Enrollment No..

Faculty of Engineering
End Sem (Even) Examination May-2018
CE2CO06 Advanced Surveying

Programme: Diploma   Branch/Specialisation: CE

Duration: 3 Hrs.   **Maximum Marks: 60**

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d.

Q.1 i. The sum of external angles of a closed traverse of sides "n" is: **1**
      (a) $(n+2)\ 180^o$ (b) $(n+3)90^o$
      (c) $(n+1)90^o$ (d) $(n-2)180^o$

   ii. Which of the following is not a method for calculation of area **1**
      (a) Mid ordinate method   (b) Trapezoidal method
      (c) Simpson's method   (d) Total ordinate rule

   iii. In anallactic lens: **1**
      (a) K=1000 C=0   (b) K=100 C=0
      (c) K=0 C=1000   (d) K=0 C=100

   iv. Which of the following is correct expression regarding tacheometer: **1**
      (a) $K = f/i$ (b) $C = f + d$
      (c) $1/f = 1/f_1 + 1/f_2$ (d) All of these

   v. A metallic tape is made up of: **1**
      (a) Steel   (b) Invar   (c) Linen   (d) Cloth & Wire

   vi. An ideal transition curve is: **1**
      (a) A clothoid   (b) A cubic parabola
      (c) A parabola   (d) Bernoullis lemniscate

   vii. An Invar tape is made up of an alloy of : **1**
      (a) Copper & Steel   (b) Brass & Nickel
      (c) Brass & Steel   (d) Nickel & Steel

   viii. Which of the following instruments is generally used for base line measurements: **1**
      (a) Chain   (b) Metallic tape
      (c) Steel tape   (d) Invar tape

P.T.O.

   ix. For a well conditioned triangle, no angle should be less than(in degree): **1**
      (a) 20   (b) 30   (c) 45   (d) 60

   x. The GPS space segment consist of Navigation Satellite Timing and Ranging whose number is **1**
      (a) 8   (b) 12   (c) 16   (d) 24

Q.2 i. Write down the errors in Plane tabling. **2**
   ii. Explain levelling & Traversing in brief. **3**
   iii. Write down the merits and demerits of Plane table survey. **5**
OR iv. Name all the methods of Plane table survey & Explain any one with neat sketch. **5**

Q.3 i. What is closing error? **2**
   ii. Explain Bodwitch rule and Transit rule with neat sketch. **8**
OR iii. Enlist the components of transit theodolite with their function. **8**

Q.4 i. Write down the principle of Tacheometry. **3**
   ii. Enlist and classify different types of curves with their neat sketch. **7**
OR iii. Explain method of setting out curve by offsets from Long chord method. **7**

Q.5 i. Describe Micro optic Theodolite. **4**
   ii. Enlist the components of EDM with their function. **6**
OR iii. Explain Total Station in detail with its application in civil engineering. **6**

Q.6   Attempt any two:
   i. Explain Remote sensing with its applications. **5**
   ii. Describe Arial photogrammetry with its applications in civil engineering. **5**
   iii. Difference between Active and Passive Remote Sensing. **5**

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Marking Scheme
CE2CO06 Advanced Surveying

Q.1 i. The sum of external angles of a closed traverse of sides "n" is: **1**
(a) (n+2) 180°

ii. Which of the following is not a method for calculation of area **1**
(d) Total ordinate rule

iii. In anallactic lens: **1**
(b) K=100 C=0

iv. Which of the following is correct expression regarding tacheometer: **1**
(c) $1/f = 1/f_1 + 1/f_2$

v. A metallic tape is made up of: **1**
(d) Cloth & Wire

vi. An ideal transition curve is: **1**
(a) A clothoid

vii. An Invar tape is made up of an alloy of : **1**
(b) Brass & Nickel

viii. Which of the following instruments is generally used for base line **1**
measurements:
(d) Invar tape

ix. For a well conditioned triangle, no angle should be less than(in **1**
degree):
(b) 30

x. The GPS space segment consist of Navigation Satellite Timing and **1**
Ranging whose number is
(d) 24

Q.2 i. Any two Errors in Plane tabling. (1 mark * 2 = 2 marks) **2**
ii. Levelling & Traversing 1.5 mark each **3**
(1.5 mark * 2 = 3 marks)
iii. Merits of Plane table survey   2.5 marks **5**
Demerits of Plane table survey   2.5 marks
OR iv. Name all the methods of Plane table survey   2 marks **5**
Anyone with neat sketch.   3 marks

Q.3 i. What is closing error? **2**

ii. Bodwitch rule with neat sketch   4 marks **8**
Transit rule with neat sketch.   4 marks
OR iii. Components of transit theodolite   2 marks **8**
Their function.   6 marks

Q.4 i. Principle of Tacheometry. **3**
ii. Enlist different types of curves   3 marks **7**
Classify different types of curves with neat sketch   4 marks
OR iii. Explain method of setting out curve by offsets from Long chord **7**
method.

Q.5 i. Describe Micro optic Theodolite. **4**
ii. Components of EDM   2 marks **6**
Their function.   4 marks
OR iii. Explain Total Station in detail   3 marks **6**
Its application in civil engineering.   3 marks

Q.6 Attempt any two:
i. Remote sensing   2 marks **5**
Its applications.   3 marks
ii. Arial photogrammetry   2 marks **5**
Its applications in civil engineering.   3 marks
iii. Any five Difference between Active and Passive Remote Sensing. **5**
(1 mark *5)

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