Mid-West University

Examinations Management Office

Surkhet, Nepal

End Semester Examination-2080

Level: B.Ed. / II Semester — FM: 60

Time: 3.00 hrs. — PM: 30

Sub: Geometry for Teacher (MATH 425/326)

Candidates are required to give their answers in their own words as far as practicable.

Attempt all the questions.

Group "B" **6×5 = 30**

1. Define axiomatic system in geometry and explain the properties of axiomatic system.

2. Explain the development of non-Euclidean geometry.

3. Prove that the opposite sides of a parallelogram are congruent.

Or

Prove that the summit angles of a saccheri quadrilateral are equal.

4. Prove that the angle sum of any triangle is less than or equal to 180^0.

5. Define translation. Also, prove that a translation is an isometry.

6. Define non-isometric transformation. Prove that a homothety maps triangles onto similar triangles.

Or

Define angle of parallelism. Also, prove that the two angles of parallelism for a given distance are congruent.

Group "C" **2×10=20**

7. If the vertices of two triangles are in one-to-one correspondence such that two angles and the side opposite one of them in one triangle are congruent to the corresponding parts of the second triangle, then prove that the triangles are congruent.

8. Explain the similar polygon. If under a correspondence, the three interior angles of one triangle are congruent to the corresponding interior angles of a second triangle, then show that the triangles are similar.

Or

Define Saccheri quadrilateral. Also, prove that the line joining the mid-points of both the summit and the base of a Saccheri quadrilateral is perpendicular to both.

THE END

Mid-West University

Examinations Management Office

Surkhet, Nepal

End Semester Examination-2080

Level: B.Ed. / II Semester

Sub: Geometry for Teacher (MATH 425/326)

Roll No. .....

Group "A" **10 × 1 = 10**

Tick (✓) the best answer.

1. The four-point geometry has exactly...
   a. four lines
   b. six lines
   c. eight lines
   d. ten lines

2. Which one is not Euclid's common notion (axioms)?
   a. If equals be added to equals, the wholes are equal.
   b. If equals be subtracted from equals, the remainders are equal.
   c. A circle can be described with any center and radius
   d. The whole is greater than the part.

3. Undefined terms of Birkhoffs model for Euclidean geometry are...
   a. Point, line, plane
   b. Point, line, angle
   c. Point, line, distance
   d. point, line, distance, angle

4. In Euclidean geometry, the triangle congruence postulate is...
   a. SSS
   b. ASA
   c. SAS
   d. RHS

5. The summit angle of a Saccheri quadrilateral is...
   a. equal
   b. supplementary
   c. complementary
   d. none of the above

6. The sum of interior angles of a triangle in elliptic geometry is ...
   a. less than 180^0
   b. greater than 180^0
   c. 180^0
   d. none of the above

7. The distance preserving transformation is called...
   a. inversion transformation
   b. non isometry transformation
   c. isometry transformation
   d. none of the above

8. If the scale factor $K = 1$ in any transformation, then homothety is...
   a. an identity
   b. a reflection
   c. a reduction
   d. an enlargement

9. The fourth angle of a Lambert quadrilateral is...
   a. 180^0
   b. greater than 180^0
   c. obtuse
   d. acute

10. A non-isomeric transformation is also called ....
    a. a size transformation
    b. a dilation
    c. a homothety
    d. all of the above