

MAHARASHTRA STATE BOARD OF VOCATIONAL EXAMINATIONS, MUMBAI

Examination, July, 2014

CERTIFICATE COURSE IN BASIC FITTER

[Ἑβρ. — 3 i. ἑ. ὁ. ἑ.]

(BE^uÉ N^öÉ—100)

ΠΡΟΤΥΠΟ (ΕΙΕ+®-1)

- ၁။ $\frac{1}{x^2} = x^{-2}$ (1) $\frac{d}{dx} x^{-2} = -2x^{-3}$
 (2) $= -2x^{-3} = -\frac{2}{x^3}$ (စစ်ရန် $\frac{d}{dx} \left(-\frac{2}{x^3} \right) = \frac{6}{x^4}$ နှင့် $\frac{d}{dx} \left(\frac{1}{x^2} \right) = \frac{6}{x^4}$ ဖြစ်သည်။)
 (3) $\frac{d}{dx} x^{-2} = -2x^{-3}$ ဖြစ်သည်။

NÖÖ

1. MÉ3yéäaÉE VÉÉMÉE |É®Ü :-

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- (+) ½ḫē ēṣū (ēāēō ējō)ō Eōḡēāēḫḫḫ) Sēē ēēēṣū Eōḡēēēē.
(Vēōē ½ḫḫḫ÷Eō / ēḫḫ÷ūjō Eō / °C ēā-ṣū ½ḫḫḫ÷Eō / Eōē]ṣū (ēōē).
(ē) bāēEōMē Eōḡēāēḫḫḫ) Eōēāō ½ḫēMē ēēēḡēēē.
(ēMē / {ēēhēō / {ēēhēō +ēēhē ēāē / Eōḡēēōē).
(Eō) ējō]ṣū ḡēēē ēvāēā VēēēSēō +Sēēōēē +°ēā
(1 ēēēGōēē {ēāēē / 0.01 mm {ēāēē / 0.001 mm {ēāēē / 0.02 mm {ēāēē).
(b) jē<ēē Sāēē °ēē½ḫḫḫēxēā °ēSūō Eōḡēēēē.
(ēēāēṣū ḡēē / xēāē+ēēē ḡēē / Eōē]ēē ēā]ō / Eōē]ēē C±ēēēē).
(<) MS }±ē]ōēḡēē MēMē °ēējō Eōḡḡāēē°ēē ḫ Sēē ēēēṣū Eōḡēēēē.
(°Gōēṣū / ēē°]bē jē<ēē / °ēēē jē<ēē / °ēēḫḫḫ÷Eō]ō jē<ēē).
(jō) ēē<ēēē ēē½ḫḫḫ +ē]ō (ēēbḡāēē°ēē ḫ Sēē ēēēṣū Eōḡēēēē.
(]ēē °ēēō / bēāē °ēēō jē<ēē / ½ḫḫ °ēē).
(Mē) ḡēē}]ō Sēā bēāē ēō]ṣū ēēvḡāēē°ēē ḫ ēēēṣū Eōḡēēēē.
(½ḫḫ+ṣū Eōēēēṣū / ēēēēGōēēē]ṣū / bāēē MēMē / ½ḫḫō MēMē).
(½) ±ēēEōMē bō ½ḫ<ēē ḡēē}]ōēṣū ēā-ṣū ±ēēEō Eōḡḡāēē°ēē ḫ ēēēṣūēēē.
(xē]ō / Eō / °ēC±ēēē / ēēēē).
(ēē) Vēēē Eōē]Eōēēēē +ē½ḫēEōēē xēē½ḫ ½ḫ ēēēēēḡāēē°ēē ḫ ½ḫ ēēēṣūēēē.
(°]ōēē ḡēē /]ḡē °C ēā-ṣū / bēāē+ēē MēMē / °ēē<ēē ēēē).
(ē) ēē<ēēēṣū Eōēēē Eōḡḡāēē°ēē ḫ, ēē<ēē {ēēōbḡāēē°ēē ḫ Sēē ēēēṣū Eōḡēēēē.
(ēēē ½ḫ<ēē / ±ēē ½ḫ<ēē / ½ḫḫ÷½ḫ<ēē / ēē<ēē ½ḫ<ēē).

2. $J_{E \pm E_0 \pm E} |E \mp E_0 \mp E\rangle = K E^{\otimes} \hat{E} \pm E/2 \hat{E} (E \pm E_0 \pm E) n(E) :-$

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- [illegible]

3. जीएफएफ [एफएफएफ = कएा ए+ए/ (एहएहएह) नए] :- 16
- (+) "एएएएएए] एए एएएए + एएएए ए/ ए [ए] ए एए.
- (ए) बएएए एएएए ए+ए/ ए [ए] ए एए.
- (E) एए एए-ए एएए+एए एएए + एएए ए/ ए [ए] ए एए.
4. जीएफएफ [एफएफएफ = कएा ए+ए/ (एहएहएह) नए] :- 16
- (+) {ए<एए एए/ ए + ए] ए {एबएएए {एए ए [ए] ए एए.
- (ए) MS } ए] ए {एए ए एए ए ए MS } ए] ए एए एए ए एए ?
- (E) एए ए {ए एए "एए ए/ ए.
5. ए] ए ए+ए/ (एहएहएह) SE:- 16
- (+) एए<बए "एए
- (ए) एबए + ए] ए ए
- (E)] ए
- (b) फिटर शॉपमध्ये वापरल्या जाणाऱ्या फाईल
- (<)] ए.
6. जीएफएफ [एफएफएफ = कएा ए+ए/ (एहएहएह) नए] :- 16
- (+)] ए ए बए<ए ए+ए] ए ए [ए] ए एए.
- (ए) ए] ए ए ए ए ए {ए} एएए एए ए ए+ए/ ए.
- (E) पाईपींग करण्यासाठी लागणाऱ्या साहित्यांचे आकृतीसह वर्णन करा.

(ENGLISH)

[TIME ALLOWED — 3 HOURS]

(MARKS — 100)

BASIC FITTER (THEORY-I)

- Instructions.*—(1) All questions are *compulsory*.
 (2) Figures in the right indicate *full* marks.
 (3) Draw neat sketches wherever necessary.

Marks

1. Fill in the blanks :—

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- (a) In pulley fitting on hub type of key is used.
 (Jib headed key / Woodruff key / Square headed key / Cotter pin).
- (b) While drilling coolant is used.
 (Oil / Water / Coolant oil mix in water / Kerosene).
- (c) Job accuracy in fitter shop is
 (Up to 1 Micron / Up to 0.01 mm / Up to 0.001 mm / 0.02 mm).
- (d) A file can be cleaned with
 (Wire brush / Nylon brush / Cotton waste / Cotton clothes).
- (e) For scrapping of rust on MS flat is used.
 (Scraper / Bastard file / Smooth file / Second cut file).
- (f) For external thread cutting on the pipe is used.
 (Tap set / Die set / File / Hack saw).
- (g) A is used to measure diameter of shaft.
 (Vernier caliper / Micrometer / Depth gauge / Height gauge).
- (h) is a locking device used for locking the bearing on shaft.
 (Nut / Key / Circlip / Washer).
- (i) For measuring right angle is used.
 (Steel rule / Try square / Dial gauge / Sign bar).
- (j) is used to hold pipe for work.
 (Bench vice / Leg vice / Hand vice / Pipe vice).

2. Answer the following questions (any *two*) :—

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- (a) What are the constructional features of Drilling machine ?
- (b) State and explain with neat sketch type of drill bit.
- (c) Describe the principle of working of a Vernier caliper.

[Turn over]

3. Answer the following questions (any *two*) :— 16
- (a) Describe the principle of working of Micrometer with neat sketch.
 - (b) What is the purpose of a coolant in drill machine ?
 - (c) State the various types of chisel with neat sketch.
4. Answer the following questions (any *two*) :— 16
- (a) Describe the method of external threading of pipe.
 - (b) Explain how the work pice (MS Flat) is prepeared for job ?
 - (c) Explain about Surface Plate.
5. Write short notes (any *four*) :— 16
- (a) Grinding Machine
 - (b) Hardening of Metal
 - (c) Tapping
 - (d) Files used in Fitter shop
 - (e) Tempering.
6. Answer the following questions (any *two*) :— 16
- (a) Differentiate between Tapping and Dieing.
 - (b) Describe the safety rule in Fitter Worshop.
 - (c) State the fittings used in piping with neat sketches.
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