

MAHARASHTRA STATE BOARD OF VOCATIONAL EXAMINATIONS, MUMBAI

Examination, July 2014

CERTIFICATE COURSE IN WELDING AND JOINTING

[Ἑβρ—3 iεε°ε]

(BEthÉ NÖÉ—100)

Tabo + hb: Véke (E+®-1)

- [illegible]

NÖÖ

[illegible]

5

- (1) B.^oE0. |ē ēē½p ½pēVēā E^oRūō
- (2) ēābōM ē MēSēē = {ēāēē E^oRūēēē.
- (3) ½p ēēēēēēEō ēSēx½p °{ēē}ō ēābōM°ēē ° ēēē{ēRūēēē.
- (4) ēābōM iēēēēēExē °C + °ēifā
- (5) VēZēNē EGōēāē ½p Rūō÷ē;ōēRū ½pēMē ēēē{ēRūēēē.
- (6) ēāb÷+ēēē Rūō>xōb÷ēē ° ēēēēēēEō ēSēx½p ēēē{ēRūēēē.

(d) JEE+EO+E E EvEExEa ~~SHO~~ Eo ~~E~~ u iEa °EEME (EoEhEEO/2) (ESE) :-

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- [illegible]

(Eò) $V \in \mathbb{R}^{n \times n}$:-

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‘ + ’ MÉ]õ

‘**Đ**’, **MÉ]**õ

- | | | | |
|-----|--|-------------------------|---|
| (1) | $\int \delta(\epsilon) d\epsilon$ | (+) | $b^{\alpha} \epsilon^{\beta} \otimes \epsilon^{\gamma} \otimes \epsilon^{\delta}$ |
| (2) | $\epsilon^{\alpha} \epsilon^{\beta} \otimes \epsilon^{\gamma} \epsilon^{\delta}$ | (ϵ^{α}) | $\{\epsilon^{\alpha} \epsilon^{\beta}\} \epsilon^{\gamma}$ |
| (3) | $+v \epsilon^{\alpha} \epsilon^{\beta}$ | (ϵ^{α}) | $+ \epsilon^{\alpha} \epsilon^{\beta} \epsilon^{\gamma} \epsilon^{\delta}$ |
| (4) | $b \epsilon^{\alpha} \epsilon^{\beta}$ | (b) | $\epsilon^{\alpha} \epsilon^{\beta} \epsilon^{\gamma} \epsilon^{\delta}$ |
| (5) | $\langle \epsilon^{\alpha} \epsilon^{\beta} \rangle \otimes \epsilon^{\gamma} \epsilon^{\delta}$ | (<) | $+ \epsilon^{\alpha} \epsilon^{\beta} \epsilon^{\gamma} \epsilon^{\delta}$ |
| | | (j) | $\epsilon^{\alpha} \epsilon^{\beta} \epsilon^{\gamma} \epsilon^{\delta}$ |

(b) $J_{E \pm E_0 \pm E} \{E_0 E_C \circ \ddot{u} \{E_a \hat{E} \pm E_1/2\} :-$

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- (1) T.I.G. (2) M.I.G.
(3) A.C. $\frac{f}{f_0} \frac{b}{b_0}$ (4) O₂ $\frac{f}{f_0} \frac{b}{b_0}$
(5) L.P.G. $\frac{f}{f_0} \frac{b}{b_0}$

(ENGLISH)

[TIME ALLOWED — 3 HOURS]

(MARKS — 100)

WELDING AND JOINTING (THEORY-I)

Instructions.—(1) All questions are *compulsory*.
 (2) Draw a neat labelled sketches, wherever necessary.

- | | Marks |
|---|------------------------------|
| 1. (a) Fill in the blanks (any <i>five</i>) :— | 5 |
| (i) A.C. current means current. | |
| (ii) Welding tang is used for | |
| (iii) symbol is used for spot welding. | |
| (iv) Welding temperature is °C. | |
| (v) In brazing process rod is used for filler material. | |
| (vi) Weld all round symbol is used. | |
| (b) State whether following statement <i>true</i> or <i>false</i> (any <i>five</i>) :— | 5 |
| (i) Copper-M.S. Welding joint is not possible. | |
| (ii) Nutral gas flame is not used. | |
| (iii) In gas welding plant carbide is used. | |
| (iv) Welding is not possible for casting material. | |
| (v) For spot welding current is to be controlled. | |
| (vi) To remove the welding flux chipping Hammer is used. | |
| (c) Match the following pairs :— | 5 |
| ‘ A ’ Group | ‘ B ’ Group |
| (i) Tapping | (a) Direct Current |
| (ii) Electric Current | (b) Plastic |
| (iii) Non-Metal | (c) Internal Threading |
| (iv) D.C. | (d) External measurement |
| (v) Inside Caliper | (e) Ampere |
| | (f) Internal measurement. |
| (d) Write the longforms of the following words :— | 5 |
| (i) T.I.G. | (ii) M.I.G. |
| (iii) A.C. Current | (iv) O ₂ Cylinder |
| (v) L.P.G. Cylinder. | |
| 2. Attempt any <i>two</i> of the following questions :— | 16 |
| (a) Explain the gas welding plant. | |
| (b) Explain the Safety Rules in welding section. | |
| (c) Explain the gas welding flames. | |

[Turn over]

3. Attempt any two of the following questions :— 16
- (a) Write down the characteristics of calcium carbide.
 - (b) Draw the welding symbols.
 - (c) Explain the welding joints (any four).
4. Attempt any *two* of the following questions :— 16
- (a) Explain the cast-iron, Aluminium welding process.
 - (b) Explain the Stainless Steel, Copper welding process.
 - (c) Explain the electrode and flux coating.
5. Write a short notes on (any *four*) :— 16
- (a) Electrode holder
 - (b) Chipping hammer
 - (c) Blow pipe
 - (d) Gas regulator
 - (e) Fault and Remedies in gas welding.
6. Differentiate between the following (any *two*) :— 16
- (a) Arc welding plant and gas welding plant.
 - (b) Soldering process and Brazing process.
 - (c) Tapping and dieing process
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