Subject: Automation – Pneumatics & Hydraulics   **Total Time: 2 Hr.**
Subject Code: CP01505T   **Total Marks: 50**

PART B

1.0 ANSWER ANY EIGHT OF THE FOLLOWING   2*8=16

1.1 Define Pneumatics and Hydraulics

1.2 Mention various applications of Pascal's Law?

1.3 List any three advantages of Sliding Vane Rotary Compressor

1.4 Differentiate between 'Theoretical Volume & Effective Delivery Volume'.

1.5 Define DEW Point

1.6 What is a Non Return Valve?

1.7 Draw the valve symbol of 'OR ' and 'AND' Logic function.

1.8 Briefly explain the working of a Hydraulic Intensifier

1.9 Why air dehydration method is used in compressor?

1.10 What do you mean by Venturi Effect?

2.0 ANSWER ANY SIX OF THE FOLLOWING   3*6=18

2.1 What do you understand by the term Specific Weight?

2.2 List any six applications of 'Pneumatic System'.

2.3 Explain combined gas laws in detail

2.4 Name different methods of compressor regulation.

2.5 Draw the symbol of air service unit (FRL unit).

2.6 Differentiate between single acting cylinder and double acting cylinder.

2.7 Briefly explain, one way flow control valve with symbol.

2.8 Classify the types of Hydraulic Pumps'.

3.0 ANSWER ANY FOUR OF THE FOLLOWING   4*4=16

3.1 Explain on-off regulation in detail with a neat sketch

3.2 Explain adsorption drying process with a neat sketch.

3.3 With a neat sketch, explain the working of a Pressure Relief Valve.

3.4 List out the advantages of hydraulic system

3.5 Briefly explain any four common properties of a fluid

3.6 Explain exhaust regulation with neat sketch.

NETTUR TECHNICAL TRAINING FOUNDATION
DIPLOMA IN TOOL AND DIE MAKING - CP01
V SEMESTER SUPPLEMENTARY EXAMINATION –JAN 2023

Subject: CNC Technology **Total Marks : 50**
Subject Code: CP01 05 05 **Total Time : 2H**

PART B

1.0 ANSWER ANY EIGHT OF THE FOLLOWING **2*8=16**
1. 1   List the different types of canned cycle used in CNC turning centers.
1. 2   What is dwell? Explain its necessity.
1. 3   List the various components in a robot.
1. 4   Define digitizing?
1. 5   Define Robot?
1. 6   Explain the following G-codes-a)G02 b)G03
1. 7   What do you mean by the term flexibility in FMS?
1. 8   Explain the following G-codes-a)G40 b)G41 c)G42
1. 9   Write difference between M00 and M30?
1. 10 Write difference between programme stop and optional stop.

2.0 ANSWER ANY SIX OF THE FOLLOWING **3*6=18**
2. 1   Explain Rough turning cycle format.
2. 2   Write short note on FMS?
2. 3   What are the various types of flexibilities that are relevant?
2. 4   What are the laws of robotics?
2. 5   List five M-codes
2. 6   Write the functions of following G codes. (a) G04 (b) G50 (c) G28 (d) G42.
2. 7   What are the support equipments required in FMS?
2. 8   List the factors which influence the need for robots.

3.0 ANSWER ANY FOUR OF THE FOLLOWING **4*4=16**
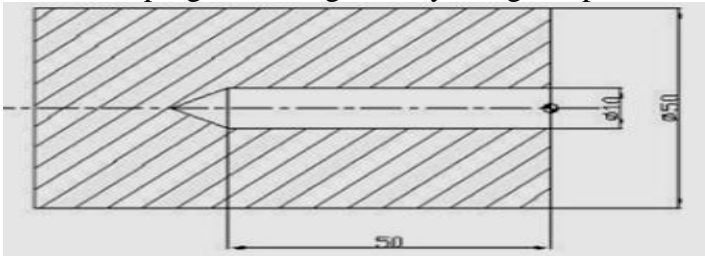3. 1   Write Part program for figure.1 by using Deep Hole Drilling cycle.

Fig.1

3. 2   Define following: (a) Preparatory Function (b) Miscellaneous Function (c) Feed Function
3. 3   What are the benefits of FMS?
3. 4   Explain the working principle of LASER.
3. 5   Explain with neat sketch axis nomenclature of CNC turning centre.
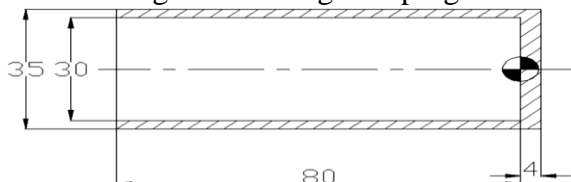3. 6   Write Facing and Turning Part program for figure.2 by without canned cycle.

Fig.2

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