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Question Paper Code: 59051

B.E./B.Tech. DEGREE EXAMINATION, NOV 2018

Interdisciplinary Elective Course

Mechanical Engineering

15UGM951 – SMART MANUFACTURING

(Common to Information Technology)

(Regulation 2015)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. Industry 2.0 related with CO1- R
(a) Electrical drives (b) Steam engine
(c) Cloud computing (d) All of these
2. Cloud computing related with _____ CO1- R
(a) Industry 1.0 (b) Industry 2.0 (c) Industry 3.0 (d) Industry 4.0
3. _____ is not an example of additive manufacturing. CO2- R
(a) CNC (b) SLA (c) SLS (d) DMLS
4. Additive Manufacturing is an appropriate name to describe the technologies that build _____. CO2- R
(a) 3D objects (b) 2D objects (c) Both (a) and (b) (d) None of the above
5. Which of the following work is done by General purpose robot? CO3- R
(a) Part picking (b) Welding (c) Spray painting (d) All of the above

6. In which of the following operations Continuous Path System is used CO3- R
- (a) Pick and Place (b) Loading and Unloading
- (c) Continuous welding (d) All of the above
7. What is the size of the IPv6 addressed? CO4- R
- (a) 32 bits (b) 64 bits (c) 128 bits (d) 256 bits
8. Which one is not an element of IoT CO4- R
- (a) People (b) Process (c) Security (d) Things
9. Example for private cloud vendor _____ CO5- R
- (a) Eucalyptus (b) Open nebula (c) Both a & b (d) None of the above
10. From the following which is not a Saas platform _____ CO5- R
- (a) Jitterbit (b) Boomi (c) Snap logic (d) None of the above

PART – B (5 x 2= 10Marks)

11. Define CPS. CO1- R
12. Classify additive manufacturing. CO2- U
13. List the various types of Robot coordination systems. CO3- U
14. Draw the future ICT-empowered interaction-rich Smart Grid. CO4- R
15. Write short notes about Amazon Web service. CO5- R

PART – C (5 x 16= 80Marks)

16. (a) Explain about Cyber Physical System. CO1-U (16)
- Or
- (b) Explain about Internet of Things with necessary diagram. CO1-U (16)
17. (a) Explain about Selective Laser Sintering method with neat sketch and mention the advantages and disadvantages of this method. CO2-U (16)
- Or
- (b) With neat sketch explain about Material Jetting method and mention its advantages and disadvantages. CO2-U (16)

18. (a) Assume the future robotic technology and tasks. CO3-Ana (16)
- Or
- (b) Identify and discuss about social and labor issues related to robotic applications in modern manufacturing industry. CO3-Ana (16)
19. (a) Examine the applicability of future ICT-empowered interaction in rich Smart Grid. CO4- App (16)
- Or
- (b) Inspect the difficulties in implementing commercial building automation in the future. CO4- App (16)
20. (a) Compare any four IaaS providers with respect to hypervisor technology, billing, scaling, and processor and API access. CO5- Ana (16)
- Or
- (b) Compare various SaaS integration platforms. CO5- Ana (16)

