

SHORT QUESTIONS

Q.1 What is macronutrients of plants?

Ans. Macronutrients are those elements which are needed in large quantity for growth of plants. Nitrogen, phosphorous and potassium are macronutrients. The quantity required per acre is 5 to 200 kg.

Q.2 What are micronutrients of plants?

Ans. The elements which are required in small quantity for plant growth are called micronutrient. Copper, maganese, zinc, boron iron, molybdenum and chlorine are micronutrients. The quantity required per acre ranges from 6 g to 200 g.

Q.3 Why prilled urea is more better than a fine powder?

Ans. The conversion of urea into granules in called prilling. Prilled urea spread on crops more easily than a fine powder. Powder can stay at leaves of plants while granules do not.

Q.4 Ammonium nitrate is not useful fertilizers for paddy rice, why?

Ans. Pladdy rice requires greater quantity of water. Microbial bacteria in flooded fields decompose ammonium nitrate into nitrogen gas.

Q.5 Which crops require more potassium fertilizers?

Ans. Tobacco, coffee, potato and corn require more potassium fertilizers.

Q.6 Which raw materials are used for cement?

Ans. Important raw materials for cement industry are (i) calcarious material; limestone, marble, chalk marine shells. (ii) argillaceous materials, clay, shale, slate. (iii) gypsum.

Q.7 Why we call cement as Portland cement?

Ans. In 1824, Joseph Aspdin prepared cement by heating limestone and clay. When it is mixed with water it changes to a hard mass. This hard mass has resemblance with the stones of a famous building material obtained from island of Portland near England.

Q.8 Is cement a mixture or compound?

Ans. Cement is a mixture of many compounds and each compound has its own characteristics properties. Final properties of cement depends upon the composition of cement.

Q.9 Which process is mostly used for the manufacturing of cement in Pakistan?

Ans. There are two manufacturing processes for cement (i) dry process (ii) wet process. Choice of dry or wet process depends upon the physical conditions of raw materials, local climatic condition of factory and fuel prices. In the Pakistan mostly wet process is used. Wet process is free from dust, grinding is easier and composition of cement can easily by controlled.

Q.10 Write the name of different zones and their temperature in rotary kiln?

Ans. There are four zones:

- (i) Drying zone (500°C)
- (ii) Decomposition zone (800°C)
- (iii) Burning zone (1500°C)
- (iv) Cooling zone (150 – 200°C)

Q.11 What are clinkers?

Ans. The product obtained from the rotary kiln is known as clinker. They are greenish black or grey coloured balls varying in size from small nuts to peas. This clinker is mixed with 4 to 5% gypsum and finally ground product is called cement.

Q.12 Write the names of processes which are used for pulp making?

Ans. (i) Kraft process (ii) Sulphite process
(iii) Neutral sulphite semi-chemical process (NSSC)

Q.13 Write the names of woody and non-woody raw materials for pulp making?

Ans. Woody materials are poplar, eucalyptus and fur. Non-woody are wheatstraw, cornstraw, ricestraw.

Q.14 Which bleaching agents are used to bleach the pulp in Pakistan?

Ans. Pulp obtained from digester is brown in colour and not suitable for writing paper. The pulp is bleached with ClO_2 or sodium hypochlorite (NaClO).

Q.15 What is the role of additives in paper making?

Ans. Additives increase the mechanical strength of paper and reduces the pores of the paper. They increase the glaze of the paper.

Q.16 What is the role of head box in paper making, Fourdrinier machine?

Ans. Head box discharges a uniform jet of pulp suspension on a fabric. Water of pulp is removed.

Q.17 What is calendering in paper making?

Ans. Size of paper sheet is reduced in thickness by the help of nip rolls. Surface of the paper becomes smooth and pores are reduced. This process is called calendering.