OBAFEMI AWOLOWO UNIVERSITY, ILE-IFE
FACULTY OF EDUCATION
DEPARTMENT OF SPECIAL EDUCATION AND CURRICULUM STUDIES

B.Sc.Ed. DEGREE EXAMINATION
200812009 RAIN SEMESTER EXAMINATION, JANUARY,2010

SEC314/316/318/322/336: TEACHING METHODS

INSTRUCTION: Answer one question (in your subject area) in section I and the two
Questions in section II
TIME ALLOWED: Two hours

SECTION I   (Answer one question in your subject area)

1(a) What is transpiration?
 (b) (i) Name **two** types of transpiration.
    (ii) List **four** factors which affect rate of transpiration.
 (c) Describe the mechanisms of opening and closing of stomata.
 (d) State
    (i)   **two** similarities and
    (ii)   **two** differences between transpiration and sweating
                                                                    (20 marks)

2(a) (i) What is the name of the process for the industrial preparation of tetraoxosulphate
       (VI) acid ?
    (ii) State the catalyst used in 2(a) (i)
    (iii) Show by means of balanced chemical equations only, the industrial preparation
        of tetraoxosulphate (VI) acid from sulphur (IV) oxide.
                                                                    (6 marks)
 (b) (i) Distinguish between dehydration and drying.
    (ii) Explain why concentrated tetraoxosulphate (VI) acid cannot be used to dry
        ammonia.
    (iii) What is the drying agent for ammonia?
                                                                    (7 marks)
 (c) (i) Give **one** example of
        I.   a chloride which is soluble in hot water
        II.   a trioxocarbonate (IV) which does not decompose on heating
        III.   an amphoteric oxide
    (ii)   List **three** methods for the preparation of salts
    (iii)   State **one** method for the recovery of a salt from its solution.
                                                                    (7 marks)

3(a) Explain the rise of water in a glass capillary tube using the kinetic theory.
                                                                    (2 marks)
 (b)(i) What is meant by a machine?
    (ii) List **two** examples of a simple machine

(iii) Explain the statement the velocity ratio of a machine is 5

(6 marks)

(c)(i) Define the efficiency of a machine

(ii) Explain why a machine can never be 100% efficient.

(4 marks)

(d) A screw jack, 25% efficient and having a screw of pitch 0.4cm is used to raise a load through a certain height. If in the process the handle turns through a circle of radius 40.0cm, calculate the

(i)   velocity ratio of the machine

(ii)   mechanical advantage of the machine

(iii)   effort required to raise a load of 1000N with the machine (Take $\prod = 3.14$)

(8 marks)

4(a) The diagonals of a rectangle PQRS intersect at 0. If /PR/ = 16cm and <QOR = 50°, calculate

(i)   the dimensions of the rectangle

(ii)   its perimeter

(iii)   its area

(iv)   <PQS

(8 marks)

(b) Solve the equation $2x^2 - 7x + 3 = 0$ using the method of completing the square

(5 marks)

(c) In APQR, /PR/ = 8cm, /QR/ = 5cm and <PQR = 110°. The side PQ is produced to S such that /QS/ = 6cm. Calculate, to 2 significant figures

(i)   <QPR   (ii)   /RS/

(7 marks)

SECTION II   (Answer the two questions)

1(a) What are behavioural objectives?

(b)(i) State **four** attributes of a good behavioural objective.

(ii) Give **five** ways in which behavioural objectives are important in teaching and learning situations.

(20 marks)

2(a) Teaching methods are concerned with the procedures through which teacher dispenses with, generates and elicits information from students in order to promote or facilitate learning.

(i)   Mention **three** factors to be considered in choosing instructional methods for a lesson.   (6 marks)

(ii)   Give **four** advantages of using inquiry method in teaching science lessons.

(4 marks)

(b) (i) What are the preparation you would undertake before the teaching session of a topic in your subject area?

(ii) State **three** importance of lesson note in teaching and learning.

(10 marks)