

MARKING SCHECM FORM 4 PP1

**PRE-MOCK 2009
AGRICULTURE PAPER 1 (443/1)
MARKING SCHEME**

1. (a) Flood – water allowed to freely cover the whole field to a depth of a few cm; basin – the field enclosed by embankments; ($\frac{1}{2}$ mark x 2 = 1 mark)
- (b) Keep outlets open, to allow excess water to flow away; remove any barriers in the field (rocks, trees); ($\frac{1}{2}$ mark x 2 = 1 mark)
2. Used up by plants; eroded, drained away; evaporate into the atmosphere; used up by soil organisms; (1 mark x 2 = 2 marks)
3. (a) Maize; Sorghum; rice; wheat; millet; rye; oats; barley; sesame; ($\frac{1}{2}$ mark x 2 = 1 mark)
- (b) Threshing; ($\frac{1}{2}$ mark)
4. Where there are no alternatives; where the alternatives yield the same utility/benefit; (1 mark x 2 = 2 marks)
5. (a) (i) Inventory; (1 mark)
- (ii) Record of assets; and their respective (monetary) value; ($\frac{1}{2}$ mark x 2 = 1 mark)
- (b) Total cost/value (1 mark)
6. Destroy organic matter; kill (useful) soil organisms; burn (useful) vegetation; expose the land to agents of erosion; may destroy farm property; evaporation of soil moisture; (any 2 $\frac{1}{2}$ mark x 2 = 1 mark)
7. (a) Manure; sub-soil; phosphatic fertilizer; rooting hormone; (1 mark x 3 = 3 marks)
- (b) Easy to transport; minimum disturbance to plant roots at transplanting (1 mark x 2 = 2 marks)
8. (a) raising plants from a mass of cells; (1 mark)
- (b) Fast; obviates the need for a male and female; the offspring are disease-free; large numbers of offspring produced; ($\frac{1}{2}$ mark x 3 = 1 $\frac{1}{2}$ marks)
9. (a) The higher the total yield, the higher the TDN; (1 mark)
- (b) (i) July; (1 mark)
- (ii) Flowering stage, plants with highest nutrient content; ($\frac{1}{2}$ mark)
10. Older animals have well-developed digestive systems; utilize most of the nutrients in the feed, producing poorer quality manure; ($\frac{1}{2}$ mark x 2 = 1 mark)
11. Deep; fertile; well drained; high organic matter content; ($\frac{1}{2}$ mark x 4 = 2 marks)
12. When harvested and eaten fresh; (1 mark)
13. (a) Need to sell off portions of the land; inheritance of heirs; holding land for speculative purposes; ($\frac{1}{2}$ mark x 2 = 1 mark)
- (b) The landless can acquire land; utilize idle land; ($\frac{1}{2}$ marks x 2 = 1 mark)
14. (a) Tillering-production of many stems by a plant; thinning-removing excess plants from a crop field; ($\frac{1}{2}$ mark x 2 = 1 mark)
- (b) High leaf : stem ratio; fast growing; leguminous; hardy; ($\frac{1}{2}$ mark x 3 = 1 $\frac{1}{2}$ marks)
15. (a) Improved aeration/large mass of soil from which the plant can draw nutrients; (1 mark)
- (b) Large amounts of water drained away in a short time; once set, effective for long; land useful for farming is not consumed by the tiles; ($\frac{1}{2}$ mark x 3 = 1 $\frac{1}{2}$ marks)
- (c) Repair broken tiles; remove sediment at outlets; ($\frac{1}{2}$ marks x 2 = 1 mark)



- 16.(a) A couch grass; B Nutgrass; C Setaria grass; (1 mark x 3 = 3 marks)
 (b) (i) A perennial; B; perennial; C; Annual; (1/2 mark x 5 = 2 1/2 marks)
 (ii) Perennial – complete life cycle in more than two years; annual- complete life cycle in one year; (1 mark x 3 = 3 marks)
 (c) Injure eyes; damage hides and skins; irritate skin; (1/2 mark x 2 = 1 mark)
- 17.(a) E beetle; F Mealy bug; G aphid; (1 mark x 3 = 3 marks)
 (b) E feed on leaves, reducing photosynthetic area; F puncture stem, feed on sap; (1 mark x 2 = 2 marks)
 (c) Early planting; crop rotation; field hygiene; pruning; weed control; (1 mark)
 (d) Maize; rice; banana; citrus; (1/2 mark x 2 = 1 mark)
 [total = 20 marks]
- 18.(a) Plant (part) harvested, eaten fresh; (1 mark)
 (b) Rapid means of transport to the market; sell from the farm (rather than at the market); sell to the market closest; identify customers with regular needs – schools, hospitals, hotels; (1 mark x 4 = 4 marks)
 (c) Spice food; source of vitamin A, B₁₂ C, Calcium, Iron, Phosphorus; quick source of income; waste is used as feed for livestock; (1 mark x 6 = 6 marks)
 (d) Leek; Asparagus; onion, mushroom; coriander; sweet potato; (1 mark x 4 = 4 marks)
 (e) Stakes used to support; tall varieties; by tying the plants onto the stakes at 20 cm intervals; produce clean fruits; facilitate weeding, spraying, harvesting; control disease; prevent pest infestation; (1 mark x 5 = 5 marks)
- 19.(a) (i) At the peak of the growth period; when moisture content high, plants easily recover from wounds caused; buds actively growing; rate of cell division and elongation highest; (1 mark x 5 marks)
 (ii) Fast; smaller wounds caused; success rate is high; lesser risk of disease, pest infestation; (1 mark x 4 = 4 marks)
 (iii) Budding knife; to cut the plants; raffia / polythene / clay; to bind the scion and root stock; disease, pest-control chemicals; for disease, pest control; (1 mark x 6 marks)
 (b) Scion and rootstock same size; make slanting cut; so that the two fit; tie; to maintain cambial contact; once set, remove the material used for tying; (1 mark x 5 = 5 marks)
 [Total = 20 marks]
- 20.(a) Loss of top soil – the most fertile part of soil; depriving plants of nutrients; expose plant roots; lodging; deposit sediment on plant leaves; (1 mark x 5 = 5 marks)
 (b) Moisture content of soil; dry soils easily blow; wind velocity, turbulence; strong winds have more effect; type of soil; fine soils blow faster; vegetation cover; reduces effect of wind; width of field; wide fields allow winds to gather speed; cause more destruction, roughness of soil surface; smooth fields aggravate effect of wind; cementing agents in the soil; hold soil particles, reducing effect of wind; (1 mark x 15 = 15 marks)
 [Total = 20 marks]