.	6	CO2	PO2
7. Discuss the forging defects in detail.	6	CO3	PO1
8. Discuss the press tool design.	6	CO3	PO3
9. Explain the post processing of parts manufactured through powder metallurgy.	6	CO4	PO1
10. Discuss the harmful effects of using and unsafe disposal of plastics.	6	CO4	PO7

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