

MAHARASHTRA STATE BOARD OF VOCATIONAL EXAMINATIONS, MUMBAI

Examination, July 2014

CERTIFICATE COURSE IN LAND SURVEYING

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(BEthÉ NÖÉ—100)

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1. (+) $a_{EE}^{EE} \{E^{EE} E^{EE} E^{EE} E^{EE} (E^{EE} E^{EE} E^{EE})\} (EE^{EE}) :-$

5

- [illegible]

- (4) $\frac{d}{dt} \left(\frac{1}{2} m v^2 \right) = \frac{d}{dt} \left(\frac{1}{2} m \left(\frac{dx}{dt} \right)^2 \right) = m v \frac{dv}{dt} = m v a = m v \frac{dv}{dx} \frac{dx}{dt} = m v \frac{dv}{dx} v = m v^2 \frac{dv}{dx}$

5

- [illegible]

- (E0) $J_{E+}^{\alpha} f(t) = \int_0^t (t-s)^{\alpha-1} f(s) ds$ ($\alpha \in \mathbb{R}$) :—

5

- (1) B⁺É. BxÉ. {ÉrüÉ
- (2) 4É. B⁺É. {ÉrüÉ
- (3) +É⁺É {ÉrüÉ
- (4) 4É. VÉÉ. {ÉrüÉ
- (5) J⁺ +ÉÉÉ <É {ÉrüÉ
- (6) B. ⁺ÉÉ. {ÉrüÉ

(b) अहमिती वृद्धि वृद्धि (जोडिती) :-

“ + ” मी

“ + ” मी

(1) {+} मी

(+) एमिती वृद्धि नमो

(2) {+} मी

(+) एमिती वृद्धि नमो

(3) एमिती

(+) एमिती वृद्धि नमो

(4) एमिती

(b) {+} मी

(5) एमिती

(+) {+} मी

(6) एमिती

(j) एमिती वृद्धि नमो

2. एमिती वृद्धि नमो मी :-

16

(+) एमिती वृद्धि नमो मी

(+) {+} मी

(+) एमिती वृद्धि नमो

3. एमिती वृद्धि नमो मी :-

16

(+) {+} मी

(+) एमिती वृद्धि नमो

(+) एमिती वृद्धि नमो

(b) कट्टर इंटवेलवर परिणाम करणाऱ्या घटकांची माहिती द्या.

4. एमिती वृद्धि नमो मी :-

16

(+) एमिती वृद्धि नमो

(+) {+} मी

(+) एमिती वृद्धि नमो

(b) एमिती वृद्धि नमो

5. एमिती वृद्धि नमो मी :-

16

(+) {+} मी

(+) एमिती

(+) एमिती

(b) एमिती वृद्धि नमो

(+) एमिती वृद्धि नमो

6. एमिती वृद्धि नमो मी :-

16

(+) {+} मी

(+) {+} मी

(+) एमिती वृद्धि नमो

(b) एमिती वृद्धि नमो

(ENGLISH)

[TIME ALLOWED — 3 HOURS]

(MARKS — 100)

SURVEYING (THEORY-II)**Marks**

1. (a) Fill in the blanks (any *five*) :— 5
- (i) Alidade is used for in plane table survey.
(adjustment/sighting and drawing map)
 - (ii) The use of field book is in plane table survey.
(Eliminated / Not eliminated).
 - (iii) Back sight method of orientation is
(Slow and Accurate / Fast and Inaccurate).
 - (iv) In case of valley the higher values of contours are
(Outside/Inside).
 - (v) All points on the same contours line will have the.....
elevation.
(same/different)
 - (vi) Contour lines cross ridge lines at
(90°/45°)
- (b) Write whether the following statements are *true* or *false* (any *five*) :— 5
- (i) Field notes are not required in plane tabling.
 - (ii) Plane table is a slow method of surveying.
 - (iii) Plane table is suitable in magnetic areas.
 - (iv) Contour lines are only represented by fine line.
 - (v) Direct method of contouring is not very useful for hilly areas.
 - (vi) The smaller the scale, the greater must be contour interval and
vice-versa.
- (c) State long terms of the following (any *five*) :— 5
- (i) M. N. Method
 - (ii) B. S. Method
 - (iii) I. Method
 - (iv) B. G. Method
 - (v) T. & E. Method
 - (vi) A. C. Method

- (d) Match the following (any *five*) :— 5
- | " A " Column | " B " Column |
|-------------------|------------------------------------|
| (i) Plane table | (a) Show contour line |
| (ii) Spirit level | (b) Military works |
| (iii) Compass | (c) Centering table |
| (iv) Contours | (d) Use for leveling |
| (v) Contour map | (e) Plotting |
| (vi) U-frame | (f) Directing a magnetic creation. |
2. Attempt any *two* questions of the following (any *two*) :— 16
- (a) Name and equipment used in plane tabling.
 - (b) Describe the method of orienting the plane table.
 - (c) Define contour. What do you understand by contour interval ?
3. Attempt any *two* questions of the following (any *two*) :— 16
- (a) Describe briefly the advantages and dis-advantages of plane table surveying.
 - (b) Describe briefly the advantages of telescope alidade.
 - (c) What are the characteristic of contour line ?
 - (d) Explain the various factor affecting contour interval.
4. Give brief answers of the following questions (any *two*) :— 16
- (a) Differentiate between magnetic needle method and back sight method.
 - (b) What are the errors in plane table surveying ?
 - (c) Compare direct and indirect method of contouring.
 - (d) How contour are used in engineering work. Describe briefly.
5. Write short notes (any *four*) :— 16
- (a) The Plane Table
 - (b) Trought compass
 - (c) U-frame
 - (d) Specification of Total Station
 - (e) Basic principle of survey.
6. Attempt any *two* of the following :— 16
- (a) What are the method of plane table surveying ?
 - (b) What is two point problem in plane tabling ? How it is solved.
 - (c) Explain the various uses of contour maps.
 - (d) Draw well labelled diagram of Telescopic Alidade.
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