Exam. Code : 108203
Subject Code : 2723

B.Sc. Home Science 3rd Semester

DEVELOPMENTAL STAGES UPTO CHILDHOOD

Paper–I

Time Allowed—3 Hours]   [Maximum Marks—50

Note :– Attempt any **five** questions. **First** question is compulsory. Each question carries **10** marks.

1. Enlist all the following :

    (a) What are different types of play ?

    (b) Enlist factors affecting socialization.

    (c) Enlist developmental tasks of infancy and childhood.

    (d) Enlist factors affecting physical development of infants and children.

    (e) Factors affecting motor development of infant and children.

2. Define language development. Explain in detail the stages of language development. Discuss the defects in speech of children.

3. Discuss in detail the development task of childhood.

4. Discuss in detail the hand skills and leg skills in infant and children.

5. Explain the different types of emotions child go through.

6. Social experiences play crucial role in determining child's attitude towards social relationships. Support your answer with suitable examples.

7. What is the concept behind early childhood care in today's scenario ? What is the significance of ECC ?

8. Explain in detail the major tasks required in learning the speech skills.

Exam. Code : 108203
Subject Code : 2724

B.Sc. Home Science 3rd Semester

HOUSING

Paper–II

Time Allowed—3 Hours] [Maximum Marks—60

Note :– Attempt **five** questions in all. Each question carries 12 marks. Question No. **1** is compulsory.

I. Write short answers to the following :

   (i) What is 'Straight Mortgage' ?

   (ii) Define Building code.

   (iii) What do you mean by flexibility ?

   (iv) What is the importance of ventilation ?

   (v) What do you know about economy in house construction ?

   (vi) Name the materials used for sewage and drainage of a house. 2×6=12

II. Write short notes on the following :

   (a) Materials used for foundation of a house. 6

   (b) Materials used for electrification of a house. 6

III. Briefly discuss the orientation and privacy of the house. 12

IV. Define home and briefly explain its functions.   12

V. What points would you keep in mind while constructing a house for a family ?   12

VI. What are various types of houses prevalent in India and explain advantages of independent house than apartment ?   12

VII. Write a comprehensive note on building bye-laws used for house construction.   12

VIII. Discuss advantages and disadvantages of taking loan from the government agencies for the construction of a house.   12

Exam. Code : 108203
Subject Code : 2725

B.Sc. (Home Science) 3rd Semester
MEAL MANAGEMENT
Paper—III

Time Allowed—3 Hours] [Maximum Marks—60

Note :—(1) Question No. **1** is compulsory.

(2) Attempt **FIVE** questions in all (Including the Compulsory Question)

1. (Compulsory Question) Define the following (any **EIGHT**) :—

   (1) Calorie

   (2) Consumption Unit

   (3) Weaning

   (4) Sedentary Worker

   (5) Breast Feeding

   (6) Meal Planning

   (7) Food Groups

   (8) Food Habits

   (9) Exchange List

   (10) RDA.   1.5×8=12

2. "Balanced diet is the basis for good health". Justify the statement.   12

618(2117)/BSS-23815   1   (Contd.)

3. Discuss the importance of Exchange list in planning of diets. 12

4. Describe the various principles of Meal Planning. 4,8

5. Discuss the physiological changes and changes in nutritional requirement during pregnancy. 12

6. Discuss the nutritional requirement of male sedentary worker. 12

7. Write short notes on :—

   (1) Importance of Breast feeding.

   (2) Physiological changes during old age.

   (3) Nutritional requirement of a school going child. 4,4,4

8. Describe the objective and basis of formulation of RDA. Discuss the importance of calorie consumption unit in planning of meals for the family. 4,8

Exam. Code : 108203
Subject Code : 2726

B.Sc. Home Science 3rd Semester

TEXTILE SCIENCE

Paper–IV

Time Allowed—3 Hours]   [Maximum Marks—60

Note :– Attempt total **five** questions out of **eight**. All questions carry equal marks. Question No. **1** is compulsory.

1. (a) Write short note on Retting of linen
   (b) Define Z and S twist
   (c) Explain felting
   (d) Difference between oxidizing and reducing bleach
   (e) Distinguish between water proof and water repellent finishes.

2. Discuss the physical and chemical properties of silk in relation to importance for the consumer.

3. Define weaving. Explain basket and twill weave.

4. Explain various reducing bleaches. What are their effects on different fabrics ?

5. Define printing. Explain printing techniques.

6. What is the principle of removing dirt during washing ? Explain friction washing.

7. What are decorative or fancy weaves ? Explain them.

8. What is resist dyeing ? What are different techniques of resist dyeing that are applied on textile fabrics ?

619(2117)/BSS-23816   100

1-1-18 (mor) [No - 3

Exam. Code : 108203

Subject Code : 2728

B.Sc. (Home Science) 3rd Semester

BASIC PHYSICS

Paper—VI

Time Allowed—3 Hours]   [Maximum Marks—50

Note :– Attempt **Five** questions in all. Question No. **1** is compulsory.

1. (a) Energy and Young's Modulus have the same dimensions, comment.

   (b) How many ergs are there in 1 Kilowatt hour ?

   (c) Can displacement is greater than distance travelled by an object ?

   (d) If the acceleration of the particle is constant in magnitude but not in direction, what type of path does the body follow ?

   (e) What is the angular velocity of the hour hand of a clock ?

   (f) Calculate the force acting on a body whose linear momentum changes by 20 kgms^{-1} in 10s.

   (g) Two coolies lift some load from the road to the roof of a bus. One of them takes 1 min. and the other takes 2 mins. to do the same job. Who has done more work and whose power is more ?

   (h) What is 1 torr ?

(i) Why surface tension concept is only held for liquids and not for gases which are also fluids ?

(j) Why is it hotter at the same distance over the top of a fire than in front of it ? $1 \times 10 = 10$

2. (a) Discuss the various systems of units. 5

(b) Define Astronomical unit, light year and par sec. How are they related ? 5

3. (a) What do you mean by relative velocity of an object w.r.t. another ? Obtain an expression for the relative position of two objects at time t in terms of their velocities and positions, when motion takes place along a straight line. 5

(b) Derive the following relations by calculus method for a uniformly accelerated motion along a straight line, where the terms have their usual meanings :

(i) $v = u + at$

(ii) $v^2 - u^2 = 2as.$ 5

4. (a) State and explain the Newton's laws of motion. 5

(b) What is meant by power and energy ? Give their units. 5

5. What is principal and working of the following :

(a) Lever

(b) Wheel

(c) Gears. 10

621(2117)/BSS-23818   2   (Contd.)

6. (a) Explain surface tension and give its illustrations. 5

(b) Define coefficient of viscosity. State its units in CGS system and in SI. Also find its dimensions. 5

7. (a) State and explain three modes of transference of heat. 6

(b) A metal bar measures 50 cm at 0° C and 50.048 cm at 80° C. Find the coefficient of linear expansion of the metal. 4

8. (a) What do you mean by centripetal acceleration ? Derive an expression for centripetal acceleration. 5

(b) What is difference between gravitational potential energy and elastic potential energy ? Give one example of each. 5

621(2117)/BSS-23818   3   100

Exam. Code : 108203

Subject Code : 2729

B.Sc. (Home Science) 3rd Semester

BASIC CHEMISTRY

Paper—VII

Time Allowed—3 Hours]   [Maximum Marks—50

Note :– Attempt **Five** questions in all. Question No. **1** is compulsory. Each question carries 10 marks. Log tables may be asked for.

1. (a) What is electrovalent bond ?

    (b) Write formulae of Calcium Nitrate and Sodium bicarbonate.

    (c) Write electronic configuration of Cu (atomic number = 29).

    (d) Define proton.

    (e) What is atomic mass unit (amu) or unified mass (u) ?

    (f) Why molality is preferred over molarity for various experimentations ?

    (g) What is difference between hard water and heavy water ?

    (h) Give electron-dot formulae of NH_4^+ and C_2H_2.

    (i) Define Fibres in terms of intermolecular forces of attraction.

    (j) Explain exothermic reactions citing one example.

                                $10 \times 1 = 10$

2. (a) Give qualitative and quantitative significance of chemical equation.

(b) Calculate the number of electrons, protons and neutrons in following :

$$^{24}_{12}Mg, ^{35}_{17}Cl^-, ^{32}_{16}S^{2-}, ^{23}_{11}Na^+.$$
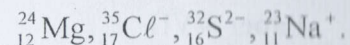
(c) Define Empirical and molecular formula.   4,4,2

3. (a) Balance the following equation by Hit and Trial method :

(i) $Fe + H_2O \rightarrow Fe_3O_4 + H_2$

(ii) $NH_3 + O_2 \rightarrow NO + H_2O$

(iii) $C_2H_4 + O_2 \rightarrow CO_2 + H_2O.$

(b) Give methods of removing hardness of water.

6,4

4. (a) What is temporary and permanent hardness of water ? Give their cause.

(b) An organic compound contain C = 75 % and H = 25 %. Determine the molecular formula of the compound if its vapour density is 8.   5,5

5. Define the following terms :

(a) Octet Rule

(b) Dative Bond

(c) Mole in terms of number

(d) Atomic number

(e) Mass number.   2×5=10

6. (a) Give at least two differences between atomic mass and Mass number.

(b) What is catalyst ? Give its types.

(c) Define pH.

(d) Define isotope and give two examples.

(e) What is heavy water ?   2×5=10

7. Discuss the structures of different type of natural and synthetic fibers.   10

8. (a) Give various postulates of Rutherford model of atom.

(b) A solution is prepared by dissolving 50g of $FeSO_4.7H_2O$ in 500 ml of solution. Calculate the molarity of solution.   6,4