

MAHARASHTRA STATE BOARD OF SKILL DEVELOPMENT EXAMINATION, MUMBAI

Examination--July, 2020

CERTIFICATE COURSE IN DIALYSIS TECHNICIAN

[**ἔ**φύ—3 iέέ^οέ]

(BEÚHÉ ~~MOÉ~~—100)

ΕΙΣΑΓΩΓΗ + ΕΙΣΑΓΩΓΗ (ΕΙΣΑΓΩΓΗ)

°ÉÉÉÉ.—(1) °ÉÉÉÉ + ÉÉÉÉ.

[illegible]

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1. (+) E[®]E[®]aEE VÉEMÉE JE[®]U (E[®]E[®]E[®]E[®]) {HÉSÉ} :-

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(1) $\{f_{\alpha}^{(1)}\}_{\alpha \in \mathbb{N}}$ is a sequence of functions $f_{\alpha}^{(1)}: \mathbb{R} \rightarrow \mathbb{R}$ defined by $f_{\alpha}^{(1)}(x) = \frac{1}{\alpha} \sin(\alpha x)$ for all $x \in \mathbb{R}$. The sequence $\{f_{\alpha}^{(1)}\}_{\alpha \in \mathbb{N}}$ is not uniformly bounded on \mathbb{R} because $\|f_{\alpha}^{(1)}\|_{\infty} = \frac{1}{\alpha}$ and $\frac{1}{\alpha} \rightarrow 0$ as $\alpha \rightarrow \infty$. However, the sequence $\{f_{\alpha}^{(1)}\}_{\alpha \in \mathbb{N}}$ is equicontinuous on \mathbb{R} because for any $\epsilon > 0$, there exists $\delta > 0$ such that $|f_{\alpha}^{(1)}(x) - f_{\alpha}^{(1)}(y)| < \epsilon$ for all $x, y \in \mathbb{R}$ with $|x - y| < \delta$ and for all $\alpha \in \mathbb{N}$. By the Arzelà-Ascoli theorem, the sequence $\{f_{\alpha}^{(1)}\}_{\alpha \in \mathbb{N}}$ has a uniformly convergent subsequence. Let $f: \mathbb{R} \rightarrow \mathbb{R}$ be the limit function. Then $f(x) = 0$ for all $x \in \mathbb{R}$.

(+) $\text{En}^{\oplus}\text{E}^{\ominus}\text{E}^{\oplus}\text{E}^{\ominus}$ (4) $\text{E}^{\oplus}\text{E}^{\oplus}\text{E}^{\oplus}\text{E}^{\oplus}\text{E}^{\oplus}\text{E}^{\oplus}\text{E}^{\oplus}$

$$(E_0) + n \frac{E_0}{E_0} \rightarrow E_0 \quad (b) \quad b \frac{E_0}{E_0} \rightarrow E_0$$

(2) $\partial \bar{\epsilon}^{\frac{1}{2}} \bar{\mu}_0 \mid \bar{\epsilon}^{\frac{1}{2}} \bar{\mu}_0 \in \bar{\epsilon}^{\frac{1}{2}} \bar{\mu}_0$

$$(+)\text{ b}^{\text{af}}\text{f}^{\text{fo}}\text{o}^{\text{fe}}\text{f}\cdots\text{ff}\text{f}\text{x}\text{s}\text{ff}\text{B}\text{E}\text{o}\text{:}\text{ff}\text{f}\text{f},\quad (\text{f})\text{ ff}\text{o}\text{o}\text{x}\text{ff}\text{o}\text{:}\text{j}\text{ff}\text{Zff}+\text{aff}\text{f}^{\text{®}}\text{ff}\text{o}+\text{ff}\text{fv}\text{fa}$$

(E) Tetrao^e of E^{oa}E, (b) H.D. o^{ee} o^{ee} E^e E^e VEE^e o^e E^e E^e C i^e E^e/V^e.

(3) <^afŋēēāē|ēāēā ō + ēēvā pēā+ēō vēē:ēēē.

(+) E¹/₂OEEbE^af + bE^ofE^vaE^a (d) E^oOEEb÷ |E^aE^e|E^ahE^vaE^a

(E₀) $\{E_0^{\otimes 1} \oplus E_0^{\otimes 2} \oplus \dots \oplus E_0^{\otimes n}\} \rightarrow \{E_0^{\otimes 1} \oplus E_0^{\otimes 2} \oplus \dots \oplus E_0^{\otimes n}\}$

[illegible]

(अ) तीव्र ताप असल्यास, (ब) तीव्र विषबाधा असल्यास,

(Eò) Eò'Éò ®CiéntÉ, (b) ®CiÉ °Éò'ÉhÉ.

(5) bēaē+ēōē iēk ēē ē®ūSēē+ēiēā

[illegible]

(b) $\hat{E}^{(R)} u / \hat{E}^{(C)} + \hat{E}^{(R)} \hat{E}^{(C)} \hat{E}^{(R)} \hat{E}^{(C)}.$

(6) bÉC]óú bÉÉ±ÉÉ°ÉÉáÉÉxÉÉxÉÉ xÉÉÉÉ®úÉÉ®úÉÉÉÉ.

(+) [®] ~~Citric Acid~~ G.F.R. चे प्रमाण, (ब) रक्तातील पांढऱ्या पेशींचे प्रमाण,

(b) ±ÉPÉ ÉOSEÓ Eo·ÉO MĒĒ ÉKÉE.

(၁၆) ဝဳဳဳ Eဝံ + ဝဳဳဳ iEဝံ ဝဳဳဳ (EဝဳဳဳiEဝံ) (ဝဳဳဳ) :—

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[illegible]

(2) "ÉVÉOÉZP xÉÉOÉÉÉO + ÉÉÉÉ JÉÉZ OÉÉOÉÉÉÉÉÉ - UHÉÉÉÉ VÉÉÉOÉÉÉÉ nÉÉÉ É
GFR SÉÉ PÉTOÉÉÉÉÉÉ nÉÉÉO OÉÉÉÉÉÉÉÉ xÉÉÉO.

(3) डारुन्स सिंड्रोम हा आजार तीव्र मुत्रपिंडाच्या आजाराशी संबंधित नाही.

[illegible][illegible]

(6) +f{+af[®]Cifēfō+f+fiff[®]Cifē pūf(Enīfēf+ēfē Eōsf[®] o fē fōo(fēfōēm fōcīfēē
ē fē vñhā ½ fōff(Ebēsfā fō af Eō fāf +f½)

$$[\pm \epsilon] \cap \epsilon \in \{\epsilon/2\}$$

(ENGLISH)

[TIME ALLOWED—3 HOURS]

(MARKS—100)

PRINCIPLES OF DIALYSIS (THEORY-I)*Instructions.*— (1) All questions are *compulsory*.(2) Figures to the right hand indicate *full marks*.**Marks**1. (a) Fill in the blanks (any *five*) :—

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(i) In peritoneal dialysis (P. D.), draining out the dirty fluid and putting in the clear fluid is called as

- (a) a replacement, (b) a hemo cleaning,
(c) an exchange, (d) a dialysis.

(ii) A vascular access is a

- (a) Piece of the dialysis machine
(b) medicine taken by people with kidney failure
(c) Medical problem needing treatment
(d) Special blood vessel used for HD.

(iii) Immunosuppressant drugs are taken

- (a) with hemodialysis, (b) with a kidney transplant,
(c) with peritoneal dialysis, (d) with major viruses.

(iv) Dialysis can also be used in situation of

- (a) Extreme fever, (b) acute poisoning,
(c) Low B. P., (d) Blood transfusions.

(v) The principle behind dialysis is

- (a) Adhesion, (b) Cohesion,
(c) Capillary action, (d) reverse osmosis.

(vi) The doctor diagnose dialysis

- (a) G. F. R. *via* blood test,
(b) Number of W. B. Cs in blood test
(c) Presence of blood in urine
(d) Low urine quality.

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

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(i) Insomnia is not a typical symptom of kidney failure.

(ii) In patient with diabetic nephropathy and proteinuria mean arterial pressure is not associated with rate of decline in G.F.R.

(iii) Down's syndrome is not associated with chronic kidney disease.

(iv) A kidney transplant is a cure for kidney disease.

(v) Standard in-center HD is most often done three times a week for about 4 Hrs/treatment.

(vi) The kidney's main job is to get rid of extra fluid and waste material in your blood.

[Turn over

- (c) State long form (any *five*) :— 5
- | | | |
|---------|----------|-----------|
| (i) HD | (ii) GFR | (iii) KT |
| (iv) PD | (v) CRRT | (vi) SLED |
- (d) Match the pairs :— 5
- | 'A' Group | 'B' Group |
|------------------------|-----------------------------------|
| (i) Dialyzer | (a) Diet for PD |
| (ii) Hemodialysis | (b) Space around the gut |
| (iii) More proteins | (c) Arteriovenous Fistula |
| (iv) Peritoneal cavity | (d) Acts as a kidney in dialysis |
| (v) AVF | (e) Can't be carried out at home. |
2. Attempt the following (any *two*) :— 16
- Write in detail about Physiology of kidney.
 - Explain the Basics of Nutrition counseling.
 - What factors should be considered before scheduling the dialysis?
 - Explain sterilization in detail.
3. Attempt any *two* of the following :— 16
- What is MIS? What are the benefits of information management?
 - What is ESRD? What are the five stages of kidney disease?
 - Write in detail about the signs and symptoms of kidney failure. Enlist some causes of renal disorders.
 - What are the different types of communication skill?
4. Attempt the following (any *two*) :— 16
- Write in detail about the diet of the patients undergoing different types of dialysis.
 - How will you protect yourself from various infections?
 - How does Excretory system helps our body to get rid of the disposable wastes?
 - What extra care should be taken while dialysis of a diabetic patient?
5. Write short notes (any *four*) :— 16
- Basic Computer Skills.
 - Blood parameters of a patient for dialysis.
 - SGA Rating.
 - Dialysis Machine related disinfection.
 - Draw a well labelled diagram of kidney.

6. Attempt the following (any *two*) :— 16
- (a) Write in detail about obstructive uropathy.
 - (b) Explain in detail about the anatomy of the urinary system.
 - (c) Write about auditing methods. What are the tools used for analysis?
Also explain how you will use it ?
 - (d) Explain about promoting Nutritional and Fluid-therapy for patients on hemodialysis.
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