

HOME SCIENCE

PAPER 1

(THEORY)

Maximum Marks: 70

Time Allotted: Three Hours

Reading Time: Additional Fifteen Minutes

Instructions to Candidates

- You are allowed **an additional 15 minutes** for **only** reading the question paper.
- You must **NOT** start writing during reading time.
- This question paper has **7 printed pages**.
- It is divided into **three sections** and has **12 questions** in all.
- All questions are compulsory. Answer **all** questions.
- **Section A** has **fourteen subparts** which are very short answer questions. Each question carries 1 mark.
- While attempting **Multiple Choice Questions** in Section A, you are required to **write only ONE option as the answer**.
- **Section B** has **seven questions** which are short answer questions. Each question carries 4 marks.
- **Section C** has **four questions** which are long answer questions. Each question carries 7 marks.
- **Internal choices** have been provided in **two questions in Section B** and in **one question in Section C**.
- The intended marks for questions are given in brackets [].

Instruction to Supervising Examiner

- Kindly read **aloud** the Instructions given above to all the candidates present in the examination hall.

SECTION A – 14 MARKS

Question 1

- (i) Radha is a working lady who wants to make tomato purée in bulk and refrigerate it so that it can be used for the gravies made at a later stage. [1]

Which method should she deploy to make the tomato purée?

(Understanding)

- (a) Boiling
(b) Simmering
(c) Blanching
(d) Grilling
- (ii) Ramesh is used to eating rice for his meals and wants to supplement it to make it wholesome. [1]

Which one of the following should Ramesh using to make the meal more nutritious?

(Application)

- (a) He should add vegetables to rice.
(b) He should tie rice in a wet cloth and keep it overnight.
(c) He should grind the rice and kept it overnight.
(d) He should add slaked lime that is, 'choona' to the rice.
- (iii) Given below are two statements marked Assertion and Reason. Read the statements carefully and choose the correct option. [1]

(Analysis)

Assertion: Crossed cheque is one in which two parallel lines are drawn on the upper left side of the cheque.

Reason: This cheque cannot be encashed. It can only be deposited in the account of the drawee.

- (a) Both Assertion and Reason are true and Reason is the correct explanation for Assertion.
(b) Both Assertion and Reason are true but Reason is not the correct explanation for Assertion.
(c) Assertion is true and Reason is false.
(d) Both Assertion and Reason are false.
- (iv) Given below are two statements marked Assertion and Reason. Read the statements carefully and choose the correct option. [1]

(Analysis)

Assertion: FSSAI is responsible for framing of regulations to lay down the standards and guidelines for the manufacture of articles of food.

Reason: It has been authorised by international regulatory bodies to enforce the food based regulations.

- (a) Both Assertion and Reason are true and Reason is the correct explanation for Assertion.

- (b) Both Assertion and Reason are true but Reason is not the correct explanation for Assertion.
- (c) Assertion is true and Reason is false.
- (d) Both Assertion and Reason are false.
- (v) Raman made a bank transaction to purchase a shirt, but immediate deduction was not made from his bank account. [1]
Which method of banking did Raman use? **(Understanding)**
- (a) Debit Card
- (b) Mobile Banking
- (c) Internet Banking
- (d) Credit Card
- (vi) Choose the correct pair from the following options. **(Analysis)** [1]
- (a) Eastern India - Kantha
- (b) Central India - Kasuti
- (c) Southern India - Phulkari
- (d) Northern India – Kutch
- (vii) Select the odd one from the preliminary cooking terms given below. **(Analysis)** [1]
- (a) Slicing
- (b) Garnishing
- (c) Grating
- (d) Chopping
- (viii) What could be a similarity and a difference in stewing and steaming methods of cooking food? **(Understanding)** [1]
- (ix) Shadow work embroidery made by using herringbone stitch originates from _____ **(Recall)** [1]
- (x) Ashley is unwell and has been advised by the doctor to limit the intake of salt, maintain his body weight and indulge in physical exercise regularly. What is Ashley suffering from? **(Understanding)** [1]
- (xi) Name the contaminant used to adulterate mustard oil. **(Recall)** [1]
- (xii) Ritesh is an adolescent suffering from an eating disorder. Some of the symptoms of this disorder are fear of gaining weight, eating excessively and using unhealthy methods of losing weight. [1]
Which type of eating disorder is Ritesh suffering from? **(Understanding)**
- (xiii) What is the standardisation mark found on a packet of biscuit? [1]
- (xiv) Ravi is a young adolescent whose parents allow him to share his views. This makes him self-confident and a wise decision maker in school. [1]
What style of parenting is evident here? **(Understanding)**

SECTION B – 28 MARKS

Question 2

- (i) Seema wants to quickly cook a light vegetable curry for her grandmother who is hospitalised. Which method of cooking you think will be suitable to prepare the curry? Why? [2]
(Evaluate)
- (ii) Briefly discuss *any two* non- nutritional factors that affect meal planning. [2]
(Understanding)

Question 3

- (i) Rohan works as a Manager in a multinational company and has kept a microwave in his cabin to cook or heat food whenever required. [2]
With reference to the statement, explain the principles of microwave cooking that makes Rohan use it in his office. (Understanding)
- (ii) How does prolonged cooking of protein rich food render it difficult to digest? [2]
(Understanding)

Question 4

Retirement is the time when a person may feel unwanted and isolated, and this could affect the health and emotional well-being.

In this context, answer the following questions.

- (i) Explain how the life expectancy can be increased for a seventy-five year old person. [2]
(Understanding)
- (ii) Discuss the changes required by the elderly to lead a happy retired life. [2]
(Understanding)

Question 5

- (i) Meena wants to deposit her surplus money in the bank for a higher rate of interest. Keeping in view Meena's requirement, suggest the type of bank account she should open. Mention *any one* feature of the account suggested by you. [2]
(Application)
- (ii) Ved and Ahmad made payments at an electronic store. While Ved paid the amount via cheque, Ahmad made his payment by using online banking. Whose payment was swift? Give a reason. [2]
(Evaluate)

Question 6 [4]

- (i) Christy with his friends participated in a nationwide cleanliness and sanitation campaign launched by the government of India. Name the campaign and state *any three* of its features. **(Understanding)**

OR

- (ii) Enumerate *any four* objectives of the Integrated Child Development Services (ICDS) programme. **(Understanding)**

Question 7

- (i) Discuss the origin and characteristics of Kani shawl. **(Understanding)** [2]

- (ii) Kathiawar embroidery is colourful, elaborate and lavishly done on the fabric. [2]
In this context, briefly explain *any three* features of Kathiawar embroidery.

(Understanding)

Question 8

[4]

- (i) Raj brought an immersion rod a few days back which stopped functioning. He went back to the shopkeeper and wanted the item to either be replaced or rectified by the shop. But the shopkeeper refused to entertain Raj's plea and asked him to leave his shop.

Which consumer right of Raj was violated? Enumerate *any three* responsibilities of a consumer in such situations. **(Understanding)**

OR

- (ii) While purchasing groceries in the local market, Radha realises that the same item is priced differently in every shop.

In the above context, explain the causes of price variation faced by Radha.

(Understanding)

SECTION C – 28 MARKS

Question 9

- (i) Name *any two* products which are made using Ikat fabric. **(Recall)** [1]
- (ii) What type of colours and motifs are used on Ikat fabrics? **(Recall)** [3]
- (iii) Describe the technique of making Patola fabric. Mention *any two* dyes which are commonly used to make Patola fabrics. **(Understanding)** [3]

Question 10

Priya, thirteen-year old girl, takes packed lunch to school. She notices that her food smells and tastes different by the lunch time.

- (i) Suggest *any three* criteria of packing lunch to Priya to ensure way that her lunch stays fresh and healthy till the lunch time. **(Application)** [3]
- (ii) What kind of utensils should her lunch be packed in? **(Understanding)** [2]
- (iii) Suggest a healthy packed lunch for Priya. **(Application)** [2]

Question 11

Raj and Sarita are twins and have just turned thirteen. Both of them experience certain changes in their bodies.

Keeping the above context in view, answer the following questions.

- (i) State *any two* features of external physical changes that Raj and Sarita experience. List *any one* common physical change in them. **(Recall)** [3]
- (ii) Explain the role of the endocrine system which causes such changes to take place. **(Understanding)** [4]

Question 12

Read the passage given below and answer the questions that follow.

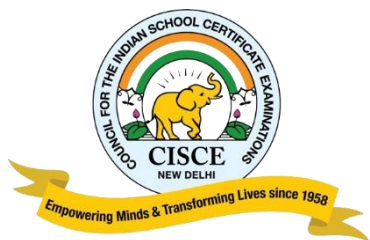
- (i) Taranpreet is suffering from diabetes and consults a dietician. The dietician makes a diet chart for him.
 - (a) List *any two* features of the diet chart made by the dietician. **(Understanding)** [2]
 - (b) Name *two* food items Taranpreet must avoid. Give a reason. **(Understanding)** [2]
 - (c) Plan a healthy breakfast for Taranpreet. **(Application)** [3]

OR

- (ii) Aslam enjoys eating rice for his afternoon meals. While cooking rice, he has noticed that it often becomes soft and mushy.

With reference to the above statement answer the following questions:

- (a) List the reasons for the texture of the rice becoming soft and mushy. **(Understanding)** [3]
- (b) State *any two* dishes made with rice and the methods of cooking used. **(Understanding)** [2]
- (c) Is parboiled rice nutritious? Justify your answer. **(Evaluate)** [2]



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(THEORY)

ANSWER KEY

SECTION A – 14 MARKS

Question 1

- (i) (c) Blanching [1]
- (ii) (a) He should add vegetables to rice. [1]
- (iii) (a) Both Assertion and Reason are true and Reason is the correct explanation for Assertion. [1]
- (iv) (c) Assertion is true and Reason is false. [1]
- (v) (d) Credit Card [1]
- (vi) (a) Eastern India – Kantha [1]
- (vii) (b) Garnishing [1]
- (viii) Similarity - No nutrient loss occurs in both the methods. [1]
Difference - In stewing, food is cooked in a liquid medium whereas in steaming, food is cooked with the help of steam directly or indirectly.
- (ix) Lucknow [1]
- (x) Hypertension [1]
- (xi) Argemone oil [1]
- (xii) Bulimia Nervosa [1]
- (xiii) ISI / FSSAI [1]
- (xiv) Democratic parenting [1]

SECTION B – 28 MARKS

Question 2

- (i) Pressure cooking will be suitable. [2]

Reasons for suggesting Pressure cooking

- It is a fast method of cooking and will be easy for Seema to cook quickly.
- It saves time and energy.
- It requires minimal oil content and will not be oily for Seema's grandmother.
- The nutrients will be retained.
- It is soft and chewable and therefore, a preferred method of cooking for the elderly.

(Candidates have to suggest a method appropriate to the context given in the question. They also have to substantiate their suggestion with any one valid reason.)

- (ii) Two non- nutrition factors are: [2]

- Economic considerations
- Save time and energy
- Religious or traditional customs
- Individual likes and dislikes
- Food acceptance
- Family size and composition

(Candidates have to briefly discuss any two non-nutritional methods that impact cooking. Any other relevant factor, apart from the ones given above, will be accepted.)

Question 3

- (i)
 - The principle of microwave cooking is conversion of electromagnetic energy to thermal energy. [2]
 - During cooking, the microwave penetrates foods and are absorbed, causing molecules to vibrate and generate heat.
 - It hastens the process of cooking and saves time and energy.

(Candidates have to explain those principles of microwave cooking that makes Rohan prefer this method.)

- (ii) Prolonged cooking method reduces the digestibility of protein. For example, during roasting of meat, it shrinks in size and becomes leathery. It becomes stringy and is difficult to digest. This furious method of cooking reduces the content of protein in the food item. [2]

(Candidates have to explain how prolonged cooking reduces the protein content and makes a food item difficult to digest. It should be discussed with the help of an example.)

Question 4

- (i) Life expectancy of a seventy-five year old person can be increased in the following ways. [2]

- Regular exercising – walking, swimming, strength training etc.
- Being a part of a social group of similar age
- Regular health check ups
- Consuming nutritious food regularly

(Candidates have to explain how life expectancy can be increased for the elderly. Any other relevant point, besides the ones given above, will be accepted.)

- (ii) The adjustments required to lead a happy life after retirement are – [2]

- Ensuring financial stability after retirement
- Pursuing skills, hobbies and interests
- Being a part of social groups and meeting up regularly
- Staying with close family members or near them to enjoy the company of grandchildren
- Making a plan for each day to keep themselves constructively busy

(Candidates have to briefly discuss the adjustments that elderly have to make post retirement. Any other relevant point, besides the ones given above, will be accepted.)

Question 5

- (i) Meena should open a fixed deposit account. [2]
Reasons for suggesting fixed deposit account are:

- It leads to tax saving.
- There are assured returns on maturation of the amount.
- It has a higher rate of interest compared to other types of accounts.
- Loan against fixed deposit can be taken in emergency situations.

(Candidates have to suggest an account relevant to the context given in the question. They also have to mention a feature of the account suggested.)

- (ii) The payment made by Ahmad by online banking was swift. [2]

Reason for Online banking being swift:

- It transfers the money instantly while cheque takes maximum three days to transfer the amount.

Question 6**[4]**

- (i) Campaign – Swachh Bharat Abhiyan

Features of Swachh Bharat Abhiyaan:

- Sanitation in the rural regions
- Elimination of open defecation
- Safe drinking water
- National level campaign to clean all the backward statutory towns
- Generating awareness about sanitation and its link to public health
- Modern and scientific municipal solid and liquid waste management
- Water pipelines in all the villages ensuring water supply to all the households by 2019
- Construction of toilets in school and public places
- Separate toilets for boys and girls in all the schools
- Foster private sector participation
- Strengthen urban local bodies and tackle sanitation

(Candidates have to name the campaign and write any three features in complete sentences.)

OR

- (ii) Objectives of ICDS:

- To improve the nutritional and health status of the children in the age group zero to six years.
- To lay the foundation for proper psychological, physiological and social development of a child.
- To reduce the incidents of mortality, morbidity, malnutrition and school dropout.
- To achieve effective coordination of policy and implementation against various departments to promote child development.
- To enhance the physical capability of the mother so that health and nutritional needs of the child can be taken care of.

(Candidates have to write any four objectives in complete sentences.)

Question 7

- (i) Origin of Kani shawl is Persia, Kanihama (Kashmir)

[2]

Characteristics of Kani shawl are:

- It is made from handloom pashmina.
- Instead of shuttle, cane needles are used.
- It is a very soft and lightweight fabric.
- In a single Kani shawl, around thirty colours are used.

- (ii) Technique of Kathiawar [2]
- Chain stitch is usually done in white or any other colour
 - Interlacing stitches is done with indigo, blue, crimson red, green, yellow
 - Mirror work is done with the red, green, blue, yellow predominantly
 - Other colours could also be used

Question 8 [4]

- (i) Right to be Heard

Responsibilities of a consumer -

- Take and retain bill, receipts, guarantee cards as records.
- Buy good quality products with standardisation marks.
- Follow the manufacturer's instruction(s) for use, care and maintenance of the product.
- Do not fall for any sales gimmicks.
- Report cases of malpractices in consumer court.
- Be fully aware of rights and responsibilities and become a part of the consumer group if required.

(Candidates have to first identify the consumer right that was violated. They have to write any three responsibilities of a consumer in such situations.)

OR

- (ii) Causes of price variation

- Better quality costs than lower quality.
- Variation in purchasing power of people in different areas.
- Lower prices in the wholesale market in comparison to retail areas.
- Packaging of products which may lead to a rise in cost than those sold loose.
- Often, MRP printed on labels includes commission from the retailer.

(Candidates have to explain in brief the causes of price variation. Any other relevant cause, apart from the ones given above, will be accepted.)

SECTION C – 28 MARKS

Question 9

- (i) Products made using Ikat [1]
- Kurta
 - Dupatta
 - Bags
 - Scarf
 - Bedsheets

- (ii) Traditionally colours from plants, flowers and barks of trees were used as dyes for making Ikat. [3]

Lately, patterns are derived from ethnic or religious symbolism. Ikat patterns are designed with vertical axis symmetry or with a mirror image running along the centre line resulting in pattern or Ikat design to be the same on both the sides of the fabric. Ikat weavers assemble complex geometric motifs by repeating simple shapes and applying transformations to them. Simple motifs like fish, flowers, stars and animals including elephants and parrots.

- (iii) The double Ikat made in Patan, Gujarat and is called "Patola". It is made using fine silk yarns and many colours. It may be patterned with a small motif and repeated many times across the length of a six-meter sari. Sometimes, the Patan double Ikat is pictorial with no repeats across its length. [3]

Each small design element is individually tied in the warp and weft yarns. It is an extraordinary achievement in the textile arts. Natural dyes like catechu, cochineal, indigo, turmeric, natural lac, hard roots, manjishtha, ratnajyot, katha, kesudo, pomegranate skin, henna are used.

Question 10

- (i) Criteria to be kept in mind while planning a fresh and healthy packed lunch for Priya are: [3]

- The food should be dry and consists of non-drip items so that they do not spill.
- The tiffin lunch box must have foods which are nutritious and liked by the child.
- Very hot or very cold food is not liked by children so such food should not be packed.
- The lunch should meet around 25% of the dietary requirements.
- The foods chosen to be packed must be attractive to the child and easy to handle. For example, 'roti' or 'paratha' rolls can be given instead of 'sabji' and bread separately.
- Some nutritious yet favourite food of the Priya should be added occasionally as this will encourage the child to relish the tiffin meal.

(Candidates have to suggest any three criteria for packing a healthy and nutritious lunch for Priya. Any other relevant suggestion, apart from the ones given above, will be accepted.)

- (ii)
 - The food should be packed in food grade material containers which are airtight. [2]
 - If possible, temperature control containers should be used.
 - They must also prevent any drip or spills.
 - Water should be carried in bottles that will retain the desired temperature.

- (iii) A healthy packed lunch for Priya. [2]
Uthapam with tomato and coconut chutney

A guava and a healthy packed drink like buttermilk / tender coconut water

Or

Grilled vegetable sandwiches with a little cheese

A sachet of tomato ketchup

An apple or a seasonal fruit and a healthy packed drink like buttermilk / tender coconut

Or

'Roti' or 'paratha' roll with a dry 'sabji' like dry 'arbi', masala 'bhindi' or dry mixed vegetables sauteed with spices.

A banana or a seasonal fruit and a healthy packed drink like buttermilk / tender coconut water.

Some dry fruits can also be kept in Priya's bag as a ready snack.

(Candidates have to suggest healthy lunch to be packed for Priya. Any other relevant suggestion, apart from the ones given above, will be accepted.)

Question 11

(i) External physical changes in Raj [3]

- Voice changes
- Facial hair like a beard grows.
- Narrowing of hips and broadening of shoulders
- Body becomes more muscular.

External physical changes in Sarita

- Development of breasts
- Broadening of hips
- Curvaceous body
- Change in pitch of voice

Common external physical changes in both Raj and Sarita

- Pimples / acne
- Pattern of body hair
- Growth of underarm hair and pubic hair

(ii) Role of the endocrine system which causes such changes during adolescence: [4]

- The gonads produce male and female reproductive cells (sperms and ova respectively) they also release the sex hormones into the blood.
- Primary sex characteristics are concerned with the development, structure and function of the gonads (testes and ovaries) and the genitalia (the penis and prostate in males and the vagina, uterus and uterine tubes in females)
- The secondary sex characteristics are concerned with the development structure and functions of other external features like change of voice, body hair, broadening of shoulders, hips etc.
- These changes in the endocrine system occur during the onset of puberty at early adolescence marked by the menarche in females and sperm Arche in males.

(Candidates have to briefly explain the role of endocrine system in causing such changes.)

Question 12

(i)

(a) Features of the diet chart are as follows: - [2]

- Calories to be obtained from whole grains and complex carbohydrates a check on the sweets and dessert intake to be kept.
- Proteins are to be of high biological value like eggs, milk and its products, soybeans, tofu, chicken, fish, pulses and legumes. Foods to have high satiety value.
- Minerals and vitamins like vitamins C, A and B-complex must be present in the diet. Minerals like calcium and iron are essential. Orange and yellow vegetables, green leafy vegetables, citrus fruits, eggs and milk to be regularly provided.
- Water and roughage ensure good gut health, fruits and their fresh juices, cucumbers, 'nimboo paani', soups and other healthy beverages to be given.

(Candidates have to write any two features of the diet chart. Any other relevant feature, apart from the ones given above, will be accepted.)

(b) Food items that Taranpreet must avoid are: [2]

- High calorie and simple sugars like sweets, desserts, confectionary and fried foods, aerated and packaged drinks, jams, jellies, candies, honey or any other sweetening agents.
- Dried fruits, nuts, processed and packaged foods and alcohol.

The above foods contain high calories and simple carbohydrates both detrimental to a diabetic patient. The diabetic patient is unable to metabolise and process glucose properly thus foods high in sugar to be avoided.

(Candidates have to name any two food items to be avoided by Taranpreet. They must give a reason for the two items named by them.)

(c) Healthy breakfast for Taranpreet [3]

- Switch from white toast to wholegrain versions like seeded batch bread, multi-seed, granary, soya and linseed. These are better for her diabetes and digestive health. They are more filling, too.
- If making rotis and chapattis, wholewheat flour should be used.
- Little amount of oil should be used in cooking. It should be cooked with unsaturated vegetable oils, such as sunflower, olive or rapeseed, instead of butter or ghee.
- Choose roasted 'chivra' (puffed rice) with vegetables.
- Use 'sooji', 'besan' to make breakfast items as they are more nutritious and healthier with oil.
- Dry roasted 'methi paratha' should be tried instead of 'aloo paratha'.
- She can also mix rice, moong dal, besan or oat 'cheela' with dry fried vegetables.
- Eggs and milk products may be given.

Breakfasts must be filling and healthy. Portion control, oil control must be maintained. Whole grain cereals, vegetables and fruits, boiled chickpeas or other legumes or sprouts are some foods which are healthy for the diabetic person. These foods provide satiety and control calories.

(Candidates have to plan a healthy breakfast for Taranpreet. Any other relevant suggestion, apart from the ones given above, will be accepted.)

OR

- (ii) (a) • The reasons for the texture of the rice to become soft and mushy are the changes that take place in starch. [3]
- The starch molecules in rice swell when heated in water.
 - As the process of boiling rice continues the starch molecules become bigger and the rice becomes soft.
 - However, when the rice is overcooked the starch molecules of rice swell and burst releasing the starch into the rice which makes rice sticky or mushy.
- (b) • Fried rice / pulao, Method used: boiling and sauteing; braising; pressure cooking. [2]
- Kheer or payasam, Method used: sauteing, boiling
 - Idlis, Method used: steaming.
- (c) Yes. Parboiling of rice is done after paddy is harvested and soaked in large vats for two to three days. It is then steamed or boiled, dried and then milled to remove the husks. Most of the nutrients of the husk, hence, are absorbed by the grain. The contents of thiamine and riboflavin in parboiled rice are almost double of those in polished rice. Parboiled rice is also easier to digest. Thus, parboiled rice is more nutritious. [2]

(Candidates have to give their opinion and then justify the same by giving a substantial reason.)