Question Paper Code: 98174

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2024

One credit

Civil Engineering

19UCE874 - DRONE SURVEYING

(Regulations 2019)

(Common to All Branches)

Duration: 1.30 minutes   Maximum: 50 Marks

PART A - (25 x 2 = 50 Marks)

Answer Any Twenty Five of the following Questions

1. Which of the following is not type of land survey by drone?   CO1- U

    (a) Road Survey   (b)Traffic volume measurement

    (c) Landfill volume measurement   (d) Slope monitoring

2. Which of the following is not an application of drone in construction   CO1- U
    industry?

    (a) Monitoring   (b) Marketing   (c) Surveying   (d) Progress Reporting

3. Which of the following structure's health can be evaluated using drones?   CO1- U

    (a) Large span bridges   (b) Heritage Structures

    (c) Monuments and elevated buildings   (d) All of the above

4. The advantage of a drone or unmanned aerial vehicle (UAV) over   CO1- U
    LIDAR is

    (a) UAVs offer a cost effective alternative with far more flexibility

    (b) Being able to get into the air quickly and without as much logistic support

    (c) All of the above

    (d) Either of the above

5. The disadvantage of a drone over compared to LIDAR is: CO1- U

(a) A drone cannot go beyond visual line-of sight (BLOS)

(b) A drone cannot map for example a 10,000 acres corn field

(c)You must receive 333 exemptions from the FAA

(d) All of the above

6. The much lower costs have democratized the technology and allow many more people access to surveying tools. Because of this, drones _____ to change the term of "mapping" or surveying" and broaden them in a powerful manner. CO1- U

(a)True   (b) False   (c) None of the above   (d)False True

7. Which among the following surveying methods is meant to be having high precision? CO1- U

(a) Aerial photogrammetry   (b) Terrestrial photogrammetry

(c)Theodolite photogrammetry   (d)Transverse photogrammetry

8. How much inclination must be provided in a tilted photograph? CO1- U

(a) 13˚   (b) 20˚   (c) 3˚   (d) 34˚

9. Beyond the visual line of site (BLOS) is something that really makes UAVs a niche because of CO1- U

(a) The impact on the cost when you can fly within half a mile of the bay station.

(b) No need of logistic planning compared to operating an aircraft

(c) All of the above

(d) Either of the above

10. One of the disadvantages of UAVs is, when you have to fly beyond the line-of-sight, you have to Land and take off, land and take off. That defeats the whole economy of the UAV CO1- U

(a) True   (b) False   (c) None of the above   (d) False True

11. When was the First drone invented? CO1- U

(a) 1849   (b)1898   (c)1915   (d) 1925

12. Drones can be controlled by remote control system or a CO1- U

(a) ATC   (b) Radar   (c) Ground Control Station   (d) ILS

13. Which device on UAV provides altitude data? CO1- U

(a) Barometer   (b) GPS   (c) Gimbal   (d) Speed Controller

14. Aircraft with Flapping wings is called as   CO1- U

(a) Ornithopter   (b)RC Plane   (c) Aerostart   (d) Arodyne

15. A (n) _____is the shape of an airplane's wing.   CO1- U

(a) Flap   (b) Yaw   (c) Roll   (d) Airfoil

16. Pick up the correct statement from the following: CO1- U

   a) Aerial photographs may be either vertical or oblique
   b) Vertical photographs are taken with the axis of camera
      pointing vertically downward
   c) Vertical photographs are used for most accurate maps

(a) a, b & c   (b) both a & c   (c) only b   (d) only c

17. What is the failure probability for a UAV?   CO1- U

(a) 10/hour   (b)10^2/hour   (c)10^{-3}/hour   (d) 10^{-4}/hour

18. In a radio controlled UAV, FHSS technology has more advantage than DSSS   CO1- U
technology.

(a) True   (b)False   (c) only d   (d) only c

19. _____ types of data cannot be extracted from images produced by   CO1- U
survey

(a) Road Signs   (b)Curbs   (c) Load Capacity   (d) Road Markers

20. Photogrammetry creates dynamic, measurable documents using   CO1- U
system of _____

(a) UAV mounted sensors   (b) GIS mapping system

(c) Both of the above   (d) None of the above

21. Which of the following is an application of drone?   CO1- U

(a) Project Monitoring   (b) Aerial Mapping

(c) Structural Health Monitoring   (d) All of the above

22. Which of the following is not a subtype of multi rotor drone?   CO1- U

(a) Tricopter   (b) Quadcopter   (c) Twincopter   (d) Octocopter

23. Which of the following is not a type of drone based on aerial platform   CO1- U
used?

(a) Multi Rotor Drones   (b)Moving Rotor Drones

(c)Single Rotor Helicopter   (d) Fixed Wing Hybrid VTOL

24. What is full form of UAV? CO1- U

    (a) Unarmed Aircraft Vehicle (b)Unmanned Aerial Vehicle

    (c)Unmanned Aeroplane Vehicle (d) Unarmed Aircraft Vehicle

25. Which of the following category of drones does not require registration for use in India? CO4- R

    (a) Micro Category (b)Small Category (c)Nano Category (d) Large Category

26. As per the drone categories in India weight of the Large category drone should be _____ CO1- U

    (a) 2kg to 25kg (b)25kg to 150kg (c)150kg or more (d) less than 100kg

27. As per the general rule of drones flying in India any drones cannot be flown more than _____ feet vertically. CO1- U

    (a) 400 (b)500 (c)350 (d) 300

28. Which of the following is not type of land survey by drone? CO1- U

    (a) Road Survey (b) Traffic volume measurement

    (c) Landfill volume measurement (d) Slop monitoring

29. Which of the following structure's health can be evaluated using drones? CO1- U

    (a) Large span bridges (b) Heritage Structures

    (c) Monuments and elevated buildings (d) All of the above

30. Which one of the following applications is comes under civilian category Based on Unmanned Aircraft System? CO1- U

    (a) Conservation Pollution and land monitoring

    (b) Decoying missiles by the emission of artificial signatures

    (c) Relaying radio signals

    (d) Fragmentation grenade ejecting application

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