

$$[=\pm E] \text{ ȦE } \{E^{1/2}\}$$

2. $E \subset \mathbb{R}^n$ is a compact set. $f: E \rightarrow \mathbb{R}$ is a continuous function. f attains its maximum and minimum on E . —

16

- (+) Drawing "Evā tā tē(ṣ)avēhi tē tē tvē ṣvātā tē tā tē tē iā tē o(tī) oE vṛṭ."
 (d) tē tē tvē {tā x + fSE} x tē tā tē tē iā tē tē(ṣ) u + f/f.
 (Ed) Drawing "tvō + tē sāt(i) tē tē tē."
 (b) $200 \div 50 \times 0.01$ oE b-tē.

3. $E \subset \mathbb{R}^n$ is a compact set. Let $f: E \rightarrow \mathbb{R}$ be a function. Prove that f is continuous on E if and only if f is uniformly continuous on E .

16

- (+) Reduced Scale 0.1×10^6 .
- (+) Drawing Scale $1/2 \times 10^6$.
- (E) 0.1×10^6 Scale $1/2 \times 10^6$.
- (b) Solids Scale $1/2 \times 10^6$.

4. $E \subset \mathbb{R}^n$ is a compact set. Let $f: E \rightarrow \mathbb{R}$ be a function. Prove that f is continuous on E if and only if f is uniformly continuous on E .

16

- (+) 1st angle \neq 3rd angle $\Rightarrow \frac{1}{2} \angle E_1 + \frac{1}{2} \angle E_2 = \frac{1}{2} \angle E_1 + \frac{1}{2} \angle E_2$. ($E_1 \neq E_2$, $E_1 \neq E_2$, $E_1 \neq E_2$)
- (+) Plain & Diagonal Scale $\Rightarrow \frac{1}{2} \angle E_1 + \frac{1}{2} \angle E_2$.
- (+) Isometric Scale $\Rightarrow \frac{1}{2} \angle E_1 + \frac{1}{2} \angle E_2$.
- (+) Dimensioning Technique $\Rightarrow \frac{1}{2} \angle E_1 + \frac{1}{2} \angle E_2$?

5. Eð hálftíðni ν er $\frac{c}{\lambda}$, þá er $\lambda = \frac{c}{\nu} = \frac{3 \times 10^8 \text{ m/s}}{6.9 \times 10^{14} \text{ s}^{-1}} = 4.35 \times 10^{-7} \text{ m} = 435 \text{ nm}$.

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- [illegible]

6. ~~EdhÉiÉ20nÉÉ~~ |É9xÉ °ÉÉb:ÉÉ:—

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- [illegible]

(ENGLISH)

[TIME ALLOWED—3 HOURS]

(MARKS—100)

DRAWING (THEORY-1)**Marks**1. (a) Fill in the blanks (any *five*) :—

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(i) Isometric projection is a dimensional projection.

(ii) cub meter of water is 1,000 liters.

(iii) Volume is measured in meter.

(iv) pencil is used for fine details.

(v) 1 cm = inches.

(b) Solve the following :—

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(i) $200 \div 0.015$ (ii) $1,000 \times 0.25$ (c) State *true* or *false* :—

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(i) 1 m. = 1,000 cm.

(ii) Square meter is unit of volume.

(iii) 1 km. = 1,000 m.

(iv) Length = cu. m.

(v) 1 foot = 1 meter.

(d) Match the following :—

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

(i) 8B

(a) Lightest

(ii) Light pencil

(b) Darkest

(iii) 2H

(c) Thinner point

(iv) H

(d) Blackness

(v) B

(e) Hardness.

[Turn over

Marks

2. Attempt any *two* :— 16
- (a) Types of lines used in drawing. Explain them.
 - (b) Different types of pencils and their uses in details.
 - (c) Explain colouring of drawing.
 - (d) Solve $200 \div 50 \times 0.01$.
3. Attempt any *two* :— 16
- (a) Explain Reduced scale.
 - (b) Importance of drawing.
 - (c) Give four geometrical figures and their arreas with formula.
 - (d) Classification of solids in brief.
4. Attempt any *two* :— 16
- (a) Differentiate between 1st and 3rd angle (6 points) with diagrametic explanation.
 - (b) Explain diagonal and plain scale.
 - (c) Explain isometric scale.
 - (d) What is dimensioning technique ?
5. Attempt any *two* :— 16
- (a) Explain line work.— light, medium, heavy.
 - (b) Explain commercial and gothic lettering.
 - (c) What is metric system ? Explain with example.
 - (d) What is section and line convention for metals.
6. Attempt any *two* :— 16
- (a) Write freehand in single stroke vertical lower case letter of 10 mm. height .

" CERTIFICATION COURSE IN TRACING "
 - (b) Aligned and unidirectional system. Differentiate.
 - (c) Divide 24 cm. line into 7 equal parts.
 - (d) Explain metric system.
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