A   Reg. No. :

Question Paper Code: 59G51

B.E./B.Tech. DEGREE EXAMINATION, DEC 2021

Interdisciplinary

Mechanical Engineering

15UGM951 – SMART MANUFACTURING

(Common to Information Technology)

(Regulation 2015)

Duration: Three hours   Maximum: 100 Marks

Answer ALL Questions

PART A - (5 x 1 = 5 Marks)

1. Steam engine related with_____   CO1- R

   (a) Industry 1.0   (b) Industry 2.0   (c) Industry 3.0   (d) Industry 4.0

2. Advantages of Material Jetting is the ability to produce,   CO2- R

   (a) Multi-material products   (b) Multi-color products

   (c) Both (a) and (b)   (d) None of the above

3. Industrial Robots are generally designed to carry which of the   CO3- R
   following coordinate system(s).

   (a) Cartesian coordinate systems   (b) Polar coordinate systems

   (c) Cylindrical coordinate system   (d) All of the above

4. What is the size of the IPv6 addressed?   CO4- R

   (a) 32 bits   (b) 64 bits   (c) 128 bits   (d) 256 bits

5. Which cloud supports specific workloads ____   CO5- R

   (a) Private cloud   (b) Public cloud   (c) Hybrid cloud   (d) All of the above

PART – B (5 x 3= 15 Marks)

6. List the elements of smart factory.   CO1- R

7. List the advantages of additive manufacturing.   CO2- U

8. Write about robot applications in modern manufacturing industry.   CO3- U

9. List the IoT Manufacturing applications. CO4- R

10. What are stages involved in evolution of cloud computing? CO5- R

PART – C (5 x 16= 80Marks)

11. (a) Classify drivers of industry 4.0 and explain in detail. CO1-U (16)

Or

(b) Difference between Industries 4.0 and the IoT. CO1-U (16)

12. (a) Explain about additive manufacturing process and discuss about CO2-U (16)
any one of AM process with its application.

Or

(b) Describe the tools of Reverse Engineering in detail. CO2-U (16)

13. (a) Explain about Artificial Intelligence and Robotics. CO3-U (16)

Or

(b) Explain about robot applications in material transfer and machine CO3-U (16)
loading

14. (a) Explain the stage of IoT Architecture. CO4- U (16)

Or

(b) What is Internet of Things (IoT). What are the components CO4- U (16)
required to design IoT Devices?

15. (a) Compare any four Iaas providers with respect to hypervisor CO5- Ana (16)
technology, billing, scaling, and processor and API access.

Or

(b) Compare various Saas integration platforms CO5- Ana (16)

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