

MAHARASHTRA STATE BOARD OF SKILL DEVELOPMENT EXAMINATION, MUMBAI

Examination—July, 2020

CERTIFICATE COURSE IN OPHTHALMIC TECHNICIAN (201228)

[१२५]—3 iEE°E]

(BEthE MthE—100)

५०१६० + ६० १०६०६ ०१६०१ (EIE+०१)

MthE

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1. (+) १०६०१६ VEEthE १०६ (EIEthE) (EIE) :-

- (1) EIEthE १०६०१६ १०६०१६ १०६०१६ १०६०१६ १०६०१६ १०६०१६
- (2) १०६०१६ १०६०१६ १०६०१६ १०६०१६ १०६०१६ १०६०१६
- (3) १०६०१६ १०६०१६ १०६०१६ १०६०१६ १०६०१६ १०६०१६
- (4) १०६०१६ १०६०१६ १०६०१६ १०६०१६ १०६०१६ १०६०१६
- (5) १०६०१६ १०६०१६ १०६०१६ १०६०१६ १०६०१६ १०६०१६
- (6) १०६०१६ १०६०१६ १०६०१६ १०६०१६ १०६०१६ १०६०१६

(५) ०१६०१६ EIE + ०१६०१६ iEa ०१६०१६ :-

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- (1) EIEthE १०६०१६ १०६०१६ १०६०१६ १०६०१६ १०६०१६ १०६०१६
- (2) १०६०१६ १०६०१६ १०६०१६ १०६०१६ १०६०१६ १०६०१६
- (3) १०६०१६ १०६०१६ १०६०१६ १०६०१६ १०६०१६ १०६०१६
- (4) १०६०१६ १०६०१६ १०६०१६ १०६०१६ १०६०१६ १०६०१६
- (5) EIEthE १०६०१६ १०६०१६ १०६०१६ १०६०१६ १०६०१६ १०६०१६
- (6) १०६०१६ १०६०१६ १०६०१६ १०६०१६ १०६०१६ १०६०१६

(EIE) १०६०१६ १०६०१६ १०६०१६ १०६०१६ १०६०१६ १०६०१६ :-

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- (1) EIEthE १०६०१६ १०६०१६ १०६०१६ १०६०१६ १०६०१६ १०६०१६
- (2) १०६०१६ १०६०१६ १०६०१६ १०६०१६ १०६०१६ १०६०१६
- (3) १०६०१६ १०६०१६ १०६०१६ १०६०१६ १०६०१६ १०६०१६
- (4) १०६०१६ १०६०१६ १०६०१६ १०६०१६ १०६०१६ १०६०१६
- (5) १०६०१६ १०६०१६ १०६०१६ १०६०१६ १०६०१६ १०६०१६
- (6) EIEthE १०६०१६ १०६०१६ १०६०१६ १०६०१६ १०६०१६ १०६०१६

(b) ०१६०१६ VEEthE १०६०१६ :-

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' + ' ME]o

' ५ ' ME]o

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|--|--------------------------|
| (1) 5.5 mm १०६०१६ १०६०१६ | (+) EIEthE १०६०१६ १०६०१६ |
| (2) १०६०१६ १०६०१६ १०६०१६ १०६०१६ | (५) १०६०१६ १०६०१६ |
| (3) VEEthE १०६०१६ १०६०१६ | (EIE) १०६०१६ १०६०१६ |
| (4) १०६०१६ १०६०१६ १०६०१६ १०६०१६ | (b) १०६०१६ १०६०१६ |
| (5) EIEthE १०६०१६ १०६०१६ १०६०१६ १०६०१६ | (-) १०६०१६ १०६०१६ |

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2. $E_{\text{eff}}^{\text{a}} = k_{\text{eff}}^{\text{a}} E_{\text{eff}}^{\text{b}} : -$

(+) +ÉÉbīÉ0°É½p Éòk ÉqÉxÉ±É +Ç Éä+ °É +É>ð] ò }±Éä É±É½p.

$$(d) \quad E_{\partial \Omega} x^a \epsilon^{(R)} + \epsilon_a^{(R)} \delta \epsilon^0 + \kappa \epsilon^j \partial_j \epsilon^0 \in \epsilon^{1/2} \mathcal{H}.$$

(Eò) {ÉÉ{Éh^aÉÉÆvÉ0±É 0ÉÆÉ0É É'É^aÉ0 IÉÉbÉ^aÉÉiÉ É±É½É.

(b) ⁽⁷⁾ ~~UNCLASSIFIED~~ EEEEEE | EEEEEEE EEEEEE E+1/2P.

3. JEE+EO+E{EEo EdeEiEzD nEE |E|xE °EEb:EE :-

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(+) bēāy-ēēē {ē^0 Eōēēē "ēē®ēēē ?

(4) $E_0^{\otimes 2} \otimes E_1 \otimes E_2 \otimes E_3 \otimes E_4 \otimes E_5 \otimes E_6 \otimes E_7 \otimes E_8 \otimes E_9 \otimes E_{10} \otimes E_{11} \otimes E_{12} \otimes E_{13} \otimes E_{14} \otimes E_{15} \otimes E_{16} \otimes E_{17} \otimes E_{18} \otimes E_{19} \otimes E_{20} \otimes E_{21} \otimes E_{22} \otimes E_{23} \otimes E_{24} \otimes E_{25} \otimes E_{26} \otimes E_{27} \otimes E_{28} \otimes E_{29} \otimes E_{30} \otimes E_{31} \otimes E_{32} \otimes E_{33} \otimes E_{34} \otimes E_{35} \otimes E_{36} \otimes E_{37} \otimes E_{38} \otimes E_{39} \otimes E_{40} \otimes E_{41} \otimes E_{42} \otimes E_{43} \otimes E_{44} \otimes E_{45} \otimes E_{46} \otimes E_{47} \otimes E_{48} \otimes E_{49} \otimes E_{50} \otimes E_{51} \otimes E_{52} \otimes E_{53} \otimes E_{54} \otimes E_{55} \otimes E_{56} \otimes E_{57} \otimes E_{58} \otimes E_{59} \otimes E_{60} \otimes E_{61} \otimes E_{62} \otimes E_{63} \otimes E_{64} \otimes E_{65} \otimes E_{66} \otimes E_{67} \otimes E_{68} \otimes E_{69} \otimes E_{70} \otimes E_{71} \otimes E_{72} \otimes E_{73} \otimes E_{74} \otimes E_{75} \otimes E_{76} \otimes E_{77} \otimes E_{78} \otimes E_{79} \otimes E_{80} \otimes E_{81} \otimes E_{82} \otimes E_{83} \otimes E_{84} \otimes E_{85} \otimes E_{86} \otimes E_{87} \otimes E_{88} \otimes E_{89} \otimes E_{90} \otimes E_{91} \otimes E_{92} \otimes E_{93} \otimes E_{94} \otimes E_{95} \otimes E_{96} \otimes E_{97} \otimes E_{98} \otimes E_{99}$

[illegible]

(b) "ÉéîÊË×ÉñÚ ¶Ê°jÊÊGòáÊSÊÖ °ÊÊÊ½¶Ê |ÊÊGòáÊ Ê±Ê½¶.

4. EðháÉíÉúÞ núÉÉ |Éq|É °ÉÉb:ÉÉ :—

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(+) °E<C+EE+ZEO bMSEa (EE®mEE É É i°ESEE Épý É Ed°EÇ {ÉrúÉ É+É½.

$$(c) \{E(E^{\alpha} E S^{\alpha})^0 x E^{\alpha} E^{1\frac{1}{2}} | E b E^{\alpha} i E_{+E\frac{1}{2}}, +E b i E^{0\frac{1}{2}}$$

(Eò) ±ÉÏ°ÉSÉÒ ¶É®®ÉÉÉ É±É½þ.

(b) $E^{\pm} E^{\pm} \rightarrow \{E^{\pm} E^{\pm} E^{\pm}\}_{\text{u}}^{(R)} \rightarrow E^{\pm} E^{\pm} E^{\pm}$

5. $\frac{d}{dt} \left(\frac{1}{2} m v^2 \right) = \mathbf{F} \cdot \mathbf{v}$:-

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(+) $E_{\text{d}}^{\text{E}} \times E_{\text{S}}^{\text{E}}$ { $E_{\text{E}}^{\text{R}} \cap E_{\text{E}}^{\text{O}}$ } $E_{\text{E}}^{\text{R}} \cap E_{\text{E}}^{\text{O}}$

(c) $E_{\text{AV}} = \int_0^a E \cdot \frac{1}{2} S \, da \quad | \quad E = \frac{Q}{\epsilon_0} \cdot \frac{1}{a^2} \quad ?$

(Eò) Eò±É®ûî½NéxÉ iÉÉÉ°ÉhªÉÉ°ÉÉ`ð EðªÉ ÉÉÉ®üÉÉÉ ?

[illegible]

(\leq) $\frac{1}{2} \sqrt{a^2 + b^2} \leq \frac{a+b}{2}$ $\Leftrightarrow \frac{1}{2} \sqrt{a^2 + b^2} \leq \frac{a+b}{2}$? $\frac{1}{2} \sqrt{a^2 + b^2} \leq \frac{a+b}{2}$

6. EðháÉíÉá) nñf |Éq|É °ÉÉb:É :-

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$$(+)\quad E_{\partial \tilde{M}}^{\pm} \otimes E_{\partial S^1 \times \tilde{N}}^{\pm} = \{E_{\partial \tilde{M}}^{\pm}\} \oplus \{E_{\partial S^1 \times \tilde{N}}^{\pm}\}.$$

(f) bēp̄yē¹ē² {b̄t̄ē³ē⁴ā⁵ ī⁶ū⁷ ē⁸ē⁹½}.

(E0) "ÉfáÉÖ=Énú ¶^ojÉEÇö^afä-ÉvÉÖ +ÉéhÉ xÉM®S^afÉ iÉ{ÉÉ^oEh^aÉÉ É+É½.

(b) I EäE0 Ê°ÊÊ®ME<ME |ÊÊGòªÊÊ Ê±Ê½þ.

(ENGLISH)

[TIME ALLOWED—3 HOURS]

(MARKS—100)

BASIC OF MEDICAL SCIENCE (THEORY-I)**Marks**

1. (a) Fill in the blanks (any five) :—

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- (i) Refractive index of cornea is
- (ii) Opening in centre of iris is called
- (iii) There are in all number of cranial nerves.
- (iv) Abduction is caused by muscle in primary gaze.
- (v) Tears are secreted by
- (vi) cells are responsible for colour vision.

(b) Write *true* or *false* (any five) :—

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- (i) Epithelial layer of cornea can regenerate.
- (ii) There are 6 million rods in human eye.
- (iii) During accommodation lens swells and its power increases.
- (iv) Sensory of eyeball is choroid.
- (v) Corneal thickness is measured by keratometer.
- (vi) Dettol is sterilizing agent.

(c) State long form (any five) :—

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- (i) Write down refractive index of cornea and lens.
- (ii) Mention 2 causes of cataract.
- (iii) Which test do we do in diabetes patients ?
- (iv) Which surgery is done to get rid of glasses ?
- (v) Mention different types of IOL.

(d) Match the pair :—

' A ' Group**' B ' Group**

- | | |
|---|-----------------------|
| (i) Insertion 5.5mm from limbus keratometer | (a) Vitreous humour |
| (ii) Measures refractive error | (b) Autorefractometer |
| (iii) Jelly like fluid | (c) Medial rectus |
| (iv) Watery fluid | (d) Aqueous humour. |
| (v) Measures curvature of cornea. | (e) Caroto meter. |

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2. Answer the following questions (any *two*) :— 16
- (a) Mention in detail conventional aqueous outflow with neat labelled diagram.
 - (b) Write down anatomy of corneal layers.
 - (c) Glands of eyelid.
 - (d) Regions of retina with neat labelled diagram.
3. Answer the following questions (any *two*) :— 16
- (a) How to bandage an eye ? Explain in detail.
 - (b) Short note on keratometry.
 - (c) Mention instruments used to check IOP. Explain any one in detail.
 - (d) Write down steps of cataract surgery.
4. Answer the following questions (any *two*) :— 16
- (a) Mention cycloplegic drops with their effect and time and action.
 - (b) Write down muscles of eyelid with neat labelled diagram.
 - (c) Lens anatomy.
 - (d) Visual pathway.
5. Short notes on (any *four*) :— 16
- (a) Corneal transparency.
 - (b) Different regions (types) of conjunctiva.
 - (c) Charts used to check colour vision.
 - (d) Anasthetic agents.
 - (e) Visual field defects.
6. Attempt the following (any *two*) :— 16
- (a) Explain the treatment of angle closure glaucoma.
 - (b) Mention the layers of retina.
 - (c) Investigations required pre and post cataract surgery.
 - (d) Technique of sac syringing.
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