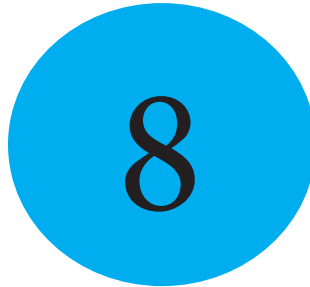




SCIENCE WORK BOOK PART-2

2020-21



CLASS - 8

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ಪರಿಕಲ್ಪನೆ ಮತ್ತು ಮಾರ್ಗದರ್ಶನ

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- ಶ್ರೀ. ನರೇಶ್. ಬಿ. ಎಸ್., ಎಂ.ಜಿ.ಎಂ.ಹೆಚ್.ಎಸ್., ಮಧುಗಿರಿ, ಮಧುಗಿರಿ ತಾ, ಮಧುಗಿರಿ ಶೈ. ಜಿಲ್ಲೆ.

ಮುನ್ನುಡಿ

ನಿರಂತರವಾಗಿ ಬದಲಾಗುತ್ತಿರುವ ಜಗತ್ತಿನಲ್ಲಿ ಮಗುವು ತನ್ನ ಜ್ಞಾನವನ್ನು ತಾನೇ ಕಟ್ಟಿಕೊಳ್ಳಲು ರಾಷ್ಟ್ರೀಯ ಪಠ್ಯಕ್ರಮ ಚೌಕಟ್ಟು (NCF-2005) ಕರ್ನಾಟಕ ರಾಜ್ಯ ಪಠ್ಯಕ್ರಮ [KCF-2007] ಹೆಚ್ಚು ಒತ್ತು ನೀಡಿದ್ದು. ಮಗುವು ಶಾಲೆಯ ಹೊರಗಿನ ಬದುಕಿಗೆ ತಾನು ಗಳಿಸಿದ ಜ್ಞಾನ ಸಂಯೋಜನೆಗೊಳಿಸುವಂತಹ ಶೈಕ್ಷಣಿಕ ಚಟುವಟಿಕೆಗಳ ಆಯೋಜನೆಯ ಮಹತ್ವವನ್ನು ಎತ್ತಿಹಿಡಿದಿದೆ. ಮಕ್ಕಳ ಜ್ಞಾನಾಭಿವೃದ್ಧಿ ಪಡಿಸುವುದಕ್ಕಿಂತಲೂ ಮಕ್ಕಳ ಕಲಿಕಾನುಭವಗಳನ್ನು ಅಭಿವೃದ್ಧಿಪಡಿಸುವುದು ಅಗತ್ಯವೆನಿಸಿದೆ.

8ನೇ ತರಗತಿಯ ವಿದ್ಯಾರ್ಥಿಗಳ ಜ್ಞಾನ ಅನುಭವ ಮತ್ತು ವಯೋಮಾನವನ್ನು ಗಮನದಲ್ಲಿರಿಸಿ ಈ ಅಭ್ಯಾಸ ಪುಸ್ತಕವನ್ನು ರಚಿಸಲಾಗಿದೆ. ಪಠ್ಯದಲ್ಲಿ ಬಂದಿರುವ ಪ್ರಶ್ನೆ ಮತ್ತು ಅವುಗಳ ಸ್ವರೂಪಕ್ಕಿಂತಲೂ ಭಿನ್ನ ನೆಲೆಯಲ್ಲಿ ಈ ಅಭ್ಯಾಸ ಪುಸ್ತಕವನ್ನು ಪ್ರಸ್ತುತ ಪಡಿಸಲು ಪ್ರಯತ್ನಿಸಲಾಗಿದೆ. ಮಗುವಿನ ಯೋಜನಾ ಲಹರಿಯನ್ನು ಪ್ರೇರೇಪಿಸಿ ತನ್ನ ನೈಜ ಭಾವಾಭಿವ್ಯಕ್ತಿಗೆ ಅವಕಾಶ ನೀಡುವಂತಹ ಚಟುವಟಿಕೆ ಮತ್ತು ಪ್ರಶ್ನಾವಳಿ ರೂಪಿಸಲಾಗಿದೆ.

ಈ ಅಭ್ಯಾಸ ಪುಸ್ತಕವು ಪಠ್ಯಪುಸ್ತಕಕ್ಕೆ ಪರ್ಯಾಯವಲ್ಲ. ಬದಲಾಗಿ ಮಗುವು ತನ್ನ ಕಲಿಕಾ ಅನುಭವಗಳನ್ನು ಕಟ್ಟಿಕೊಳ್ಳಲು ಪಠ್ಯಪುಸ್ತಕಕ್ಕೆ ಪೂರಕವಾಗಿರಲಿದೆ. ಈ ಅಭ್ಯಾಸ ಪುಸ್ತಕದಲ್ಲಿ ಜ್ಞಾನವಲಯಕ್ಕಿಂತಲೂ ತಿಳುವಳಿಕೆ ಮತ್ತು ಅನ್ವಯಕ್ಕೆ ಹೆಚ್ಚಿನ ಪ್ರಾಶಸ್ತ್ಯ ನೀಡಲಾಗಿದ್ದು. ಈ ಮುಖಾಂತರ ಮಗುವಿಗೆ ಅನುಭವದ ಮೂಲಕ ಜ್ಞಾನ ಕಟ್ಟಿಕೊಳ್ಳಲು ಅವಕಾಶ ನೀಡಲಾಗಿದೆ. ಕಂಠಪಾಠ ಮಾಡುವ ಅಂಶಗಳನ್ನು ಕಡಿಮೆಗೊಳಿಸಲಾಗಿದೆ. ಶಿಕ್ಷಣವನ್ನು ಇಂದಿನ ಹಾಗೂ ಭವಿಷ್ಯದ ಜೀವನಾವಶ್ಯಕತೆಗಳಿಗೆ ಹೊಂದುವಂತೆ ಮಾಡುವ ಸಲುವಾಗಿ ಮಗುವಿನ ಸ್ವಂತ ಅಭಿಪ್ರಾಯ ವ್ಯಕ್ತಪಡಿಸುವಂತೆ ಚಟುವಟಿಕೆ ಮತ್ತು ಪ್ರಶ್ನೆಗಳನ್ನು ನೀಡಲಾಗಿದೆ.

ಈ ಅಭ್ಯಾಸ ಪುಸ್ತಕವನ್ನು ಶಿಕ್ಷಕರಾಗಲೀ ಅಥವಾ ವಿದ್ಯಾರ್ಥಿಗಳಾಗಲೀ ಹೆಚ್ಚಿನ ಹೊರೆಯೆಂದು ಭಾವಿಸದೆ. ಸಂತಸದಿಂದಲೇ ಬಳಸುವಂತಾಗಬೇಕು. ಇದಕ್ಕೆ ಅಗತ್ಯವಾದ ಸೂಚನೆಗಳನ್ನು ಆಗಾಗ್ಗೆ ನೀಡುವ ಮೂಲಕ ಸಮರ್ಪಕ ಮಾರ್ಗದರ್ಶನವನ್ನು ಶಿಕ್ಷಕರು ನೀಡಬೇಕಿದೆ. ಶಿಕ್ಷಕರ ಸೂಕ್ತ ಮಾರ್ಗದರ್ಶನದಲ್ಲಿ ವಿದ್ಯಾರ್ಥಿಗಳು ಅಭ್ಯಾಸ ಪುಸ್ತಕದಿಂದಾಗಿ ತಮ್ಮ ಜ್ಞಾನವನ್ನು ತಾವೇ ಕಟ್ಟಿಕೊಳ್ಳುವಂತಾದರೆ ನಮ್ಮೆಲ್ಲರ ಮತ್ತು ಇಲಾಖೆಯ ಪರಿಶ್ರಮ ಸಾರ್ಥಕವೆನಿಸಲಿದೆ.

ಎಸ್.ಆರ್ ಉಮಾಶಂಕರ್ ಭಾ.ಆ.ಸೇ

ಪ್ರಧಾನ ಕಾರ್ಯದರ್ಶಿಗಳು, ಪ್ರಾಥಮಿಕ ಮತ್ತು ಪ್ರೌಢಶಿಕ್ಷಣ.

ಕರ್ನಾಟಕ ಸರ್ಕಾರ, ಬೆಂಗಳೂರು

ಕಲಿಕಾ ಫಲಗಳು (Learning outcomes)

ಈ ತರಗತಿಯಲ್ಲಿ ವಿದ್ಯಾರ್ಥಿಗಳು ಕೆಳಗಿನ ಕಲಿಕಾ ಫಲಗಳನ್ನು ಗಳಿಸಿಕೊಳ್ಳಲು ನಿರೀಕ್ಷಿಸಲಾಗಿದೆ. ಅಭ್ಯಾಸ ಪುಸ್ತಕಗಳ ಸಮರ್ಪಕ ಬಳಕೆಯ ಮೂಲಕ ಮಕ್ಕಳು ಈ ವಿಭಾಗದಲ್ಲಿ ಮೂರು ಶ್ರೇಣಿಗಳಲ್ಲಿ 'ಅತ್ಯುತ್ತಮ', 'ಉತ್ತಮ' ಹಾಗೂ 'ಸಾಧಾರಣ' ಶ್ರೇಣಿಗಳನ್ನು ಪ್ರತೀ ಘಟಕ ಪರೀಕ್ಷೆಯ ನಂತರ ನೀಡಿರುವ ಪಟ್ಟಿಯಲ್ಲಿ ದಾಖಲಿಸಬೇಕು. ಇದು ವಿದ್ಯಾರ್ಥಿಗಳು ಕಲಿಕಾ ಫಲಗಳನ್ನು ಗಳಿಸಿಕೊಂಡಿರುವ ಹಂತವನ್ನು ಸೂಚಿಸುತ್ತದೆ.

ಅಭ್ಯಾಸ ಪುಸ್ತಕಗಳ ಸಮರ್ಪಕ ಬಳಕೆಯ ಮೂಲಕ ಮಕ್ಕಳು ಈ ಕಲಿಕಾ ಫಲಗಳನ್ನು ಸಾಧಿಸುವಂತೆ ಸಹಕರಿಸಲು ಕೋರಿದೆ.

1. ಅವುಗಳ ಗುಣಲಕ್ಷಣಗಳು ರಚನೆ ಮತ್ತು ಕಾರ್ಯಗಳ ಆಧಾರದ ಮೇಲೆ, ನೈಸರ್ಗಿಕ ಮತ್ತು ಮಾನವ ನಿರ್ಮಿತ ನಾರುಗಳಂತಹ ವಸ್ತುಗಳು ಮತ್ತು ಜೀವಿಗಳು, ಸಂಪರ್ಕ ಮತ್ತು ಸಂಪರ್ಕಿತರ ಬಲಗಳು; ದ್ರವಗಳನ್ನು ವಿದ್ಯುತ್ ವಾಹಕಗಳು ಮತ್ತು ಅವಾಹಕಗಳಾಗಿ; ಸಸ್ಯ ಮತ್ತು ಪ್ರಾಣಿ ಕೋಶಗಳು; ಅಂಡಜಗಳು ಮತ್ತು ಜರಾಯುಜ ಪ್ರಾಣಿಗಳನ್ನು ವ್ಯತ್ಯಾಸಿಸುವರು.
2. ಗುಣಲಕ್ಷಣಗಳು/ವಿಶೇಷ ಲಕ್ಷಣಗಳ ಆಧಾರದ ಮೇಲೆ ವಸ್ತುಗಳು ಮತ್ತು ಜೀವಿಗಳನ್ನು ವರ್ಗೀಕರಿಸುವರು. ಉದಾ., ಲೋಹಗಳು ಮತ್ತು ಅಲೋಹಗಳು; ಖಾರಿಫ್ ಮತ್ತು ರಬಿ ಬೆಳೆಗಳು; ಉಪಯುಕ್ತ ಮತ್ತು ಹಾನಿಕಾರಕ ಸೂಕ್ಷ್ಮಾಣುಜೀವಿಗಳು; ಲೈಂಗಿಕ ಮತ್ತು ಅಲೈಂಗಿಕ ಸಂತಾನೋತ್ಪತ್ತಿ; ವೈಯಕ್ತಿಕ ಕಾರ್ಯಗಳು; ಬರಿದಾಗುವ ಮತ್ತು ಬರಿದಾಗದ ನೈಸರ್ಗಿಕ ಸಂಪನ್ಮೂಲಗಳು, ಇತ್ಯಾದಿ.
3. ಪ್ರಶ್ನೆಗಳಿಗೆ ಉತ್ತರಗಳನ್ನು ಪಡೆಯಲು ಸರಳ ಅನ್ವೇಷಣೆಗಳನ್ನು ನಡೆಸುವರು. ಉದಾ: ದಹನ ಕ್ರಿಯೆಗೆ ಅಗತ್ಯವಾದ ಪರಿಸ್ಥಿತಿಗಳು ಯಾವುವು? ಉಪ್ಪಿನಕಾಯಿ ಮತ್ತು ಮುರಬ್ಬಾಗಳಲ್ಲಿ ನಾವು ಉಪ್ಪು ಮತ್ತು ಸಕ್ಕರೆಯನ್ನು ಏಕೆ ಸೇರಿಸುತ್ತೇವೆ? ದ್ರವಗಳು ಒಂದೇ ಆಳದಲ್ಲಿ ಸಮಾನ ಒತ್ತಡವನ್ನು ಉಂಟು ಮಾಡುತ್ತವೆಯೇ?
4. ಪ್ರಕ್ರಿಯೆಗಳು ಮತ್ತು ವಿದ್ಯಮಾನವನ್ನು ಅವುಗಳ ಕಾರಣಗಳೊಂದಿಗೆ ಸಂಬಂಧಿಸುವರು. ಉದಾ: ಗಾಳಿಯಲ್ಲಿ ಮಾಲಿನ್ಯಕಾರಕಗಳ ಉಪಸ್ಥಿತಿಯೊಂದಿಗೆ ಹೊಗೆ ರಚನೆ; ಆಮ್ಲ ಮಳೆಯ ಕಾರಣದಿಂದಾಗಿ ಸ್ಮಾರಕಗಳ ಕೊರೆಯುವಿಕೆ/ನಶಿಸುವಿಕೆ ಇತ್ಯಾದಿ.
5. ಪ್ರಕ್ರಿಯೆಗಳು ಮತ್ತು ವಿದ್ಯಮಾನವನ್ನು ವಿವರಿಸುವರು. ಉದಾ., ಮಾನವ ಮತ್ತು ಪ್ರಾಣಿಗಳಲ್ಲಿ ಸಂತಾನೋತ್ಪತ್ತಿ; ಶಬ್ದದ ಉತ್ಪಾದನೆ ಮತ್ತು ಪ್ರಸಾರ; ವಿದ್ಯುತ್ ಪ್ರವಾಹದ ರಾಸಾಯನಿಕ ಪರಿಣಾಮಗಳು; ಬಹು ಬಿಂಬಗಳು ರೂಪುಗೊಳ್ಳುವಿಕೆ; ಜ್ವಾಲೆಯ ರಚನೆ, ಇತ್ಯಾದಿ.
6. ರಾಸಾಯನಿಕ ಪ್ರತಿಕ್ರಿಯೆಗಳಿಗೆ ಪದ ಸಮೀಕರಣವನ್ನು ಬರೆಯುವರು. ಉದಾ., ಗಾಳಿ, ನೀರು ಮತ್ತು ಆಮ್ಲಗಳೊಂದಿಗೆ ಲೋಹಗಳು ಮತ್ತು ಅಲೋಹಗಳ ಪ್ರತಿಕ್ರಿಯೆಗಳು ಇತ್ಯಾದಿ.

7. ಪತನ ಕೋನ ಮತ್ತು ಪ್ರತಿಫಲನ ಕೋನಗಳನ್ನು ಅಳೆಯುವರು.
8. ಸೂಕ್ಷ್ಮಜೀವಿಗಳು, ಈರುಳ್ಳಿ ಸಿಪ್ಪೆ, ಮಾನವ ಕೆನ್ನೆಯ ಒಳ ಮಗ್ಗಲಿನ ಜೀವಕೋಶಗಳು, ಇತ್ಯಾದಿಗಳ ಸೈಡ್‌ಗಳನ್ನು ಸಿದ್ಧಪಡಿಸುವರು, ಮತ್ತು ಅವುಗಳ ಸೂಕ್ಷ್ಮ ಲಕ್ಷಣಗಳನ್ನು ವಿವರಿಸುವರು.
9. ಭಾಗಗಳನ್ನು ಗುರುತಿಸಿದ ರೇಖಾಚಿತ್ರ/ ಹರಿವಿನ ಪಟ್ಟಿ/ರೇಖಾನಕ್ಷೆಗಳನ್ನು ಬರೆಯುವರು. ಉದಾ: ಜೀವಕೋಶದ ರಚನೆ, ಕಣ್ಣು, ಮಾನವ ಸಂತಾನೋತ್ಪತ್ತಿ ಅಂಗಗಳ ರಚನೆ; ಪ್ರಯೋಗಕ್ಕಾಗಿ ಜೋಡಿಸಿದ ಉಪಕರಣಗಳು, ಇತ್ಯಾದಿ.
10. ಸುತ್ತಮುತ್ತಲಿನ ವಸ್ತುಗಳನ್ನು ಬಳಸಿಕೊಂಡು ಮಾದರಿಗಳನ್ನು ನಿರ್ಮಿಸುವರು ಮತ್ತು ಅವುಗಳ ಕಾರ್ಯವನ್ನು ವಿವರಿಸುವರು, ಉದಾ: ತಂಬೂರಿ/ಎಕ್ಟಾರಾ, ಎಲೆಕ್ಟ್ರೋಸ್ಕೋಪ್, ಅಗ್ನಿಶಾಮಕ ಇತ್ಯಾದಿ.
11. ವೈಜ್ಞಾನಿಕ ಪರಿಕಲ್ಪನೆಗಳ ಕಲಿಕೆಯನ್ನು ದಿನನಿತ್ಯದ ಜೀವನದಲ್ಲಿ ಅನ್ವಯಿಸುವರು, ಉದಾ., ನೀರನ್ನು ಶುದ್ಧೀಕರಿಸುವುದು, ಜೈವಿಕ ವಿಘಟನೀಯ ಮತ್ತು ಜೈವಿಕ ವಿಘಟನೀಯವಲ್ಲದ ತ್ಯಾಜ್ಯಗಳನ್ನು ಬೇರ್ಪಡಿಸುವುದು, ಬೆಳೆ ಉತ್ಪಾದನೆಯನ್ನು ಹೆಚ್ಚಿಸುವುದು; ವಿವಿಧ ಉದ್ದೇಶಗಳಿಗಾಗಿ ಸೂಕ್ತವಾದ ಲೋಹಗಳು ಮತ್ತು ಅಲೋಹೀಯ ವಸ್ತುಗಳನ್ನು ಬಳಸುವುದು; ಘರ್ಷಣೆಯನ್ನು ಹೆಚ್ಚಿಸುವುದು/ಕಡಿಮೆ ಮಾಡುವುದು; ಹದಿಹರೆಯದವರಿಗೆ ಸಂಬಂಧಿಸಿದ ತಪ್ಪುಗ್ರಹಿಕೆಗಳು ಮತ್ತು ನಿರ್ಭಂಧಗಳಿಗೆ ಸವಾಲು ಹಾಕುವುದು.
12. ವೈಜ್ಞಾನಿಕ ಅನ್ವೇಷಣೆಗಳಿಗೆ ಸಂಬಂಧಿಸಿದ ಕಥೆಗಳನ್ನು ಚರ್ಚಿಸುವರು ಮತ್ತು ಮೆಚ್ಚುವರು.
13. ಪರಿಸರವನ್ನು ರಕ್ಷಿಸುವ ಪ್ರಯತ್ನಗಳನ್ನು ಮಾಡುವರು. ಉದಾ: ಸಂಪನ್ಮೂಲಗಳನ್ನು ನ್ಯಾಯಯುತವಾಗಿ ಬಳಸುವುದು; ರಸಗೊಬ್ಬರಗಳು ಮತ್ತು ಕೀಟನಾಶಕಗಳ ನಿಯಂತ್ರಿತ ಬಳಕೆ; ಪರಿಸರದಿಂದೊಗುವ ಅಪಾಯಗಳನ್ನು ನಿಭಾಯಿಸುವ ಮಾರ್ಗಗಳನ್ನು ಸೂಚಿಸುವುದು.
14. ಲಭ್ಯವಿರುವ ಸಂಪನ್ಮೂಲಗಳ ಬಳಕೆ ಮಾಡಲು ವಿನ್ಯಾಸ, ಯೋಜನೆ, ಇತ್ಯಾದಿಗಳನ್ನು ರೂಪಿಸುವಲ್ಲಿ ಸೃಜನಶೀಲತೆಯನ್ನು ಪ್ರದರ್ಶಿಸುವರು.
15. ಪ್ರಾಮಾಣಿಕತೆ, ವಸ್ತುನಿಷ್ಠತೆ, ಸಹಕಾರ, ಭಯ ಮತ್ತು ಪೂರ್ವಾಗ್ರಹಗಳಿಂದ ಮುಕ್ತವಾಗಿರುವ ಮೌಲ್ಯಗಳನ್ನು ಪ್ರದರ್ಶಿಸುವರು.

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3. Carbon monoxide

4. Carbon dioxide

Answer _____

6. Example of rapid combustion

1. Combustion of cooking gas.

3. Combustion of phosphorus.

2. Combustion of wood

4. Both a) and c)

Answer _____

7. Assume that Anagha and Achintya are trying to burn the wet and dry paper on fire respectively. Identify the true statement for this scenario.

1. Both the papers trying to burn will burn immediately

2. Only the paper taken by the Anagha will burn.

3. Only the paper taken by Achintya will burn.

4. The paper taken by Achintya will burn immediately, but the paper taken by the Anagha will burn after sufficient heating.

Answer _____

II. Give two examples for each of the following.

1. Explosives

2. Inflammable Substances

3. Fire Extinguishing substances

4. Spontaneous Combustion

5. Gaseous Fuels

III. State whether the following statements are true / false. if it is false, correct and write.

1. Carbon dioxide gas releases due to the incomplete combustion of fuels.

Answer _____

2. Nitrogen Dioxide is an example of Corrosive

Answer _____

3. In general, the volatile substances produce flames

Answer _____

4. Insufficient supply of air is the main reason for incomplete combustion.

Answer _____

IV. Fill in the blanks by looking at the relationship between the first two words

1. Acid rain : Sulphur dioxide :: Increase of Global Warming : _____
2. Complete Combustion :: Carbon dioxide :: Incomplete Combustion :

3. Alcohol : Combustible :: Water :: _____
4. Antimony trisulphide : Match Stick :: Fire Extinguisher : _____

V. Write the meanings of :

1. Fuels
Answer _____
2. Increase of Global Warming
Answer _____
3. Ignition Temperature
Answer _____
4. Explosion
Answer _____

VI. Answer the following in a sentence

1. What do you mean by forest fires?
Answer _____
2. If a little heat is given to kerosene it catches fire but Wood cannot. Give reason
Answer _____
3. Mention the three essential requirements for producing fire.
Answer _____
4. Why do goldsmiths use the outermost zone of the flame to melt gold and silver?
Answer _____
5. What do you mean by Calorific Value?
Answer _____

VII. Answer the following questions: -

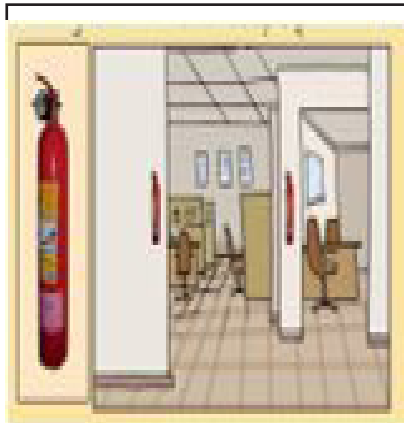
1. List out the characteristic features of an Ideal fuel

Answer _____

2. What is Acid Rain? How it is formed and list out its harmful effects?

Answer _____

VIII. Observe the given below picture and write two sentences about the device it by using your knowledge



SELF-EVALUATION

Timings: 30 min

Marks: 10

I. There are four alternatives to each of the following statements or queries. Choose the correct alternative and write **1X2=2**

1. By preventing one of the given below, we can prevent acid rain

1. Sound Pollution

3. Land Pollution

2. Water Pollution

4. Air Pollution

Answer _____

2. An example of Spontaneous combustion

1. Atomic Bomb Explosion

3. Combustion of fossil fuels

2. Natural Forest Fire

4. Exploding Fire Crackers

Answer _____

II. Answer the following in a sentence **1X1=1**

1. What do you mean by Combustible substances.

Answer _____

III. Answer the following in 2-3 sentences **2X2=4**

1. It is considered that Liquid Petroleum gas is better fuel than the wood. Justify it scientifically.

Answer _____

2. Define the different types combustions with examples.




Answer _____

IV. Answer the following

3X1=3

1. Draw a neat labelled diagram of candle flame.

Student Self Evaluation

SL. No	Learning Indicators			
1	Identify combustible and non- combustible substances			
2	I know the meaning of combustion and list out necessary requirements for combustion			
3	I define the types of combustion with examples			
4	I am able to explain the harmful effects of the incomplete combustion on environment			
5	I know about the preventive measures to be taken during fire accidents in daily life			

Teacher's Opinion

Excellent		Good		Average	
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Teacher Signature: _____

CHAPTER 11

CELL – STRUCTURE AND FUNCTIONS

I. Four alternatives are given to each of the following incomplete statements/ questions. Choose and write the right answer

1. The organelle not found in animal cell is

1. Ribosome

3. Mitochondria

2. Plastids

4. Golgi complex

Answer _____

2. The power house of cell is

1. Mitochondria

3. centrioles

2. Ribosomes

4. Golgi complex

Answer _____

II. Answer the following questions in one word / one sentence

1. Who discovered the cell?

Answer _____

2. Name the cell which has branched fibre structure, carries messages from one part of the body to another.

Answer _____

3. Which part of the cell is called as the living substance of the cell.

Answer _____

III. Answer the following questions with 2-3 sentences.

1. Write the functions of cell membrane?

Answer _____

2. Write the differences between Prokaryotes and Eukaryotes.

Answer _____

3. Where do you find plastids? Write their functions.

Answer _____

4. Where are chromosomes found in a cell? What is their function?

Answer _____

IV. Write one word for the following statements




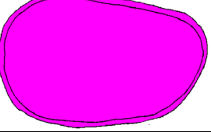
Sl. No	Statements	One-word answer
1	Power house of cell	
2	Protein factories of cell	
3	Suicide bag of cell	
4	External layer of plant cell	
5	Food storage structure of cell	

V. Find out and mark the words related to cell from the puzzle box

H	H	F	T	U	F	L	U	S	T	S	J	J	N	C
C	H	L	O	R	O	P	L	A	S	T		L	U	E
P	G	J	V	A	C	U	O	L	E	L	P	Y	C	N
L	T	Y	U	I	O	P	H	D	T	D	J	S	L	T
A	M	T	O	C	H	O	N	D	R	I	A	O	E	R
S	Z	F	H	J	K	T	M	N	J	K	I	S	U	I
T	R	I	B	O	S	O	M	E	X	X	B	O	S	O
I	R	U	T	N	M	G	D	R	Y	D	T	M	K	L
D	W	G	O	L	G	I	C	O	M	P	L	E	X	E
S	F	G	R	U	R	Y	E	H	D	Y	D	D	L	G

VI. Observe the table and write the name and functions of cell organelles

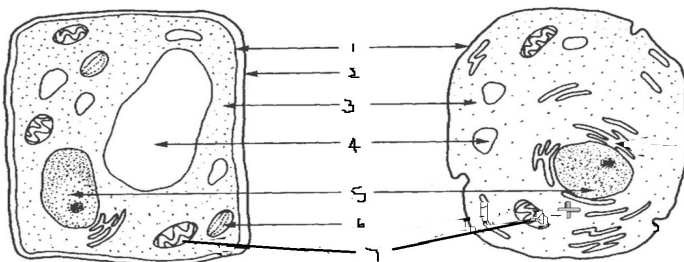
Cell organelle	Name	Function
----------------	------	----------

VII. Tabulate the comparison between plant cell and animal cell.

Sl. No.	Part	Plant cell	Animal cell
1	Cell membrane		
2	Cell wall		
3	Nucleus		
4	Nuclear membrane		
5	Cytoplasm		
6	Plastids		
7	Vacuole		

VIII. Label the parts of Plant and Animal cell.



1. _____
2. _____
3. _____
4. _____

5. _____
6. _____
7. _____

SELF-EVALUATION-

Timings: 30 min

Marks: 10

I. Four alternatives are given to each of the following incomplete statements/ questions. Choose the right answer

1 x 1 = 1

1. structures that appear like empty structure in the cytoplasm is

1. Ribosome 2. vacuole 3. Lysosome 4. Mitochondria

Answer _____

II. Answer the following questions

2 x 1 = 2

1. What are genes?

Answer _____

2. What are chromosomes?

Answer _____

III. Answer the following questions with 2-3 sentences

2 x 2 = 4

1. Write the functions of cell wall?

Answer _____

2. List out the differences between plant cell and animal cell.

Answer _____

IV. Answer the following question




1 x 3 = 3

1. Write the neat labelled diagram of Human nerve cell.

Answer _____

STUDENT SELF EVALUATION

(Write your opinion in the related column with this mark ✓)

Sl. No.	Learning indicators			
1	I know Meaning of cell and its types			
2	I can identify the parts of a cell			
3	I can list differences between Prokaryotes and Eukaryotes.			
4	I can list differences between plant and animal cell			
5	I know the structure and functions of Plastids and their functions			

Teacher opinion

Excellent:		Good:		Average:	
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Teacher's signature _____

CHAPTER 12

REPRODUCTION IN ANIMALS

I. Four alternatives are given to each of the following incomplete statements/questions. Choose the right answer and write it:

1. Which of the following is not belonging to the group?

1. Testis 2. ovaries 3. sperm duct 4. Penis

Answer _____

2. Metamorphosis occurs in _____

1. hen 2. cat 3. Lizard 4. Frog

Answer _____

II. Answer the following questions in one word/one sentence

1. Define Reproduction.

Answer _____

2. Name the different types of reproduction.

Answer _____

3. Define foetus.

Answer _____

4. Why reproduction is necessary in animals?

Answer _____

5. Define Metamorphosis.

Answer _____

III. Related to Reproduction in animals, find out the word and mark it.

V	I	V	I	P	A	R	O	U	S
M	E	M	B	R	Y	O	L	D	L
S	F	T	H	T	E	S	T	I	S
O	V	I	P	A	R	O	U	S	P
B	U	D	D	I	N	G	H	L	E
V	O	V	A	R	Y	G	U	K	R
S	V	F	O	E	T	U	S	J	M
G	A	H	P	E	N	I	S	E	T
S	P	E	R	M	D	U	C	T	J
C	L	O	N	I	N	G	M	O	L

IV. Answer the following questions with 2-3 sentences

1. Write the differences between sexual and Asexual reproduction.

Answer _____

2. What purpose does the tail in a sperm serve?

Answer _____

3. Write the differences between oviparous and viviparous Animals?

Answer _____

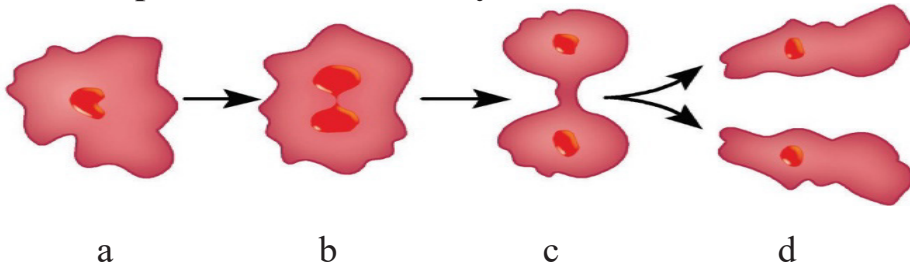
4. Write the differences between internal and External fertilisation?

Answer _____

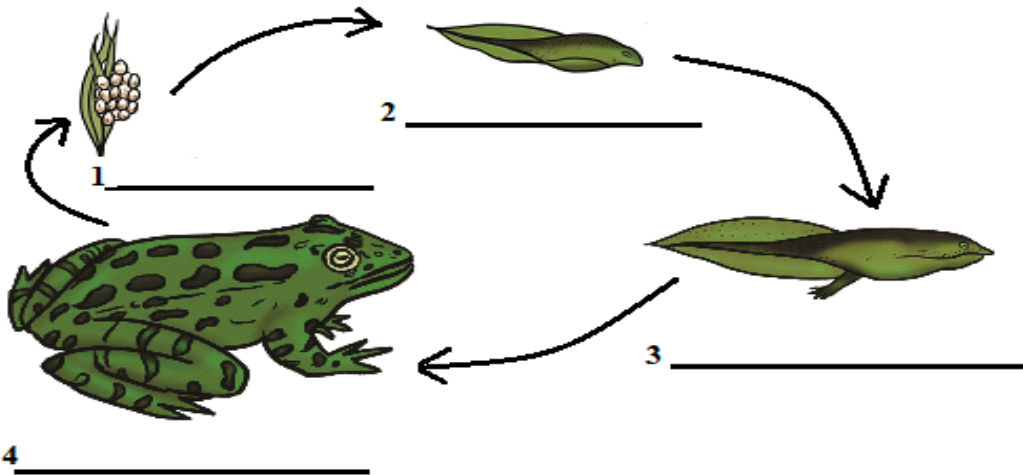
V. Fill in the blank with the help of clue between first two words correlation

1. Testis : sperms :: ----- : Ova
2. Budding : Hydra :: ----- : Amoeba
3. Oviparous : hen :: ----- : Human

VI. Label the parts related to binary fission in amoeba from the diagram



VII. Name the different stages in life cycle of frog from the diagram



SELF-ANALYSIS

Time given 30 minutes

10 marks

I. Four alternatives are given to each of the following incomplete statements/ questions. Choose and write the right answer. 1x 1 = 1

1. The number of nuclei present in a zygote is

1. none

2. one

3. two

4. four

Answer _____

II. Answer the following questions with one word / one sentence 2 x 1 = 2

1. Define fertilisation

Answer _____

2. Define sexual reproduction.

Answer _____

III. Answer the following questions with 2-3 sentences 2 x 2 = 4

1. Name the male and female reproductive parts of human beings.

Answer _____

2. Explain the development of foetus.

Answer _____

IV. Answer the following question




1 x 3 = 3

1. Explain the binary fission in amoeba with diagram

Answer _____

STUDENT SELF EVALUATION

(Write your opinion in the related column with this mark ✓)

Sl. No.	Learnig indicators			
1	I have understood reproductive system in animals.			
2	I can explain sexual and asexual reproduction in organisms.			
3	I can compare the male and female reproductive system in humans			
4	I have understood the meaning of fertilisation and their types.			
5	I know the differences between oviparous and viviparous animals and their examples.			

Teacher opinion

Excellent:		Good:		Average:	
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Teacher's signature _____

CHAPTER 13

REACHING THE AGE OF ADOLESCENCE

I. Four alternatives are given to each of the following incomplete statements/ questions. Choose the right answer and write it.

1. The right meal for adolescence consists of

1. chips, noodles, coke
2. chapati, dal, vegetables
3. rice, noodles, burger
4. vegetable cutlets, chips, lemon drink

Answer _____

2. Female hormone among the following is

- | | |
|--------------|-----------------|
| 1. Oestrogen | 3. Testosterone |
| 2. Thyroxin | 4. Adrenalin |

Answer _____

II. Answer the following questions in one word / one sentence

1. Define adolescence.

Answer _____

2. What is meant by puberty.

Answer _____

3. What is meant by secondary sexual characters?

Answer _____

4. Define Menstruation.

Answer _____

III. Answer the following in 2- 3 sentences

1. List out the physical changes that occur in Adolescence.

Answer _____

2. What are sex hormones? Give examples

Answer _____

3. What cause pimples on the face of Adolescents?

Answer _____

4. List the secondary sexual characters of Adolescence boys and girls.

Answer _____

5. What is the role of hormones in initiating reproductive function?

Answer _____

6. How menstruation occurs?

Answer _____

7. What is the functions of Adrenalin hormone.

Answer _____

8. What are the effects of iodine deficiency in our Daily food.

Answer _____

9. Use of regular meal instead of junk food is necessary. Why?

Answer _____

10. Personal hygiene is very important in Adolescence age. Why?

Answer _____

IV. Fill in the blank with the help of clue between first two words correlation

1. Testis : Male :: _____ : Female
2. Thyroxin : Thyroid gland :: _____ : Adrenal gland

V. Fill in the blanks

1. Protruding voice box in adolescent boys _____
2. Endocrine gland attached to brain _____
3. Secretions of endocrine glands _____
4. Pancreatic hormone _____
5. Important chemical element in thyroxin hormone _____
6. Hormone secreted from pituitary gland _____
7. Syndrome related to infection of HIV _____
8. Less secretion of insulin in human beings leads to _____

V. Related to Reaching the age of Adolescence, find out the word and mark it.

R	Y	O	E	S	T	R	O	G	E	N	M	I
A	D	A	M	S	A	P	P	L	E	G	M	N
E	U	J	U	B	E	R	T	Y	H	G	I	S
T	H	Y	R	O	X	I	N	E	G	Y	N	U
A	D	O	L	E	S	C	E	N	C	E	E	L
T	E	S	T	O	S	T	E	R	O	N	E	I
H	O	R	M	O	N	E	N	F	D	V	R	N
X	V	L	A	R	Y	N	X	T	D	E	F	J
D	A	D	R	E	N	A	L	I	N	B	F	B
P	I	T	U	T	A	R	Y	G	L	A	N	D

VI. Complete the table

Sl. No	Endocrine gland	Position	Hormone secreted	Function
1	Pituitary gland			
2	Thyroid gland			
3	Adrenal gland			
4	pancreas			
5	Testis			
6	Ovaries			

VII. What are the vegetables use in your regular meal, write their nutrients and functions

Vegetables in daily use	Nutrients	Funcntons

SELF-EVALUATION

Time give: 30 minutes

10 marks

I. Four alternatives are given to each of the following incomplete statements/ questions. Choose and write the correct answer. 1x 1 = 1

1. the hormone secreted from the pancreatic gland is _____

1. Thyroxin 2. Adrenalin 3. Insulin 4. Oestrogen

Answer _____

II. Answer the following questions with one word / one sentence 2x 1=2

1. What are hormones?

Answer _____

2. What is meant by Menstruation.

Answer _____

III. Answer the following questions with 2-3 sentences. 2 x 2 = 4

1. What are the secondary sexual characters that appear in adolescent girls?

Answer _____

2. How is the sex of a human baby determined?

Answer _____




IV. Answer the following question. 1 x 3 = 3

1. Name the endocrine glands in human beings and their functions

Answer _____

STUDENT SELF-EVALUATION

(Write your opinion in the related column with this mark √)

Sl. No.	Learning indicators			
1	I know characteristic changes that occur in Adolescence			
2	I can explain the functions of endocrine glands.			
3	I Know the role of hormones in reproduction			
4	Th I know the nutritional needs of adolescent age			
5	I can explain the need of balanced diet and personal hygiene			

Teacher opinion

Excellent:		Good:		Average:	
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Teacher's signature _____

CHAPTER 14

CHEMICAL EFFECTS OF ELLECTRIC CURRENT

I. There are four alternatives to each of the following statements or queries. Choose the correct alternative and write.

1. A material that can resist electric current

1. Lemon Juice

3. Tamarind Juice

2. Vinegar

4. Distilled Water

Answer _____

2. A bulb glows when an electric current pass through it. It is due to the,

1. Magnetic effect of electric current

3. Decreased energy of electrons

2. Fast movement of electrons

4. Heating effect of electricity

Answer _____

3. The device given below is known as

1. an electric bulb

3. an electric Cell

2. Light Emitting Diode

4. battery



Answer _____

4. The right pair of examples for good conducting liquids are

1. Lemon Juice, Vinegar

2. Soda water, Tap water

3. Carbonic acid, Rain water

4. Solution of copper sulphate, Cooking Oil

Answer _____

5. Related to Light Emitting Diode , which of the below statement is correct ,

1. In Diode ,One lead is slightly longer than the other

2. The shorter lead is connected to the positive terminal.

3. The longer lead is connected to the negative terminal.

4. Diodes have three leads.

Answer _____

II. State whether the following statements are True/False. If it is false correct and write.

1. A Tester is used to test the flow of electric current through objects.

Answer _____

2. Chromium has a shiny appearance and gets corrosive.

Answer _____

3. Tap water is a good conducting liquid of electricity.

Answer _____

4. Air is Poor conductor of electricity. But not in all situations.

Answer _____

III. Fill in the blanks by looking at the relationship between the first two words:

1. Good Conducting Liquid : Vinegar :: Corrosive Object : _____

2. Distilled Water : Poor Conductor :: Solution of salt : _____

IV. Match the words given in the circle to the appropriate statements mentioned below by drawing a line:

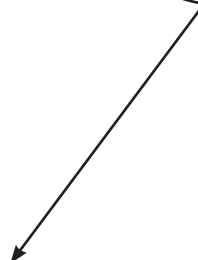
Carbon Rod

Chemical Effect of electric current

Tester

Electroplating

Tin



1. Device used to test the flow of electric current through an object.
2. The effect of passing an electric current through a conducting solution.
3. One of the methods to avoid metals getting corroded.
4. Metal used to electroplate food storing iron cans.
5. Electrodes usually used while passing the electric current through water.

V. Read the following statements carefully and name the suitable word:

1. The process of depositing a layer of any desired metal on material by means of electricity.

Answer _____

2. The plate on which pure Copper is deposited in electrolytic refining of copper.

Answer _____

3. Metal used to electroplate on iron to avoid its corrosion and rust.

Answer _____

VI. The given below circles are having good and poor conducting liquids. Identify them and colour the circle red for good conducting liquid and yellow for poor conducting liquids:

Lemon
Juice

Milk

Oil

Honey

Salt Solu-
tion

Soda Water

Mercury

Tap Water

Copper
Sulphate

Vinegar

VII. Answer the following questions:

1. What do you mean by the chemical effect of electric current?

Answer _____

2. Can a tester bulb glow when lemon juice or vinegar is used as an electrolyte? Justify your answer.

Answer _____

3. Among distilled water and sodium chloride, which one you considered as good conducting liquid and why?

Answer _____

4. What happens if we bring compass needle near a current carrying conducting wire?

Answer _____

VIII. Answer the following questions:

1. Is it safe for an electrician to carry out electrical repairs outdoors during heavy downpour? Justify your answer.

Answer _____

2. Images of certain parts of an electric device are given below. Assembled them in an order and form circuit. And mention the assembled device and its use.



Blank space for the student to assemble the circuit and describe the device.

Answer _____

3. Draw a neat labelled diagram of an experiment showing the purification of copper and answer the blow given questions.

Blank space for the student to draw a diagram and answer questions.

A. Which one works as the electrolyte?

Answer _____

B. Which electrode of the battery is connected to pure copper plate?

Answer _____

C. Which electrode of the battery is connected to impure copper plate?

Answer _____

D. Write the colour and molecular formula of copper sulphate.

Answer _____

SELF-EVALUATION

Timings: 30min

Marks : 10

I. There are four alternatives to each of the following statements or queries. Choose the correct alternative and write **1X2=2**

1. Depositing a layer of one metal on another metal is

1. Electroplating

3. Extraction of metal

2. Chemical effect of electric current

4. Electrolysis.

Answer _____

2. Bulb in an electric circuit glows because of flow of electric current in it. The reason for this phenomenon

1. Chemical effect of electric current

2. Electrolysis.

3. Magnetic effect of electric current

4. Heating effect of electric current

Answer _____

II. Answer the following in a sentence. **1X1=1**

1. What do you mean by Chemical effect of electric current?

Answer _____

III. Answer the following in a sentence. **2X2=4**

1. List out any four uses of electroplating.

Answer _____

2. Give any four examples for chemical effect of electric current.

Answer _____

IV. Answer the following in a sentence. 3X1=3

1. Draw a neat labelled diagram of an electric circuit of current passing through water.

STUDENT SELF EVALUATION

SL.No	Learning Indicators	😊	😐	😞
1	I know that some are good conducting liquids and some are poor conductors			
2	I am able to list out electricity conducting liquids			
3	Able to explain the process of electroplating in detail and also able to list out its applications.			
4	I know the meaning of chemical effect of electric current and can give examples for it.			
5	I have Learnt the skill of drawing and constructing simple circuit and tester			

Teacher opinion

Excellent:		Good:		Average:	
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Teacher's signature _____

CHAPTER 15

SOME NATURAL PHENOMENA

I. Four alternatives are given for each of the following question or incomplete statement. Choose the correct one and write it in provided space.

1. When two electrically charged bodies are brought near each other,
 1. They attract each other.
 2. They repel each other.
 3. The attraction or repulsion between them depends on the nature of charge on them.
 4. There will be no interaction between them.

Answer _____

2. Which of the following can be used to transfer electric charges from one body to another?

1. Cotton thread 2. Plastic string 3. Rubber band 4. Copper wire

Answer _____

3. Which among the following is/are the cause of an earthquake?

- a. Volcanic eruption c. Both a) and b)
b. Movement of the tectonic plates d. Earth's rotation

Answer _____

4. An earthquake recorded at the place A has a magnitude of 4 and another earthquake at the place B it was 6 on the Richter scale. How many times the earthquake at B was more destructive than the earthquake at A?

1. time 2. 10 times 3. 100 times 4. 1000 times

Answer _____

II. Fill in the blanks with suitable words.

1. _____ is an American scientist, showed that lightning and the spark from electrically charged woollen clothes are essentially the same phenomena.
2. When an ebonite rod is rubbed with woolen cloth, the nature of charge on ebonite is _____ and on woolen cloth is _____
3. The power of an earthquake is expressed on _____ scale.
4. The point from where the earthquake waves starts is called _____

III. State whether the following statements are true or false by putting "T" for

the true and “F” for the false statements in space provided in front of them.

1. Negative charge on a body is due to excess of protons in it. []
2. The electric charge generated on a body is static in nature. []
3. Earthquakes occur any time all over the world. []
4. At home, during an earthquake, it is safe to stay along tall and heavy objects. []
5. Like a thunderstorm, an earthquake cannot be predicted in advance. []
6. An earthquake produces seismic waves on the surface of the earth. []

IV. Answer the following questions in a word or sentence each.

1. How do you compare the electric spark in a plug to Lightning in nature?

Answer _____

2. We need not be afraid of lightning but take precautionary measures to protect ourselves from them. Why?

Answer _____

3. If you are given with a rubber balloon and woollen cloth, how do you make them electrically charged?

Answer _____

4. If we touch the metal tip of the charged electroscope, the foil strips collapse and come together. Why?

Answer _____

5. How many types of electric charges are there? Which are they?

Answer _____

6. What constitutes an electric current?

Answer _____

7. What is the use of an electroscope?

Answer _____

8. What is meant by earthing related to electricity?

Answer _____

V. Answer the following questions in two or three sentences each.

1. Give scientific reason- Two electrically charged pen refills are repelling each other while an electrically charged balloon is attracting an electrically charged pen refill.

Answer _____

2. Explain the working mechanism of Lightning conductor in protecting a building.

Answer _____

3. If you are in an open ground where there is no shelter from Lightning, sitting in the following position is safe. Why?

Answer _____



4. what causes the disturbance in the earth's crust resulting in an earthquake?

Answer _____

5. What are Seismic zones or Fault zones?

Answer _____

VI. Answer the following questions in three or four sentences each.

1. What are the precautions to be taken if you are outside the house during Lightning?

Answer _____

2. What are the precautionary measures to be taken inside the house while it is Lightning outside?

Answer _____

3. I observed one of my students while going home on a rainy day. She was protecting her from rain with an umbrella. When it started lightning she closed her umbrella and took shelter under a building nearby. Why did she do so?

Answer _____

4. This person is holding an umbrella fitted with a lightning conductor. Do

you think he is safe if he uses it in a thunderstorm? Give justification for your answer.

Answer _____



5. What steps should be followed to protect yourself in the event of an earthquake if you are inside home?

Answer _____

6. What steps should be followed to protect yourself in the event of an earthquake if you are outdoors?

Answer _____

VII. Answer the following questions in five to six sentences each.

1. Explain how lightning takes place in the atmosphere?

Answer _____

2. How to construct Earthquake resistant houses in highly Seismic areas?

Answer _____

EVALUATE YOUR LEARNING YOURSELF

Time given: 30 minutes

Marks: 10

I. Answer the following questions. [Marks are indicated in the brackets]

1. A person should not stand under a tree during a thunderstorm. Why? [1]

Answer _____

2. What is the range of a very strong earthquake on the Richter scale? [1]

Answer _____

3. The materials used for constructing a building are very good conductors. Do you think lightning hit the building? Justify your answer. [2]

Answer _____




4. Why it is safe to use mobile phones instead of land line phones during a thunderstorm? [2]

Answer _____

5. Explain how you can construct an electroscope of your own. [4]

Answer _____

SELF-EVALUATION

Sl. No	Learning indicators			
1	I know how lightning occurs in nature.			
2	I can explain how to find out the presence of electric charges on a body.			
3	I know the precautionary measures to be taken against lightning to protect our-self.			
4	I know the cause of earthquake and precautionary measures to be taken against an earthquake to protect our-self.			
5	I can explain how to compare the intensity of earthquakes on Richter scale.			

Teacher opinion

Excellent:		Good:		Average:	
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Teacher's signature _____

Reference

https://en.wikipedia.org/wiki/File:Umbrella_fitted_with_lightning_conductor.jpg

CHAPTER 16

LIGHT

I. Four alternatives are given to each of the following incomplete statement/question. Choose the right answer:

1. The lens in the human eye is

- 1.Convex 2.concave 3.Plano-convex 4.Bifocal

Answer _____

2. The sensation felt by nerve cells are then transmitted to the brain through

- 1.Optic nerve 2.Pupil 3.Sensory cells 4.Iris

Answer _____

3. the mirror used in hair cutting saloon is

- 1.concave mirror 3.plane mirror
2.convex mirror 4.double reflection mirror

Answer _____

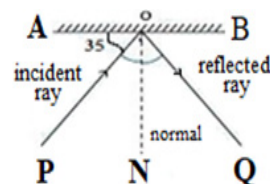
4. Which of the following the optical instrument you choose to see objects that are not along the line of sight?

- 1.Periscope 3.Microscope
2.Kaleidoscope 4.Light telescope

Answer _____

5. In the following figure, what is the angle between the incident and reflected rays?

1. 90° 3. 10°
2. 100° 4. 35°



Answer _____

6. When an object is placed between two plane mirrors inclined at an angle of 60° , then the number of images formed is _____

- 1.4 2.5 3.6 4.10

Answer _____

7. Which is the wrong statement out of the following?

1. A concave mirror forms a virtual image

2. A convex mirror forms a virtual image
3. A concave mirror forms a diminished virtual image
4. A convex mirror can form a real image.

Answer _____

II. Fill in the blanks using suitable words:

1. The angle between the normal and incident ray is called _____.
2. The angle between the normal and the reflected ray is called _____.
3. The small opening in the iris is called _____.
4. The transparent front part of a eye is called _____.
5. The impression of an image on the retina persists for about _____ second.

III. Answer the following question in a word:

1. Name the optical instrument based on multiple reflection used to create new designs.

Answer _____

2. Name the lens used for long sightedness.

Answer _____

3. Name eye problem caused due to the deficiency of vitamin 'A'.

Answer _____

4. How many plane mirrors are required to get multiple reflections?

Answer _____

5. What is the maximum distance of distinct vision of a normal human eye?

Answer _____

IV. Write short notes of the following:

1. Braille System

Answer _____

2. Eye defects

Answer _____

3. Periscope

Answer _____

V. Match the following:

- | | | |
|------------------------|-------------------------|-------|
| 1. Kaleidoscope | a) different patterns | _____ |
| 2. Periscope | b) headlight of vehicle | _____ |
| 3. Lens | c) lateral inversion | _____ |
| 4. Dispersion of light | d) submarine | _____ |
| | e) Rainbow | _____ |

VI. Answer the following questions:

1. Define the following:

A. Incident ray

Answer _____

B. Reflected ray

Answer _____

2. What is reflection of Light?

Answer _____

3. Explain laws of reflection using ray diagram.

Answer _____

4. Write the functions of the following parts of the eye.

A. Iris:

Answer _____

B. Lens

Answer _____

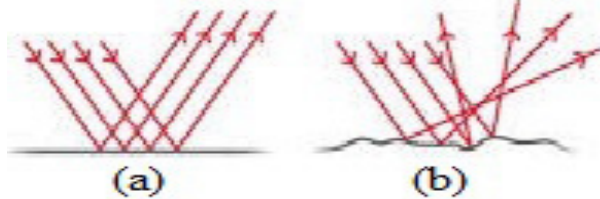
C. Cornea

Answer _____

D. Retina

Answer _____

5. Write the differences between the following images related to reflection of Light.



Answer _____

6. Write the applications of lateral shift in daily life.

Answer _____

7. Explain an activity to show that splitting of white light into its constituent colours.

Answer _____

VII. Give reason for the following:

1. We cannot see the objects in darkness.

Answer _____

2. Concave mirrors are used in headlights of vehicles

Answer _____

3. An owl can see very well in night than during day.

Answer _____

SELF-EVALUATION

Time: 30 min

Marks:10

I. Answer the following questions:

3X1=3

1. State the first law of reflection.

Answer _____

2. What is the nature of the image formed in a plane mirror?

Answer _____

3. Name the spot inside the human eye where the image is not visible.

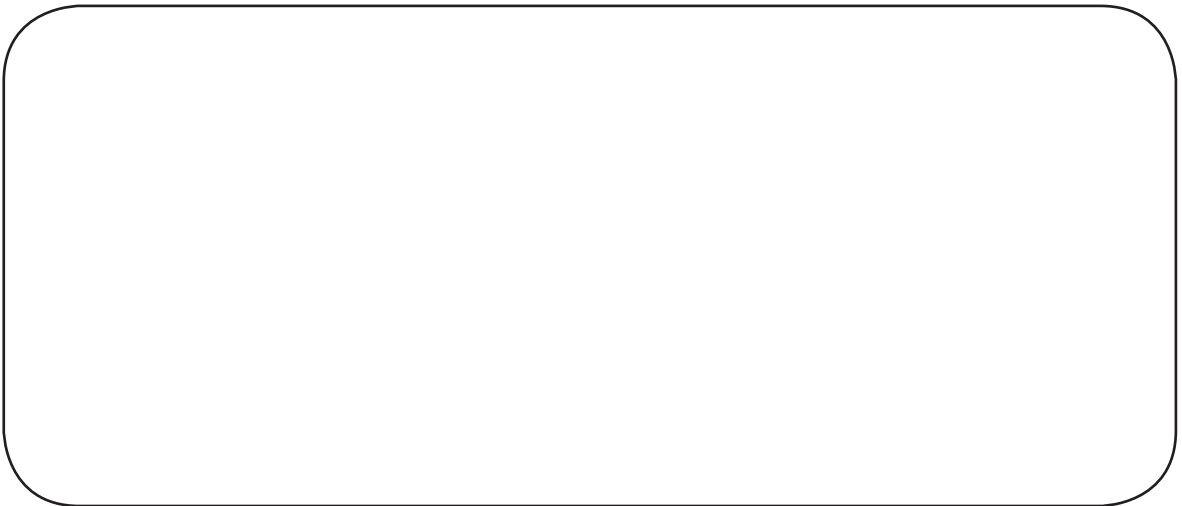
Answer _____

II. Answer the following questions:

1. Write the differences between rod and cone cells of retina. -2-

Answer _____

2. Draw a neat labelled diagram of human eye. -3-



3. Give an illustration to prove that light is a form of energy. -2-

Answer _____

STUDENT SELF EVALUATION FORMAT

(Put your response '√' in appropriate column)

Sl. No.	Learning points	😊	😐	☹
1.	I have understood the laws of reflection.			
2.	I can perform experiment of laws of reflection of light.			
3.	I can differentiate between regular and diffused reflection.			
4.	I can explain structure and care of human eye			
6.	I know the method of making a kaleidoscope.			

Teacher opinion

Excellent:		Good:		Average:	
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Teacher's signature _____

CHAPTER – 17

STARS AND THE SOLAR SYSTEM

I.I. Four alternatives were given for the following statements. Choose the correct option and write it in the space provided.

1. Indian first artificial satellite

1. Edusat

3. Insat

2. Kalpana – 1

4. Aryabhata

Answer _____

2. The correct order of constellations from the given diagrams



(i)



(ii)



(iii)



(iv)

1. Great bear, leo major, cassiopeia and orion

2. Orion, great bear, leo major and cassiopeia

3. Cassiopeia, great bear, leo major and orion

4. Leo major, great bear, orion and cassiopeia

Answer _____

3. True statement related to the planet jupiter

i) this planet can rotate fast on its own axis

ii) this planet has suitable environment for the living organism's survival

iii) this is the biggest planet of the solar system

iv) this planet has a greater number of satellites

1. i, ii, iii and iv

3. i, iii and iv

2. ii and iv

4. i and iii

Answer _____

4. The correct pair of planets rotating from west to east direction

1. ercury and earth

3. Uranus and earth

2. Venus and uranus

4. Venus and mars

Answer _____

5. The reason for the phases of moon is that

1. We can see only some part of the moon which reflects the light
2. The distance between the moon and us changes continuously
3. The shadow of the earth will cover some part of the moon's surface
4. The moon doesn't have any specific atmosphere

Answer _____

II. Write 't' if the statement is true and 'f' if the statement is false for the following statements.

1. Communicable diseases and some calamities like floods occur due to the Appearance of comets ()
2. Presently some satellites are useful for learning process ()
3. The distance between earth and stars can be estimated in miles ()
4. There are nine planets in the solar system ()
5. Mercury is the biggest planet in the solar system ()
6. The constellation orion can be observed through telescope only ()
7. The revolution of earth around the sun is its plane of orbit ()
8. Planet mars is called as morning or evening star of the sky ()

III. Answer the following questions.

1. What do you mean by a constellation?

Answer _____

2. What is the reason for seasons on the earth?

Answer _____

3. It is very difficult to identify the planet mercury in the solar system. Why?

Answer _____

4. Which is the brightest star in the sky?

Answer _____

IV. Answer the following questions.

1. Give scientific reason-earth is regarded as the unique planet

Answer _____

2. How does solar eclipse and lunar eclipse occur?

Answer _____

3. Write the difference between the inner and outer planets of the solar system.

Answer _____

4. Differentiate - stars and planets

Answer _____

5. Name the planet which is very nearest to the earth. Write its specialty.

Answer _____

6. Artificial satellites are different from natural satellites. How?

Answer _____

V. Answer the following questions.

1. Classify these into inner and outer planets of the solar system. Mars, Neptune, Jupiter, Mercury, Venus, Saturn, Uranus And Earth.

Answer _____

2. List the applications of artificial satellites.

Answer _____

3. The radius of jupiter is 11 times the radius of the earth. Calculate the ratio of the volumes Of the jupiter and the earth.

Answer _____

4. Mention the satellites of the planets jupiter and the saturn.

Answer _____

VI. Answer the following questions.

1. Define the following.

A) orbit: _____

B) rotation period: _____

C) revolution period: _____

D) satellite: _____

2. Mention the special property of these planets in the solar system.

A) Venus: _____

B) Saturn: _____

C) Mercury: _____

D) Neptune: _____

3. Name the following.

A) Planet appears in the eastern sky before the sunrise

Answer _____

B) The second planet comes when we arrange all the planets towards sun in the solar System

Answer _____

C) Most famous constellations which we can see during summer time in the early part of The night

Answer _____

D) an event occur during the earth comes in between the sun and the moon

Answer _____

VII. Answer the following questions.

1. What are comets? Which comet appears once in 76 years duration? Write the Characteristics of comets.

Answer _____

2. Write note on: meteors and meteorites

Answer _____

SELF EVALUATION

Time given: 30 minutes

Marks: 10

I. Answer the following multiple-choice questions.

2 X 1 = 2

1. The astronaut who landed on the moon for the first time

1. Kalpana chawla

3. Sunitha williams

2. Neil armstrong

4. Edwin aldrin

Answer _____

2. One of the following is not a member of solar system

1. Asteroids

2. Satellite

3. Constellation

4. Comet

Answer _____

II. Fill in the blanks with suitable answers.

2 X 1 = 2

1. The planet which has a greater number of rings

Answer _____

2. The planet which is called as morning or evening star

Answer _____

III. Answer the following questions.

2 X 1 = 2

1. Which planet has least density?

Answer _____

2. The moon shines in the night time but not at the day time. What is the reason?

Answer _____

IV. Answer the following questions.

2 X 2 = 4

1. Identify the following statements into true or false and if the statement is false write its correct form.

A) Jupiter planet is very nearest to the earth

Answer _____

B) Planet Mars has beautiful rings in it.

Answer _____

2. Name any four constellations known to you.

Answer _____

STUDENT'S SELF ASSESSMENT

Sl. No	Learning indicators	😊	😐	☹️
01	I can tell the meaning of celestial bodies and examples related to them			
02	I can explain how the solar and lunar eclipse will be formed			
03	I will explain about the stars and the constellations			
04	I will arrange the planets of the solar system in the sequential order			
05	I will name the planets and satellites of the solar system			
06	I will give information about the other members of solar system			

Teacher opinion

Excellent:		Good:		Average:	
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Teacher's signature _____

CHAPTER 18

POLLUTION OF AIR AND WATER

I. For each of the following, choose the correct option from the given and write.

1. The breathing difficulties caused by smog is/are

1. Asthma only

3. Both asthma and cough

2. Cough only

4. Fever

Answer _____

2. The main advantage of ozone layer in the atmosphere is

1. Prevents ultra violet rays

3. Prevents dust particles

2. Prevents heat

4. Prevents the sun light

Answer _____

II. Fill in the blanks with correct answer:

1. The common chemical method used in purification of water is _____

2. The phenomenon in which acid rain corrodes marble of the monument is _____

3. The thick layer formed by smoke and fog during winter is called _____

4. The gradual increase of temperature of the earth's atmosphere is called _____

III. Define the following terms:

1. Air pollution:

Answer _____

2. Greenhouse effect:

Answer _____

3. Global warming:

Answer _____

IV. Answer the following questions:

1. Name the pollutants present in smoke from vehicles.

Answer _____

2. Which pollutants from industries are polluting water resources?

Answer _____

3. Name the different methods being used in purification of drinking water.

Answer _____

4. How alternative fuels are better than fossil fuels?

Answer _____

V. Answer the following questions:

1. Define water pollution? List out the reasons for the same.

Answer _____

2. List out the steps given by the Supreme court to save the Taj mahal.

Answer _____

3. Which gases are called greenhouse gases? Write down the issues caused by them.

Answer _____

4. What are the measures that prevent the pollution of water?

Answer _____

VI. Answer the following questions

1. How do you conserve water at your school premises?

Answer _____

2. Using of too much of fertilisers in agriculture is not good. Why?

Answer _____

3. Why, many State Governments are encouraging using of alternative fuels for the vehicles of public transport?

Answer _____

4. Generally breathing problem is common for urban people. Why?

Answer _____

VII. Complete the following table:

List out the pollutants released in the following context:

Sl. No.	Different contexts	Pollutants released
1	Burning of coal	
2	Combustion of petrol /diesel	
3	Industrial effluents	
4	Refinery work at Petroleum industries	
5	During manufacturing of refrigerators	

VIII. Complete the following table:

Some contexts are given, choose the most appropriate one:

Sl.No.	Different contexts	List of choices	Your option
1	To cook food	Kerosene, fire wood, LPG	
2	A short journey	Cycle, bike, bus	
3	A long journey	Bike, car, public transport	
4	Purchasing a new car	Diesel, petrol, CNG	
5	In agriculture	Fertilisers, compost	

SELF-EVALUATION

Time: 20 Minutes

Marks:10

I. Choose the correct option and write it in the space provided $2 \times 1 = 2$

1. This pollutant reduces the oxygen carrying capacity of blood

1. Carbon dioxide

3. Carbon monoxide

2. Nitrogen oxide

4. Sulphur dioxide

2. The eco-friendly fuel is

1. Petrol

2. Diesel

3. CNG

4. Kerosene

II. Answer the following questions in one or two sentences: $2 \times 1 = 2$

1. What is marble cancer?

Answer _____

2. What is global warming?

Answer _____

III. Answer the following questions in two to three lines. $3 \times 2 = 6$

1. It is better to use alternative fuels. Why?

Answer _____




2. Which are three principles (mantras) by which we can conserve water?

Answer _____

3. List out the causes of air pollution.

Answer _____

STUDENT'S SELF ASSESSMENT SHEET

Sl. No.	List of teaching points			
1	I know the meaning of air pollution, reasons, effects and prevention			
2	I know the meaning of water pollution, reasons, effects and prevention			
3	I know the necessity of using alternative fuels			
4	I know the necessity of conservation of air and water in our daily life			

Teacher opinion

Excellent:		Good:		Average:	
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Teacher's signature _____