

MAHARASHTRA STATE BOARD OF VOCATIONAL EXAMINATIONS, MUMBAI

Examination, July, 2014

CERTIFICATE COURSE IN AGRO-INFORMATION TECHNOLOGY

[ἑἶς—3 ἰἑῶῆ]

(BEthÉ NÖÉ—100)

ΕΙΣΑΓΩΓΗ + ΟΡΘΟΓΡΑΦΙΚΕΣ (ΕΙΕ+®- 2)

$$^{\circ}\text{E}^{\circ}\text{E}^{\circ}\text{E}^{\circ} - (1) \text{ } ^{\circ}\text{E}^{\circ}\text{E}^{\circ}\text{E}^{\circ} \text{ } | \text{ } ^{\circ}\text{E}^{\circ}\text{E}^{\circ} \text{ } ^{\circ}\text{E}^{\circ}\text{E}^{\circ}\text{E}^{\circ}\text{E}^{\circ}\text{E}^{\circ} + \text{ } ^{\circ}\text{E}^{\circ}\text{E}^{\circ}\text{E}^{\circ} + \text{ } ^{\circ}\text{E}^{\circ}\text{E}^{\circ}$$

(2) $= V \epsilon^{\alpha \beta \gamma \delta} \epsilon^{\mu \nu \rho \sigma} \epsilon^{\eta \kappa \lambda \tau} \epsilon^{\alpha \beta \gamma \delta} + \epsilon^{\alpha \beta \gamma \delta} \epsilon^{\mu \nu \rho \sigma} \epsilon^{\eta \kappa \lambda \tau} \epsilon^{\alpha \beta \gamma \delta}$

(3) $\text{EVEI}\bar{\text{E}}\bar{\text{a}} + \text{E}\bar{\text{I}}\bar{\text{I}}\bar{\text{E}}\bar{\text{O}} + \text{E}\bar{\text{I}}\bar{\text{I}}\bar{\text{I}}\bar{\text{E}}\bar{\text{a}} \text{E}\bar{\text{O}}\bar{\text{I}}\bar{\text{I}}\bar{\text{O}} \rightarrow \text{E}\bar{\text{I}}\bar{\text{I}}\bar{\text{I}}\bar{\text{I}}\bar{\text{E}}\bar{\text{O}} \text{ME}\bar{\text{I}}\bar{\text{I}}\bar{\text{I}}\bar{\text{E}} \text{VE}^{\text{R}}\bar{\text{I}}.$

NÉE

1. (+) $\alpha\text{EEMF} \{ \alpha\text{EECE} \text{ ExE} \text{ EbME} \text{ E}^{\text{R}} \text{ Ed}^{\text{aEE}} \text{ VEEMEE} \text{ E}^{\text{R}} \text{ (EdEhE}^{\text{aEE}} \text{ E}^{\text{R}} \text{ ESE} \}$

5

(1) $V_{EE} = I_E R_E \approx I_C R_E = I_C \left(\frac{R_1}{\beta + 1} + \frac{R_2}{\beta + 1} + R_E \right)$

(+) 115 (f) 125 (E) 140 (b) 144.

(2) $\frac{\partial}{\partial t} \left(\frac{1}{\rho} \frac{\partial \rho}{\partial t} \right) + \frac{\partial}{\partial x} \left(\frac{1}{\rho} \frac{\partial \rho}{\partial x} \right) = \frac{1}{\rho} \frac{\partial^2 \rho}{\partial t^2} + \frac{1}{\rho} \frac{\partial^2 \rho}{\partial x^2} = \frac{1}{\rho} \frac{\partial^2 \rho}{\partial t^2} + \frac{1}{\rho} \frac{\partial^2 \rho}{\partial x^2}$

$$(+) \quad E_{\alpha}^{\alpha}(\tilde{E}^{\otimes \alpha}) \otimes \tilde{E}^{\otimes \alpha} \quad (E) \quad \{E_{\alpha}^{\alpha}\} \otimes \quad (b) \quad |E_{\alpha}^{\alpha}(\tilde{E}^{\otimes \alpha}) \otimes \tilde{E}^{\otimes \alpha}|$$

(3) aEE |E'EEhE(EjEEjE'EEaE EoEhEiEaEE)EoEo = i(EeEwEESEo ExEaEEeE EoEwEE
aEaE xEE)E).

(+) $[\text{d}^{\text{a}}\text{e}^{\text{a}}\text{e}^{\text{a}}\text{e}^{\text{a}}\text{e}^{\text{a}}\text{e}^{\text{a}}]^{(8)}$ (±) $[\text{d}^{\text{a}}\text{e}^{\text{a}}]^{(8)}$

(E0) $\vdash \exists x [E \rightarrow \exists x [E \rightarrow x]]^{\text{R0}}$ (b) $\vdash \exists x [E \rightarrow \exists x [E \rightarrow x]]^{\text{R0}}$.

(4) afÖB.<Ç ÈvÈaEä³ysafÉ afÉ |ÉE®iföP É VEEÈEOSEÖ JÉTÉ "ÉÉMÉNÉÖ +É½p

(+) $\varphi^{\circ}[\text{R}^{\circ}] < 0$ (a) $0 \leq \text{h} \leq \text{E} \leq \text{E}$ (E) $\text{E}^{\circ} \text{E}^{\circ} \text{E}^{\circ} \text{E}^{\circ}$ (b) $\pm \text{E}^{\circ} \text{E}^{\circ} \text{E}^{\circ} \text{E}^{\circ}$

(5) °Ea E0. ; 0+Enā 0 + °E+LaE0 M0E0E-0 ; 0-EE0E0 |EiE EE®0 °(E0E+0 0E0÷
 ½0E0E E0®EEiE.

(+) 16u (E) 14 (E0) 10 (b) 12.

(6) ÉSÉÉÉÉÉ aÉÉ JÉÉÉÉÉ VÉÉÉÉÉÉ ÉÉÉÉÉÉÉ ÉÉÉÉÉÉÉ + É/2

(+) $Uq \in \mathcal{O}$ (†) $[G \partial E \tilde{a}] \tilde{\theta} \in \mathcal{F}[E] \quad (E \partial) \quad E \partial \vdash E \mathcal{O} \{E \in \mathcal{O} \quad (b) \quad E \in \mathcal{F} \vdash E \mathcal{O} \{E \in \mathcal{O}.$

(८) **SHLO** EEOEE **SHLO** UIEAE+1/2 (Eoheiea) {ESE} :-

5

(1) Eöf mÖkM® üÖ-ü jö³MÖ+É <50°ÉEí·ÉEò |EEG²ÉE °EÖü ®ü/2ÉEíÉ.

(2) $\text{CO}_2 + \text{H}_2\text{O} \rightleftharpoons \text{H}^+ + \text{HCO}_3^-$

(3) $E_{\text{eff}} = 1.6^0$ oEa iEE{E' EExEE E®u=iEb]oDi aEE oEE` OEIEE aEaEEa

(4) प्रतवारी केल्यामुळे उत्पादकाला मिळणाऱ्या उत्पन्नात वाढ होते.

(5) पिकाची काढणी सूर्य तीव्र असतांना करावी.

[illegible]

(ENGLISH)

[TIME ALLOWED — 3 HOURS]

(MARKS — 100)

BASIC AGRO-SCIENCE (THEORY-II)*Instructions.*—(1) All questions are *compulsory*.(2) Figure shows right side indicates *full* marks.(3) Assume suitable additional data, wherever *necessary*.**Marks**1. (a) Fill in the blanks with appropriate option given below (any *five*) :— 5

(i) At present about countries are Members of World Trade Organization.

(a) 115 (b) 125 (c) 140 (d) 144.

(ii) Sole authority of production or marketing given to researcher for a definite period is called

(a) Copyright (b) Ownership (c) Patent (d) Proprietary.

(iii) Certificate is necessary before exporting any agro produce.

(a) Photosanitary (b) Phytosanitary
(c) Phykosanitary (d) Physiosanitary.

(iv) Indian variety of banana has more demand in UAE.

(a) Basrai (b) Grandnan (c) Shrimanti (d) Lokhandi.

(v) Cm stalk length of rose flower are classified as special grade.

(a) 16 (b) 14 (c) 10 (d) 12.

(vi) Indian variety of Chiku has more demand in Singapore.

(a) Chhatri (b) Cricket-ball (c) Kali Patti (d) Pili patti.

(b) State whether *true* or *false* (any *five*) :— 5

(i) Physiological activities are continued in fruits even after harvest.

(ii) In cold storage specific CO₂ and O₂ proportion help to prolong storage life of fruit.

(iii) Best storage temperature of Onion is 1.6 °C.

(iv) Grading increases return to producer.

(v) Harvesting should be done during Sun hours.

(vi) Sweet Orange fruits are harvestable after 210-240 days from fruit-set.

(c) Match the following pairs :—

5

" A " Column

" B " Column

- | | |
|----------------------------|----------------------------|
| (i) Beneficial insect | (a) Zinc phosphide |
| (ii) Bacterial insecticide | (b) Rhidomel |
| (iii) Viral insecticide | (c) Bacillus thuringiensis |
| (iv) Systemic fungicide | (d) HNPV |
| (v) Fumigants | (e) <i>Crysopa</i> . |

(d) Define the following terms (any five) :—

5

- | | | |
|----------------|------------------|----------------|
| (i) Pest | (ii) Insecticide | (iii) Disease |
| (iv) Pesticide | (v) Antibiotics | (vi) Maturity. |

2. Attempt any *two* questions of the following :—

16

(a) Give maturity indices of the following fruit crops for harvest :—

- | | | | |
|-----------|-------------|-------------|-------------|
| (i) Mango | (ii) Banana | (iii) Guava | (iv) Papaya |
|-----------|-------------|-------------|-------------|

(b) Give maturity indices for the following vegetables for harvest :—

- | | | | |
|----------------|-----------------|-------------|------------|
| (i) Watermelon | (ii) Musk-melon | (iii) Onion | (iv) Peas. |
|----------------|-----------------|-------------|------------|

(c) Describe the packing of fruits and vegetables and give features of packaging.

(d) What is ripening ? How fruits can be classified according to ripening ?

3. Attempt any *two* questions of the following :—

16

(a) What is harvesting ? Describe the various methods of harvesting of various crops.

(b) Write the International Standard to the export the following crops :—

- | | | | |
|------------|------------|-------------|-------------|
| (i) Potato | (ii) Onion | (iii) Mango | (iv) Wheat. |
|------------|------------|-------------|-------------|

(c) How improved varieties are helpful in production of quality agro-produce ?

(d) Describe role of internet in making agricultural production more profitable.

4. Answer any *two* of the following :—

16

(a) What is Integrated Pest Management (IPM) ? Explain the various methods of IPM.

(b) What is bio-pesticide ? Give its importance and few examples.

(c) What is Sericulture ? Describe the lifecycle of silk worm.

(d) Describe cultivation of mulberry on the following points :—

- | | |
|---------------------------|-------------------------|
| (1) Suitable soil | (2) Irrigation required |
| (3) Method of propagation | (4) Fertilizers. |

[Turn over

5. Write short notes on (any *four*) :—

16

- (a) Bio-fertilizers
- (b) Green manures
- (c) World Trade Organisation (W.T.O.)
- (e) Green House
- (f) Steps in export of agro-produce.

6. Give details cultivation of any *two* crops of the following :—

16

- (a) Soybean (b) Wheat (c) Potato (d) Onion.

on---

- (a) Suitable soil and climate
 - (b) Improved varieties
 - (c) Sowing and Planning
 - (d) Manures and Fertilizers
 - (e) Inter-crop
 - (f) Inter-culture
 - (g) Irrigation
 - (h) Harvesting and Yield
 - (i) Grading and Packing
-