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UNREVISED**

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ಕರ್ನಾಟಕ ಪ್ರೌಢ ಶಿಕ್ಷಣ ಪರೀಕ್ಷಾ ಮಂಡಳಿ, ಮಲ್ಲೇಶ್ವರಂ, ಬೆಂಗಳೂರು – 560 003

**KARNATAKA SECONDARY EDUCATION EXAMINATION BOARD, MALLESWARAM,
BANGALORE – 560 003**

ಎಸ್.ಎಸ್.ಎಲ್.ಸಿ. ಪರೀಕ್ಷೆ, ಜೂನ್ — 2019

S. S. L. C. EXAMINATION, JUNE, 2019

ಮಾದರಿ ಉತ್ತರಗಳು

MODEL ANSWERS

ದಿನಾಂಕ : 24. 06. 2019]

ಸಂಕೇತ ಸಂಖ್ಯೆ : **83-E (Chem.)**

Date : 24. 06. 2019]

CODE No. : **83-E (Chem.)**

ವಿಷಯ : ವಿಜ್ಞಾನ

Subject : SCIENCE

(ರಸಾಯನಶಾಸ್ತ್ರ / Chemistry)

(ಹಳೆ ಪಠ್ಯಕ್ರಮ / Old Syllabus)

(ಪುನರಾವರ್ತಿತ ಶಾಲಾ ಅಭ್ಯರ್ಥಿ / Regular Repeater)

(ಇಂಗ್ಲಿಷ್ ಭಾಷಾಂತರ / English Version)

[ಗರಿಷ್ಠ ಅಂಕಗಳು : 80

[Max. Marks : 80



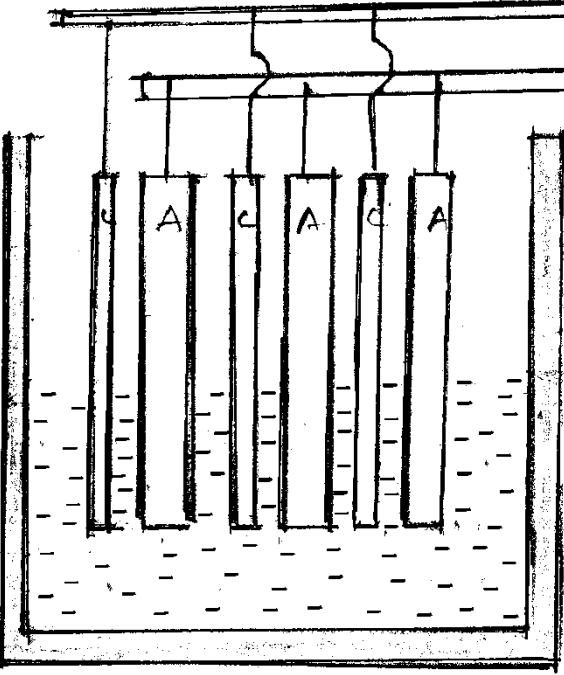
Qn. Nos.	Value Points	Total
2.	Which of the following elements has Octet Electronic Configuration ? (A) Sodium (atomic number is 11) (B) Argon (atomic number is 18) (C) Calcium (atomic number is 20) (D) Lithium (atomic number is 3). Ans. : (B) — Argon (atomic number is 18)	1

 (24)811-RR(B) (CHE)

[Turn over

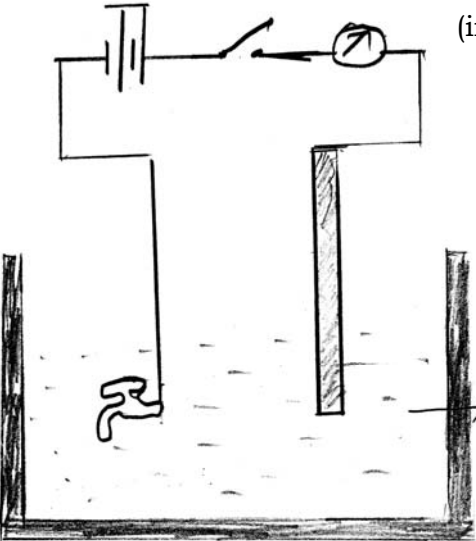
Qn. Nos.	Value Points	Total
5.	<p>In the preparation of Jaggery, the compound used to slightly eliminate the dark colour of Jaggery is</p> <p>(A) norit</p> <p>(B) hydrosol</p> <p>(C) celotex</p> <p>(D) cellulose.</p> <p>Ans. :</p> <p>(B) — hydrosol</p>	1
9.	<p>The compound that has greater rate of diffusion among C_2H_6, C_3H_6, CH_4 and C_4H_{10} at normal temperature and pressure is</p> <p>(A) C_2H_6</p> <p>(B) C_3H_6</p> <p>(C) C_4H_{10}</p> <p>(D) CH_4.</p> <p>Ans. :</p> <p>(D) — CH_4</p>	1

Qn. Nos.	Value Points	Total																								
11.	<p>Match the names of organic compounds given in Column-A with their molecular formula given in Column-B and write the answer along with its letters :</p> <table style="width: 100%; border: none;"> <thead> <tr> <th style="text-align: left; width: 50%;">Column - A</th> <th style="text-align: left; width: 50%;">Column - B</th> </tr> </thead> <tbody> <tr> <td>(A) Butyne</td> <td>(i) C_6H_6</td> </tr> <tr> <td>(B) Methane</td> <td>(ii) C_4H_8</td> </tr> <tr> <td>(C) Propene</td> <td>(iii) C_4H_6</td> </tr> <tr> <td>(D) Benzene</td> <td>(iv) CH_4</td> </tr> <tr> <td></td> <td>(v) C_3H_8</td> </tr> <tr> <td></td> <td>(vi) C_6H_{12}</td> </tr> <tr> <td></td> <td>(vii) C_3H_6</td> </tr> </tbody> </table> <p>Ans. :</p> <table style="width: 100%; border: none;"> <tbody> <tr> <td style="width: 50%;">(A) — (iii) C_4H_6</td> <td style="width: 50%;"></td> </tr> <tr> <td>(B) — (iv) CH_4</td> <td></td> </tr> <tr> <td>(C) — (vii) C_3H_6</td> <td></td> </tr> <tr> <td>(D) — (i) C_6H_6</td> <td style="text-align: right;">4 × 1</td> </tr> </tbody> </table>	Column - A	Column - B	(A) Butyne	(i) C_6H_6	(B) Methane	(ii) C_4H_8	(C) Propene	(iii) C_4H_6	(D) Benzene	(iv) CH_4		(v) C_3H_8		(vi) C_6H_{12}		(vii) C_3H_6	(A) — (iii) C_4H_6		(B) — (iv) CH_4		(C) — (vii) C_3H_6		(D) — (i) C_6H_6	4 × 1	4
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(D) — (i) C_6H_6	4 × 1																									
13.	<p>State Boyle's law.</p> <p>Ans. :</p> <p>At constant temperature the volume of a given mass of dry gas is inversely proportional to its pressure.</p>	1																								
15.	<p>Write the ground state electronic configuration of carbon atom.</p> <p>Ans. :</p> <p>$1s^2 2s^2 2p^2$</p>	1																								

Qn. Nos.	Value Points	Total
18.	<p><i>n</i>-butane and iso-butane are called isomers. Why ?</p> <p>Ans. :</p> <p>Same molecular formula but different structural formulae.</p>	1
20.	<p>Draw the diagram of the apparatus used in refining of copper. Label the following parts :</p> <p>(i) Anode</p> <p>(ii) Cathode.</p> <p>Ans. :</p> <div style="text-align: right; margin-right: 100px;"> <p>Cathode (ii) </p> <p>Anode (i) </p> </div>  <p style="text-align: right; margin-right: 100px;">(1 + $\frac{1}{2}$ + $\frac{1}{2}$)</p>	2

Qn. Nos.	Value Points	Total								
23.	<p>A part of the modern periodic table is given below. Observe the table and answer the questions :</p> <table border="1" data-bbox="435 524 1254 752"> <tr> <td data-bbox="435 524 639 640">${}_5\text{B}^{11}$</td> <td data-bbox="639 524 844 640">${}_6\text{C}^{12}$</td> <td data-bbox="844 524 1048 640">${}_7\text{N}^{14}$</td> <td data-bbox="1048 524 1254 640">${}_8\text{O}^{16}$</td> </tr> <tr> <td data-bbox="435 640 639 752">${}_{13}\text{Al}^{27}$</td> <td data-bbox="639 640 844 752">${}_{14}\text{Si}^{28}$</td> <td data-bbox="844 640 1048 752">${}_{15}\text{P}^{31}$</td> <td></td> </tr> </table> <p>Name the element which has</p> <p>(i) highest ionisation energy.</p> <p>(ii) highest atomic size.</p> <p>Ans. :</p> <p>(i) ${}_8\text{O}^{16}$</p> <p>(ii) ${}_{13}\text{Al}^{27}$</p>	${}_5\text{B}^{11}$	${}_6\text{C}^{12}$	${}_7\text{N}^{14}$	${}_8\text{O}^{16}$	${}_{13}\text{Al}^{27}$	${}_{14}\text{Si}^{28}$	${}_{15}\text{P}^{31}$		<p>1</p> <p>1</p> <p>2</p>
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${}_{13}\text{Al}^{27}$	${}_{14}\text{Si}^{28}$	${}_{15}\text{P}^{31}$								
26	<p>Explain the method of extraction of amorphous silicon.</p> <p style="text-align: center;">OR</p> <p>Write the chemical equations for the following chemical reactions :</p> <p>(i) Silicon reacts with oxygen</p> <p>(ii) Silicon reacts with steam.</p> <p>Ans. :</p>									



Qn. Nos.	Value Points	Total
33.	<p>Mention the steps involved in the manufacture of sucrose from sugarcane.</p> <p style="text-align: center;">OR</p> <p>Write the balanced chemical equations for the chemical reactions taking place in the conversion of sucrose into ethanol.</p> <p>Ans. :</p> <p>(i) Extraction of the juice from the source $\frac{1}{2}$</p> <p>(ii) Purification of the juice $\frac{1}{2}$</p> <p>(iii) Concentration and Crystallization $\frac{1}{2}$</p> <p>(iv) Separation and drying of crystals. $\frac{1}{2}$</p> <p style="text-align: center;">OR</p> $C_{12}H_{22}O_{11} + H_2O \xrightarrow[\text{Invertase}]{\text{Enzyme}} C_6H_{12}O_6 + C_6H_{12}O_6$ <p style="text-align: center;">Sucrose Glucose Fructose 1</p> $C_6H_{12}O_6 \xrightarrow[\text{Invertase}]{\text{Enzyme}} 2 C_2H_5OH + 2CO_2 \uparrow$ <p style="text-align: center;">Glucose or fructose Ethanol Carbon dioxide 1</p>	2
37.	<p>Draw the diagram of the apparatus used in electroplating. Label the following parts :</p> <p>(i) Electrolyte (ii) Ammeter</p> <p>Ans. :</p> 	2
		$2 + \frac{1}{2} + \frac{1}{2}$ 3

Qn. Nos.	Value Points	Total
41.	<p>(a) What is the function of limestone and coke in the extraction of iron from haematite ?</p> <p>(b) Mention the alloy used in the preparation of the following :</p> <p>(i) Permanent magnets</p> <p>(ii) Bus coaches.</p> <p>Ans. :</p> <p>(a) <i>Limestone</i> :</p> $\text{CaCO}_3 \xrightarrow{\text{heat}} \text{CaO} + \text{CO}_2 \uparrow$ $\text{CaO} + \text{SiO}_2 \rightarrow \text{CaSiO}_3 \text{ (Slag)}$ <p style="text-align: center;">OR</p> <p>Limestone removes the silica present in the haematite and produces slag.</p> <p><i>Coke</i> :</p> $2\text{C} + \text{O}_2 \rightarrow 2\text{CO} \uparrow$ $\text{Fe}_2\text{O}_3 + 3\text{CO} \rightarrow 2\text{Fe} + 3\text{CO}_2 \uparrow$ <p>Coke acts as a reducing agent and converts haematite into molten iron.</p> <p>(b) (i) Alnico</p> <p>(ii) Duralumin.</p>	<p>1</p> <p>1</p> <p>1</p> <p>4</p>