

ISC Class 12 Home Science Specimen Paper 2

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Maximum Marks: 70 | Time Allowed: Three hours | Reading Time: 15 minutes

Section A is compulsory. From Section B attempt any five questions. This paper carries 70 marks, the remaining 30 being for the practical work.

General Instructions

Write your answers on the separate answer paper provided. The first 15 minutes are for reading the paper, and you may not write during that time. Section A is compulsory and must be attempted in full. From Section B you must attempt any five of the eight questions, and no credit is given for a sixth. Marks for each question, or part of a question, are shown in brackets. Answers should be in your own words and of a length suited to the marks offered, a one-mark part needing no more than a sentence and a four-mark part needing a short developed answer. Illustrate general statements with household examples wherever you can. No printed figures, charts or photographs are supplied with this paper, and where a question asks for a stitch, a weave, a layout or a diagram you are expected to draw it yourself in pencil and label it. Questions on food and nutrition are to be answered in terms of food groups and general principles, and you are not asked anywhere in this paper to work out quantities for a named person. This paper carries 70 of the 100 marks for the subject, the remaining 30 being for the practical work.

SECTION A (20 Marks)

Attempt all parts of Question 1 and all parts of Question 2.

Question 1 [12]

Each part carries 1 mark. For the parts that offer four choices, write only the option you choose. For the rest, answer in a single sentence or give the single word, name or term asked for.

- (i) The kind of play in which two children sit side by side with similar toys, each absorbed in his own game and taking no part in the other's, is called:
(a) cooperative play (b) parallel play
(c) solitary play (d) dramatic play
- (ii) Name the kind of immunity a newborn receives through its mother's milk, which it has not made for itself.
- (iii) The mineral whose shortage in the diet is the commonest cause of nutritional anaemia is:
(a) calcium (b) iodine
(c) iron (d) fluorine
- (iv) Name the process by which a nutrient is added to a food in which it does not naturally occur in any quantity, as when vitamin A is added to vegetable oil.
- (v) The written statement of what a household owns and what it owes at a given moment is its:
(a) budget (b) account book
(c) net worth statement (d) expenditure record
- (vi) State in one sentence what is meant by a time plan in household work.
- (vii) The yarn that runs along the length of a woven fabric, parallel to the selvage, is the:
(a) filling (b) bias
(c) weft (d) warp
- (viii) Name the fibre, obtained from the stem of a plant, that is used for sacking and for coarse packing cloth.

- (ix) An extension teaching aid in which cut out figures are made to stick to a rough cloth surface, and can be moved as the talk proceeds, is the:
(a) flannel graph (b) bulletin board
(c) film strip (d) exhibition
- (x) Name the kind of consumer complaint in which the seller has charged more than the price printed on the packet.
- (xi) The mark of quality that is placed on graded agricultural produce in India, such as honey, ghee and spices, is:
(a) the ISI mark (b) the Hallmark
(c) the Agmark (d) the Woolmark
- (xii) Name the kind of advertisement that is forbidden because it makes a claim about the goods which the seller knows to be untrue.

Question 2 [8]

Each part carries 2 marks. Answer each part in two or three sentences.

- (i) State two signs by which a parent may recognise that a young child is ready to begin toilet training. [2]
(ii) State two reasons why the green leafy vegetables deserve a place in the daily meal. [2]
(iii) Give two reasons why a household should keep written accounts of its spending. [2]
(iv) State two points to be kept in mind when storing a woollen garment at the end of the cold season. [2]

SECTION B (50 Marks)

Attempt any five questions from this Section. Each question carries 10 marks.

Question 3 [10]

- (a) Explain what is meant by growth and what is meant by development, and state one way in which the two differ. [3]
(b) Describe three needs of an infant in its first year, other than the need for food, and state how each of them should be met. [3]
(c) Explain what is meant by school readiness. Describe the ways in which a five year old may be helped at home to be ready for school, and state two signs that suggest a child is not yet ready. [4]

Question 4 [10]

- (a) Explain what is meant by the functions of a family, and name any three functions that a family performs. [3]
(b) Describe three ways in which the work of the home may be shared more fairly between the men and the women of a household, and state why the sharing matters. [3]
(c) Explain what is meant by a family crisis. Describe how a crisis such as the long illness of an earning member affects a family's money, its routine and its relationships, and state two things that help a family to come through such a period. [4]

Question 5 [10]

- (a) Name the functions that protein performs in the body, and name two groups of foods from which it may be drawn. [3]
(b) Explain, in terms of food groups, how the meals of a growing school child differ in emphasis from those of an elderly person in the same household. [3]
(c) Explain what is meant by a therapeutic diet. Describe the general principles on which such a diet is built, and explain why the plan for any one patient must be drawn up by a qualified dietitian working with the doctor in charge. [4]

Question 6 [10]

- (a) Explain what is meant by food spoilage, and name three agents that bring it about. [3]
- (b) Describe three rules of hygiene that should be followed in a household kitchen, and give the reason for each. [3]
- (c) Explain what is meant by a food borne illness and how one arises in the home. Describe three practices in the buying, storing or handling of food that make such an illness less likely, and state why a food that looks and smells sound may still be unfit. [4]

Question 7 [10]

- (a) Explain what is meant by a household resource, and distinguish between a human resource and a material resource with one example of each. [3]
- (b) Explain what is meant by saving, and describe two forms in which a household may hold its savings, with one advantage of each. [3]
- (c) Explain what is meant by the management of time in the home. Describe how a time plan for a working day is drawn up, and state two reasons why such a plan may fail in practice. [4]

Question 8 [10]

- (a) Explain what is meant by a dye, and distinguish between dyeing and printing. [3]
- (b) Describe three points to be considered in the selection of a fabric for a summer garment for daily wear. [3]
- (c) Explain what is meant by the care of clothing. Describe the steps by which a cotton garment with a stain on it should be dealt with at home, and state two reasons why a garment should be sorted before it is washed. [4]

Question 9 [10]

- (a) Distinguish between formal education and extension education, and state one way in which the two support each other. [3]
- (b) Describe three qualities that an extension worker needs in order to be accepted in a village. [3]
- (c) Explain what is meant by an audio visual aid in extension work. Describe two such aids and the kind of message each is best suited to, and state two faults that make an aid fail with a village audience. [4]

Question 10 [10]

- (a) Explain what is meant by a self help group, and state two ways in which such a group helps its members. [3]
- (b) Describe three ways in which the women of a community may be helped towards earning an income of their own. [3]
- (c) Explain what is meant by consumer education. Describe the part played by a consumer organisation in protecting buyers, and state two ways in which an ordinary buyer may be misled by an advertisement. [4]

ANSWER KEY AND MARKING SCHEME

The answers printed here are models and not the only acceptable wording. Accept any answer that is accurate, relevant and expressed in the candidate's own words, and accept a correct household example in place of the one given. Marks shown in the marking lines are the step marks an examiner would award. In the questions on food and nutrition, no credit is to be given for an answer that sets out quantities, calorie figures or a meal by meal plan for a named person, since the syllabus asks only for food groups and general principles.

Question 1 [12]

- (i) (b) parallel play. The children play beside each other and with the same kind of toy, which is why it is not solitary play, but there is no shared game and no give and take between them, which is why it is not cooperative play.
- (ii) Passive immunity, carried in the antibodies of the mother's milk and in particular of the colostrum of the first few days.
- (iii) (c) iron. Iron is needed for the haemoglobin of the red cells, and a diet short of iron, or one in which the iron present is poorly absorbed, is the commonest nutritional cause of anaemia.
- (iv) Fortification.
- (v) (c) net worth statement. It sets the assets of the household against its liabilities at one date, and the difference between them is the net worth.
- (vi) A time plan is a written arrangement of the jobs to be done in a day or a week, each put against the hour at which it is to be taken up, so that the work fits the time available and the heavy jobs do not all fall together.
- (vii) (d) warp. The warp is put on the loom first and runs the length of the cloth beside the selvedge, while the filling, also called the weft, crosses it.
- (viii) Jute, which is a bast fibre taken from the stem of the jute plant. Credit may also be given for hemp or for flax where the answer names the coarse sacking use.
- (ix) (a) a flannel graph. Cut outs backed with a rough material cling to a board covered in flannel, and the worker builds the picture up and changes it as the talk goes on.
- (x) Overcharging, that is the charging of a price above the maximum retail price printed on the packet.
- (xi) (c) the Agmark. It is given under the Agricultural Produce Grading and Marking Act to graded agricultural commodities, while the ISI mark belongs to manufactured goods and the Hallmark to articles of gold and silver.
- (xii) A false or misleading advertisement, which the law treats as an unfair trade practice.

1 mark for each correct part. No mark is deducted for a wrong option, and a one-line answer that carries the correct idea gains the mark even if it is loosely worded.

Question 2 [8]

- (i) The child stays dry for a stretch of two hours or more, and wakes dry from a nap, which shows that the bladder can now hold and that the muscles controlling it have matured. The child can also walk to the place, sit down and get up again, and can pull the clothing down and up without help. A further sign is that the child shows by word, gesture or face that he knows the need is coming, or is uncomfortable when wet and asks to be changed, and that he takes an interest in the lavatory and wants to copy the older members of the house.

Any one sign of physical readiness, such as staying dry for two hours or waking dry 1. Any second sign, such as being able to walk to the place and manage the clothing, or signalling the need in advance 1.

- (ii) They are among the cheapest and richest sources of iron, of calcium and of the carotene from which the body makes vitamin A, and they also carry folate and vitamin C, so a handful of them covers several needs at once that would otherwise call for costly foods. They also supply roughage and water, which keep the bowel working, and their place in the meal adds colour, flavour and bulk without adding much in the way of concentrated energy, which matters in a household where energy is the one thing the cereals already supply in plenty.

Rich and cheap source of named micronutrients, such as iron, calcium or carotene 1. Any second reason, such as roughage and water, or bulk and colour without concentrated energy 1.

- (iii) Written accounts show the family where its money actually went, which is nearly always different from where the family believes it went, and without that record the next budget can only be a guess. They also make it possible to check the plan as the month goes on, so that an item running ahead of its allowance is caught while something can still be done about it, rather than at the end when the money has gone. Further reasons are that they settle arguments about spending, that they are needed when a loan is applied for or a tax return made, and that they show which purchases were a false economy.

Accounts show where the money went and make the next budget realistic 1. Any second reason, such as checking the plan while the month is running, or the need for records for a loan or a tax return 1.

- (iv) The garment must be clean before it is put away, since even a little soiling or perspiration attracts the moth and the silverfish, and a stain left in the cloth sets and will not come out after months. It should then be aired and dried thoroughly, because a woollen put away damp will mildew. It should be stored with a moth repellent such as naphthalene balls or neem leaves, wrapped so that the repellent is not against the cloth itself, and folded flat rather than hung, since the weight of a heavy woollen on a hanger stretches the shoulders out of shape. A cotton cover is better than a plastic one, which traps moisture, and the place chosen should be dry and dark.

Clean and thoroughly dry before storage, with the reason 1. Any second point, such as a moth repellent, folding flat rather than hanging, or a cotton rather than a plastic cover 1.

Question 3 [10]

- (a) Growth is the increase in the size of the body and of its parts, in height, in weight, in the length of the bones and in the number and size of the cells, and it can be measured and set down as a figure. Development is the progressive change in the way the body and the mind work, by which the child becomes able to do what he could not do before, such as to sit, to speak, to reason and to get on with other children, and it is judged by what the child can do rather than by a measurement. They differ in that growth is quantitative and stops when maturity is reached, while development is qualitative and continues through the whole of life. They are nevertheless tied together, since a child whose growth has been held back by poor nutrition or illness is usually slow in development as well.

Growth defined as a measurable increase in size 1. Development defined as a change in function and ability 1. One point of difference, such as quantitative against qualitative, or growth ending at maturity while development continues 1.

- (b) First, the infant needs warmth, cleanliness and safety. It cannot regulate its own temperature well, cannot move out of danger and has little resistance to infection, so it must be kept warm but not overwrapped, kept clean and dry, handled with clean hands, and laid where it cannot fall or reach anything small enough to swallow. Second, the infant needs sleep, and a great deal of it, with a quiet and darkened place and a settled rhythm of feeding and sleeping, since growth and the building of the nervous system both go on in sleep, and a baby kept up and passed from hand to hand becomes fretful and feeds badly. Third, the infant needs affection and the response of a known person. Being held, talked to, sung to and answered when it cries builds the trust on which everything later rests, and a baby that is fed and cleaned but not talked to is slower to speak and slower to attach. A fourth need worth crediting is the opportunity to use its senses and its limbs, through being given things to look at, sounds to turn towards and room to kick and later to crawl, and a fifth is protection against disease through immunisation at the proper times and regular weighing to see that growth is going on.

First need named with how it is met 1. Second need named with how it is met 1. Third need named with how it is met 1.

- (c) School readiness is the state of all round maturity that lets a child profit from school rather than merely attend it. It is not a matter of knowing the letters and the numbers, and it has as much to do with the body, the feelings and the handling of other people as with the mind. The child who is ready can be away from the mother for some hours without distress, can sit at one thing for a stretch, can follow a direction given to a group and not to him alone, can wait his turn and share, can manage his own eating, toilet and shoes, can say what he wants in sentences that a stranger understands, and has the hand control that holding a pencil and using a pair of scissors require. At home a five year old is helped towards this by being read to daily and talked with, by being asked questions that need more than a yes, by being given small jobs to finish, by

drawing, cutting, threading and building with blocks, by being taken among other children so that playing in a group becomes familiar, by having a settled time for sleeping and eating so that the school day does not come as a shock, and by hearing the school spoken of as something to look forward to rather than as a threat. Two signs that a child is not yet ready are great distress at separation that does not settle after some weeks, and speech that is still so unclear or so limited that a teacher cannot follow it. Others worth crediting are an inability to stay at any one activity for a few minutes together, no interest in other children or persistent hitting and snatching in place of playing with them, and a hand that cannot yet hold a pencil or turn the pages of a book.

School readiness defined as all round maturity and not as the knowing of letters and numbers 1. Three or more of the abilities a ready child has 1. Three or more ways of helping at home 1. Two signs of a child not yet ready 1.

Question 4 [10]

- (a) The functions of a family are the things a family does for its members and for the society around it, by reason of which the family exists in every society that is known. They may be divided into those that no other institution has taken over, such as reproduction and the early care of children, and those that the family now shares with schools, hospitals and the state. Three functions are the bearing and rearing of children, by which the society is replaced and the young are kept alive through the years in which they cannot keep themselves; the socialisation of the young, by which the child is given its language, its habits, its religion and its first idea of right and wrong; and the economic function, by which the family provides food, clothing and shelter for its members, holds and passes on property, and divides the work of the household among its members. Others worth crediting are the giving of affection, companionship and emotional security, the care of the sick, the disabled and the aged, the regulation of sexual behaviour and the conferring of status and identity on the child.

The functions explained as what the family does for its members and for society 1. Any two functions named with a word of explanation 1. A third function named with a word of explanation 1.

- (b) First, the household jobs can be listed and shared out openly, instead of being left to fall on whoever is thought to belong to them. When the work of a week is written down, the size of it becomes visible, and it becomes harder to treat cooking, washing and the care of children as though they were nobody's work. Second, the sharing must cover the daily and unavoidable jobs and not only the occasional ones. A man who shops once a week and drives the children out on a holiday has not shared the load if the cooking, the cleaning and the putting to bed come round every day to the same person, so the regular jobs should be divided between the members by rotation. Third, children of both sexes should be brought up to the same work in the home, with the boy cooking, serving and cleaning as the girl does, since a household in which only the daughters are sent to the kitchen is training the next generation into the same division. A fourth way is the use of equipment and of paid help where the family can afford it, and the simplification of the work itself, which lightens what has to be shared. The sharing matters because the work of the home is real work, and when all of it falls on one member, most often a woman who may also be in paid employment outside, she carries a double burden that costs her health, her rest, her chance of earning and her standing in the family, while the others are left unable to manage the house if she is ill or away.

First way, the open listing and division of the work 1. Second or third way, covering the daily jobs or the bringing up of boys and girls to the same work 1. Why the sharing matters, with the double burden or the cost to the one member 1.

- (c) A family crisis is a situation that the family's usual ways of coping cannot meet, so that the pattern of its life is broken and new arrangements have to be made. It may arise from a loss, such as death, desertion or the loss of employment, from an addition, such as the arrival of a dependent relative, or from a loss of family morale. The long illness of an earning member strikes the family on three sides at once. In money, the income falls or stops while the expenditure rises, since treatment, medicine and travel to the hospital have to be paid for, so savings go first, then borrowing begins, and spending on food, on schooling and on maintenance is cut, which may do lasting damage to the children's education. In routine, the day has to be rebuilt around the patient. Someone must be at home or at the hospital, which often means that a wife leaves her work or an older child leaves school, meals and sleep are taken when they can be, visitors come at all hours, and the ordinary jobs of the house are done late or not at all. In relationships, the strain shows in short tempers and in quarrels over

money, the patient may be irritable or may feel himself a burden and withdraw, the person who carries the nursing becomes exhausted and may feel that the others have left it to her, and the children, given less attention and told little, become anxious or difficult. Two things that help a family through such a period are, first, that the family talks openly about what has happened, including to the children in words suited to their age, and takes its decisions together instead of leaving one member to manage and decide alone. Second, that the family uses the help available to it, from relations and neighbours who can be asked for specific help rather than vague sympathy, from the employer's provisions, from any insurance or welfare scheme it is entitled to, and from a doctor or counsellor where the strain on the carer is becoming too much. A third, worth crediting, is that the nursing is shared on a settled rota so that it does not all fall on one person, and a fourth is that the family keeps up what it can of its ordinary routine, since a child's school and a shared meal are worth protecting.

Family crisis defined as a situation the usual ways of coping cannot meet 1. The effect on money, with savings, borrowing and cuts elsewhere 1. The effect on routine and on relationships 1. Two things that help, such as open discussion and shared decisions, and the use of outside help 1.

Question 5 [10]

- (a) Protein builds the new tissue of the body, which is why the need for it is greatest in infancy, childhood, adolescence, pregnancy and the feeding of a child. It repairs and replaces tissue that is worn out or lost, as in the healing of a wound, the replacing of blood after a loss and the daily renewal of the skin, the hair and the lining of the gut. It supplies the material from which the body makes enzymes, many hormones, haemoglobin and the antibodies that resist infection. It helps to hold the fluid balance of the body and the balance of acid and alkali in the blood. Where the diet does not give enough energy, protein is burnt for energy, which is a waste of a costly nutrient and is one reason why the energy foods must be adequate before the protein in the diet can do its own work. Protein may be drawn from the group of pulses, nuts and oilseeds, which is the main source of plant protein in Indian households, and from the group of milk and milk products together with eggs, fish and meat, which supplies protein of higher quality. Cereals, although not thought of as protein foods, contribute a good deal of the protein in an Indian diet because so much of them is eaten, and a cereal and a pulse taken together at the same meal supplement each other.

Building of new tissue and growth 1. Repair and replacement, with enzymes, hormones or antibodies 1. Two food groups named 1.

- (b) The two differ less in the kinds of food than in the emphasis given to each group and in the form the food takes. The school child is growing and is active, so the energy foods, the cereals and millets with a reasonable place for fats and sugars, are drawn on freely, and the protein foods are important because new tissue is being laid down. Milk has a large place, both for its protein and for the calcium the lengthening bones and the second teeth require, and the iron bearing foods matter because the blood volume is rising with the body. The child is also forming habits, so variety, colour and foods that can be eaten with the hands are worth attending to, and the between-meal eating that a child's small stomach and high activity make necessary should come from fruit, milk, roasted grams and the like rather than from bought snacks. The elderly person is not growing and is usually much less active, so the emphasis shifts away from the energy foods, and the fats and sugars in particular are drawn on sparingly. Protein is still wanted for the repair of tissue, calcium is still wanted because bone is being lost, and the foods that carry iron, vitamin B12 and vitamin D take on importance, since these are the ones older people most often fall short in. Fruit, vegetables and whole grains are given a larger place for their roughage, and fluid is encouraged, because constipation is a common trouble at this age and thirst is less keenly felt. The form of the food matters as much as the choice. Teeth may be few, chewing and swallowing may be difficult, the sense of taste and smell may be dulled and digestion is slower, so the food is better cooked soft, cut small, lightly spiced, pleasant to look at and served in small amounts at shorter intervals. Where a condition such as diabetes, raised blood pressure or kidney trouble is present, the diet is a matter for the doctor and the dietitian and not for the household to settle.

The child's emphasis on the energy and protein foods, with milk and calcium for growth 1. The elderly person's lower need for the energy foods, with protein, calcium and the micronutrients still wanted 1. The difference in the form of the food, soft, small, lightly spiced and more often, or the point about roughage and fluid 1.

- (c) A therapeutic diet is a normal diet that has been modified for a person who is ill, so that it suits the condition being treated and forms part of the treatment itself. It may be changed in consistency, as when food is given liquid or soft; in the amount or nature of one constituent, as when fat, protein, salt or fluid is altered; in the number and spacing of the meals; or in the method of cooking and the seasoning used. The general principles on which it is built are, first, that it starts from the normal diet and departs from it as little as the condition requires, so that the patient is not short of the nutrients the illness has nothing to do with. Second, that it takes account of the whole person and not the disease alone, so the patient's age, occupation, food habits, religion, means and appetite all enter into it, since a diet the patient will not eat has no value whatever. Third, that it is explained to the patient and to whoever cooks for him, because it will be followed at home and not in a ward. Fourth, that the food is made as attractive as the restriction allows, since illness takes away appetite. Fifth, that it is reviewed as the illness changes, a diet suited to the acute stage being wrong for convalescence. The plan for any one patient, however, cannot be drawn up from a textbook. It depends on the diagnosis and its stage, on the other conditions the patient has, on the medicines he is taking, on the results of his tests, on his weight and his history, and on what he is able to digest, and a mistaken restriction can do as much harm as the illness. For that reason it must be worked out for the individual by a qualified dietitian in consultation with the doctor in charge of the case, and altered by them as the treatment goes on. The household's part is to carry out that plan faithfully, to report what the patient actually eats and to raise any difficulty with the dietitian rather than make its own changes.

Therapeutic diet defined as a normal diet modified for a patient, with the kinds of modification 1. The principle of departing from the normal diet as little as the condition requires 1. The principles of suiting the whole person and of making the food acceptable and attractive 1. The individual plan left to a qualified dietitian with the doctor, with a reason and the household's own part 1.

Question 6 [10]

- (a) Food spoilage is any change in a food that makes it unfit or unacceptable to eat, whether the change is in its appearance, its smell, its taste, its texture or its safety. It is a natural process, since every food begins to break down from the moment it is harvested, milked or slaughtered, and preservation is simply the holding back of that process. Three agents bring it about. Microorganisms, that is bacteria, yeasts and moulds, grow in or on the food and break it down, souring milk, rotting vegetables and putrefying meat. The food's own enzymes go on working after harvest and cause the overripening and browning of fruit and the softening of vegetables. Insects, rodents and birds eat the food and foul what they do not eat, and the damage they do opens the way for microorganisms. A fourth agent is chemical change independent of enzymes, chiefly the oxidation that turns fats and oils rancid, and a fifth is physical damage and the wrong conditions of storage, such as bruising, moisture, heat and light.

Spoilage defined as a change making the food unfit or unacceptable 1. Two agents named with the kind of damage each does 1. A third agent named 1.

- (b) First, the hands must be washed with soap and running water before food is handled, between the handling of raw and cooked food, and after using the lavatory, after touching a dustbin and after handling money, since the hands are the commonest carrier of organisms from one place to another. Second, raw and cooked food must be kept apart, with separate boards and knives if possible, raw meat and fish covered and placed at the bottom of the refrigerator so that nothing drips from them onto cooked food, since cooking kills the organisms in the raw food but nothing protects the cooked food that is contaminated after cooking. Third, cooked food must not be left standing at room temperature for hours. It should be eaten hot, or cooled quickly and refrigerated, and reheated thoroughly and once only, because the hours a dish spends warm are the hours in which the surviving organisms multiply. Other rules worth crediting are keeping the kitchen, the sink and the dustbin clean and the bin covered and emptied daily, so that flies and rodents are not fed; keeping the hair tied, the nails short and a cut on the hand covered; washing vegetables and fruit in running water before they are cut; using clean water for drinking and cooking; and keeping a person with a stomach upset, a cold or an open sore away from the preparation of food.

First rule with its reason 1. Second rule with its reason 1. Third rule with its reason 1.

- (c) A food borne illness is an illness caught from eating or drinking something that carries harmful microorganisms, their poisons or a harmful chemical, and it shows itself most often as vomiting, loose

motions, pain in the abdomen and fever, which in a small child or an old person can become serious through loss of fluid. In the home it arises from a short chain of ordinary mistakes rather than from anything exotic. Food is bought already contaminated, or water from an unsafe source is used; the organisms are then allowed to multiply because the food stands warm for hours or is kept in a refrigerator that is not cold enough; cooking does not reach the centre of the dish or a frozen article is cooked before it has thawed; cooked food is contaminated after cooking by unwashed hands, by a cloth, by a board that held raw meat or by a fly; and finally a dish is kept over and reheated again and again. Three practices that make such an illness less likely are, first, to buy with care from a shop that keeps its goods covered and cold, to check the date and the seal on anything packaged, and to bring perishables home and into the refrigerator without a long detour. Second, to keep the cold chain and the hot chain unbroken, that is to keep cold food cold and hot food hot and to shorten the time that any cooked dish spends at room temperature, cooling leftovers quickly in a shallow vessel rather than leaving the whole pot to cool. Third, to keep raw and cooked food separate at every stage, with washed hands, washed utensils and a clean cloth, and to cook food through to the centre. A fourth is to boil or otherwise treat drinking water where its source is not certain. A food that looks and smells sound may still be unfit, because the organisms that cause illness are not in general the ones that cause spoilage. The spoilage organisms announce themselves by souring, sliming and smelling, while many of the dangerous ones multiply without altering the look, the smell or the taste of the food at all, and a few leave behind a poison that survives boiling even after the organism itself has been killed. Appearance and smell are therefore useful for telling whether food has gone off, but they are no test of whether it is safe, and a dish that has been kept too long or kept warm should be thrown away however sound it seems.

Food borne illness defined, with its usual symptoms 1. How one arises in the home, through contamination, multiplication and inadequate cooking or reheating 1. Three practices that reduce the risk 1. Why a sound looking food may still be unfit, with the point that the dangerous organisms need not alter the look or smell 1.

Question 7 [10]

- (a) A household resource is anything the family has, or can get, that can be used to reach what it is aiming at. Resources are always limited in relation to the wants they have to meet, which is why they have to be managed, and most of them can be exchanged for one another, so that money may be spent to save time and time spent to save money. A human resource is one that lies in the people of the household themselves, such as their knowledge, their skill, their energy, their health, their attitudes and the time at their disposal. The skill of a member who can stitch the family's clothes is an example. A material resource is one that lies outside the person, such as money, land, the house, furniture, equipment and the goods and services the community provides. The sewing machine on which that stitching is done is an example. The two differ in that a material resource is used up or worn out as it is used, while a human resource such as a skill generally grows with use, and a human resource cannot be lent or sold apart from the person who holds it.

Household resource defined as whatever can be used to reach the family's goals, with the point that resources are limited 1. Human resource defined with an example 1. Material resource defined with an example 1.

- (b) Saving is the part of the income that is not spent in the period in which it is received, set aside deliberately for a purpose, whether that purpose is a known expense ahead, such as a fee or a marriage, or an unknown one, such as illness or the loss of work. It is best treated as the first charge on the income rather than as whatever happens to be left at the end of the month, since the latter is usually nothing. A household may hold its savings in a bank, in a savings account or a recurring deposit or a fixed deposit. The advantage is safety and liquidity: the money is secure, it earns some interest, a record is kept, and in a savings account it can be drawn when it is wanted, which is what an emergency fund must be. A household may also hold savings in a scheme meant for the long term, such as a post office certificate, a public provident fund account or an insurance policy with a savings element. The advantage here is a better return and, in several of them, relief from tax, together with the fact that the money is not easily drawn and so is not frittered away, which is an advantage when the purpose is years off. Other forms worth crediting are gold and silver, which hold their value and are accepted anywhere but earn nothing and may be stolen; property, which may rise in value but needs a large sum to begin with and cannot be sold in a hurry; and a chit fund or a self help group's common fund, which suits a household with a small irregular income but depends entirely on the honesty of the group.

Saving defined as income not spent, set aside for a purpose, with the point that it should be a first charge 1. First form named with an advantage 1. Second form named with an advantage 1.

- (c) The management of time in the home is the planning and the controlling of the way the hours of the day are used, so that the work of the household is done, the people in it are attended to, and some part of the day is left for rest and for the things the members want to do. Time is the one resource that is the same for every household and cannot be stored, borrowed or added to, so the only management possible is to decide what it shall be spent on. A time plan for a working day is drawn up in steps. The jobs to be done are listed first, including the ones that come round daily, the ones that fall on that particular day and the ones that have been put off. Each is then judged for how long it really takes, which is best done from experience rather than from hope, and for whether it must be done at a fixed hour, as a school departure or a meal must be, or can be moved. The fixed points are set down first and the movable jobs fitted round them. The heavy and the disliked jobs are put where the energy is highest, usually early, and the light ones where it is lowest. Jobs that can go on together are dovetailed, so that the time a dish spends on the fire is used for cutting the vegetables for the next meal or for setting the table. The work is shared out among the members who are available. A margin is left unfilled for the thing that goes wrong, and a time for rest and for the family to be together is put into the plan and not left to chance. Such a plan may fail in practice because the time allowed for each job was too short, so that the plan falls behind by the middle of the morning and is abandoned; because no margin was left, so that one unexpected caller or one small illness destroys it; because it was made by one member for the others without their agreement, so that nobody else keeps to it; because it ignored the energy and the peak hours of the people who had to work it; or because it was so detailed and so rigid that keeping to it became a burden in itself.

Time management defined as planning and controlling the use of the day, with the point that time cannot be stored or added to 1. The steps of making a plan, through listing the jobs, estimating the time and placing the fixed points 1. The remaining steps, dovetailing, placing heavy work at the peak hour, sharing out and leaving a margin and a time for rest 1. Two reasons why such a plan fails, such as underestimated times, no margin, no agreement from the others or excessive rigidity 1.

Question 8 [10]

- (a) A dye is a coloured substance that can be taken up by a fibre and held there, so that the colour becomes part of the material and is not merely laid on its surface, and that resists to some degree the washing, rubbing, perspiration and sunlight the fabric will meet. A dye must have an affinity for the particular fibre, which is why a dye that colours cotton may leave polyester untouched, and why a fabric of two fibres may have to be dyed twice or may come out in two shades. Dyeing colours the whole material in one shade throughout, the goods being immersed in the dye bath, and it may be carried out at any stage, on the loose fibre, on the yarn, on the piece after weaving or on the made up garment. Printing applies colour to selected parts of the surface of the finished cloth in order to make a pattern, by block, by screen, by engraved roller or by transfer, and the colour is usually carried in a thickened paste rather than a bath. The practical difference shows on the back of the cloth: a dyed fabric is the same colour on both faces and through the thickness of the yarn, while a printed fabric generally shows the pattern clearly on the face and faintly or not at all on the reverse.

Dye defined as a colouring matter taken up and held by the fibre, with the point about affinity 1. Dyeing described as colouring the whole material in one shade 1. Printing described as colouring selected parts to make a pattern, with the difference seen on the reverse 1.

- (b) First, the fibre and the construction must suit the weather. A fabric for a hot season should be of a fibre that absorbs moisture and lets it evaporate, such as cotton, linen or a viscose, and should be of a loose and open construction in a light weight, since it is the movement of air and the taking up of perspiration that make a garment feel cool. A closely woven synthetic that holds moisture against the skin will be uncomfortable however light it is. Second, the garment is for daily wear, so the fabric must stand up to frequent washing and to the sun. It should be colourfast, pre-shrunk or allowed for in the cutting, strong enough not to tear at the seams, and easy to wash and iron at home, since a fabric that must be dry cleaned or that creases at a touch will not be worn on an ordinary day. Third, the cost must be weighed against the service expected, counting not only the price of the cloth but the cost of making it up and of keeping it clean over its life, and the width of the material, since a wider cloth may need less length. Other points worth crediting are the suitability of the

colour, the pattern and the texture to the wearer's age, build and occupation, the design of the garment the cloth is meant for, since a soft fabric will not hold a pleat, and the fastness of the dye to perspiration, which matters particularly in a summer garment.

Fibre and construction suited to the weather, with absorbency and openness 1. Durability in wear and washing, with colourfastness, shrinkage or ease of care 1. Cost weighed against the service expected, or suitability of colour, pattern and texture to the wearer 1.

- (c) The care of clothing is everything done to keep a garment serviceable and presentable for as long as it should last, which includes the daily airing and brushing of what has been worn, the prompt treatment of stains, washing or dry cleaning at the right intervals and by the right method, drying, ironing, the mending of a small tear or a loose button before it becomes a large one, and correct storage between seasons. Good care costs very little and adds years to a garment, while a garment carelessly handled is spoilt long before the cloth has worn out. A cotton garment with a stain on it should be dealt with in order. The stain is attended to as soon as possible, since a fresh stain comes out far more easily than one that has dried and set, and the garment must not be put into a general wash or ironed until the stain has gone, because heat sets most stains permanently. The nature of the stain is identified if it can be, since the treatment depends on it, and the care label is read for anything that is forbidden. The loose matter is lifted off first, by scraping a solid gently with a blunt knife or blotting a liquid with absorbent paper, working from the edge of the stain inwards so that it is not spread. A pad of clean cloth is placed under the stained part so that what is loosened passes into the pad and not through to the other side. The treatment is then tried on a hidden part of the garment, such as an inside seam, before it is used on the stain itself. Most fresh stains on cotton yield to cold water and a little mild soap, worked from the back of the fabric and rinsed through thoroughly; a greasy stain needs warm water with soap, or an absorbent such as starch or talcum left on it to take up the grease; and a stain that remains may need a reagent appropriate to it, used sparingly, rinsed out completely and never used on a coloured fabric without the test on the seam first. The place is then rinsed until no trace of the agent is left, since a residue will show as a ring or will rot the fabric, and the garment is dried and only then put through the ordinary wash. A garment should be sorted before washing first because colour runs: a new or deep coloured article put in with white or pale ones will stain them, and a white article washed with coloureds turns grey over time. Second because different fabrics need different treatment, so that the heavily soiled cottons that want hot water and hard rubbing cannot be washed with the silks and woollens that would shrink, felt or lose their finish. Other reasons worth crediting are that heavily soiled articles dirty the water for the lightly soiled ones, that a garment with a stain or a tear should be set aside and dealt with before it is washed, and that pockets must be emptied and fastenings closed before anything goes in.

Care of clothing explained as the whole of what keeps a garment serviceable, with the daily attentions, repair and storage 1. Dealing with the stain promptly, identifying it, and not washing or ironing over it 1. The method, lifting off loose matter, a pad beneath, a test on a hidden part, the appropriate agent and thorough rinsing 1. Two reasons for sorting, the running of colour and the different treatment different fabrics need 1.

Question 9 [10]

- (a) Formal education is given in a school or a college, to a captive audience of children and young people, in a fixed building at fixed hours, from a syllabus laid down by an authority, by a teacher who has formal standing over the class, and it is tested by examination and rewarded with a certificate. Extension education is given outside any institution, to adults who come to it of their own will and may leave it at any time, in their own homes, fields and villages, from no fixed syllabus but from the needs the people themselves feel, by a worker who has no authority over them and must earn a hearing, and it is tested not by any examination but by whether the people have changed what they do. The two support each other in that the school prepares the ground on which extension work stands, since a village that can read follows a leaflet, keeps an account and judges a claim; while extension work carries into the adult population, and into the household, the knowledge that the formal system holds but cannot reach them with, and brings the real problems of the field back to the research institution and so into the syllabus.

Formal education described, with its institution, its fixed syllabus and its certificate 1. Extension education described, with its voluntary adult audience and its basis in felt needs 1. One way in which the two support each other 1.

- (b) First, the worker needs a genuine liking and respect for the people he works among, and the patience that goes with it. A village can tell within a week whether the worker thinks himself above it, and a worker who is impatient with what he regards as ignorance or superstition will be listened to politely and ignored. Second, the worker needs to be a good listener before being a good speaker, so that he learns what the village actually wants, what it has tried before, who decides matters in it and what the real obstacle to a change is, and so that the people feel their own knowledge of their own conditions has been respected. Third, the worker needs competence in the subject and the honesty to admit the limits of it. Advice that fails once destroys years of work, so the worker must know his subject, must be able to do with his own hands what he asks others to do, and must say plainly when he does not know something and go and find out. Other qualities worth crediting are a readiness to live in the village and share something of its life rather than visit it from the town, the ability to work through local leaders instead of around them, simplicity of speech and of dress, reliability in keeping to what has been promised and to the appointed time, and the self restraint to let the credit for a success go to the people themselves.

First quality named with its explanation 1. Second quality named with its explanation 1. Third quality named with its explanation 1.

- (c) An audio visual aid is any material or device an extension worker uses alongside the spoken word to help an audience understand, believe and remember a message, by reaching the eye as well as the ear. It is an aid and not a substitute, since the aid does not teach by itself and a worker who hides behind one has not communicated anything. Its value is that a message seen is grasped faster and retained longer than one merely heard, that a picture crosses the barrier of a literacy the audience may not have, and that something put before the eye can be examined and argued with. Two such aids are the poster and the method demonstration. A poster carries a single simple idea in a bold picture and very few words, and it is suited to a message that needs only to be remembered or acted on once, such as the date of an immunisation camp or a warning against drinking untreated water. It works where people pass and wait, it needs no worker standing beside it and it keeps on working after the worker has left, but it cannot explain anything complicated and cannot answer a question. A method demonstration shows the audience how a thing is done, step by step, with the materials themselves, and lets them try it under the worker's eye. It is suited to a message that is a skill, such as the preparation of a weaning food, the making of a smokeless stove or the stitching of a garment, and it is the strongest of all the aids for that purpose, because the audience sees that it can be done, sees what it needs for it, and leaves having done it once. Two faults that make an aid fail with a village audience are, first, that it is pitched outside the audience's experience, with words it does not use, lettering it cannot read, drawings too stylised to be recognised or a scale that means nothing to it, so that the audience sees the aid and not the message. Second, that it is too crowded, carrying several ideas at once where it should carry one, so that nothing is remembered. Other faults worth crediting are an aid too small to be seen from the back of the group, one needing a power supply or a dark room that the village cannot provide, one so handsome that the audience admires the picture and misses the point, one showing a practice the audience cannot afford or cannot obtain the materials for, and the use of an aid that the worker has not tried out beforehand.

Audio visual aid defined, with the point that it is an aid and not a substitute for the worker 1. First aid named, with the kind of message it suits and a word on its working 1. Second aid named, with the kind of message it suits and a word on its working 1. Two faults that make an aid fail, such as being outside the audience's experience and carrying too many ideas 1.

Question 10 [10]

- (a) A self help group is a small voluntary association, usually of fifteen to twenty people of a similar economic standing from the same locality and most often of women, who meet at a settled interval, save a small fixed sum each at every meeting into a common fund, and lend that fund out among themselves on terms the group itself decides, keeping their own records and running their own meetings. Once the group has shown that it can save and recover regularly, it is generally linked to a bank, which lends to the group as a whole rather than to its members separately. Two ways in which such a group helps its members are, first, that it gives a small borrower access to credit she would not otherwise get. A woman with no security and no papers cannot borrow from a bank for a sewing machine or a buffalo or a daughter's illness, and her alternative is a moneylender at a crushing rate, while the group lends her the money quickly, cheaply, without papers and

without her having to beg for it. Second, that it builds the members themselves. A woman who has handled money, kept a record, spoken in a meeting, taken part in a decision and been held to an obligation gains a standing in her own house and a confidence that carries into other matters, and the group becomes a body through which the women can take up a village question that no one of them could raise alone. A third way worth crediting is that the group becomes the point through which training, government schemes and market links reach its members.

Self help group defined as a small group of similar means that saves regularly into a common fund and lends from it 1. First way it helps, access to credit on reasonable terms 1. Second way it helps, the building of confidence, standing and collective strength 1.

- (b) First, by training in a skill that has a market. Training is wasted when it teaches something nobody in the district will buy, so the skill has to be chosen after looking at what sells locally, what raw material is at hand and what the women can do within the hours they actually have free, and the training must go as far as the standard a buyer will accept, not stop at the elementary stage. Second, by making credit and working capital available, through a self help group, a bank scheme or a government programme, since nearly every way of earning needs a small sum at the start for a machine, for material or for stock, and a woman who has to borrow that sum from a moneylender loses her margin before she begins. Third, by organising the marketing, which is where home based work most often breaks down. Women working singly have no bargaining power, no access to a buyer beyond the village and no way of filling a large order, so forming them into a group or a cooperative that can buy raw material together, keep a common standard of quality, fill a bulk order and sell under one name is often worth more than any amount of further training. Other ways worth crediting are support with the care of children so that the woman has hours she can call her own, help with literacy and simple accounts, help in dealing with the licences and registrations a trade requires, and work on the attitudes of the household, since a woman whose family will not let her go to the market needs that resistance addressed before anything else will serve.

First way, training in a skill chosen for its market 1. Second way, credit and working capital 1. Third way, organised marketing through a group or cooperative, or any other sound way such as child care or literacy 1.

- (c) Consumer education is the teaching of buyers to buy well and to stand up for themselves, so that they know what the goods and services they buy should be, know their rights and the machinery for enforcing them, can read a label, a guarantee, a weight and a price, can see through a sales claim, and know how and where to complain. It is needed because the rights a consumer has are of no use to a consumer who does not know of them, and because the single buyer meets a seller who knows far more about the goods than he does. A consumer organisation protects buyers in several ways at once. It informs them, through its magazine, its pamphlets and its campaigns, about goods that have been found defective, about unfair practices in a trade and about the law. It tests goods independently and publishes the results, which is something no individual buyer can do and which a trade attends to because its sales depend on it. It takes up individual complaints, guiding a complainant through the procedure, writing to the seller and, where necessary, appearing in a consumer commission on his behalf, which matters because many buyers will not go alone. It files complaints in its own name on behalf of a class of buyers where a practice has harmed many people, which the law allows a recognised organisation to do. And it presses the government and the trade for better standards, honest labelling and effective enforcement, acting as the organised voice that scattered buyers lack. Two ways in which an advertisement may mislead an ordinary buyer are, first, by a claim that cannot be checked and has no meaning, such as that a product is the best, is recommended by experts, is clinically proven or gives a named percentage more of something, when no test, no comparison and no authority is identified. Second, by burying what matters in the conditions, so that the price shown is not the price payable, the free gift depends on a purchase the advertisement does not mention, the offer is open for a few days only or to a few buyers only, and the qualification is printed too small to be read. Other ways worth crediting are the use of a well known face to lend authority where the person has no knowledge of the product, pictures that show the goods as larger, fuller or finer than they are, the suggestion that a product will bring success, beauty, fairness of skin or marriage, a health claim made for an ordinary food, and the showing of the price without the taxes and charges added to it.

Consumer education defined, with a reason why it is needed 1. The part of a consumer organisation in informing buyers and in testing and publishing 1. Its part in taking up complaints, acting for a class of buyers and pressing for better standards 1. Two ways in which an advertisement misleads, such as an unverifiable claim and a material condition concealed in the fine print 1.