

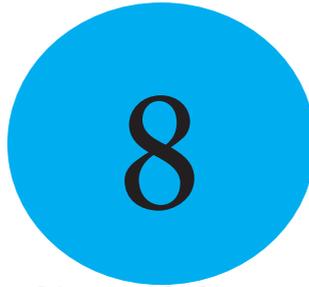


# SCIENCE WORK BOOK PART-1

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2020-21



CLASS - 8

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## ಪರಿಕಲ್ಪನೆ ಮತ್ತು ಮಾರ್ಗದರ್ಶನ

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## ಸಾಹಿತ್ಯ ರಚನಾ ತಂಡ

- ಶ್ರೀಮತಿ ಪುಷ್ಪವಲ್ಲಿ. ಟಿ. ಎನ್., ಉಪನ್ಯಾಸಕರು, ಡಯಟ್, ಮಧುಗಿರಿ,
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## 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 ಸೂಚಕಗಳು (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 ಕಾಯಗಳು; 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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# CHAPTER-1

## CROP PRODUCTION AND MANAGEMENT

**I. Answer the following questions in a sentence or a word.**

1. What is a crop?

Answer \_\_\_\_\_  
\_\_\_\_\_

2. Food has to be produced on a large scale. Give reason.

Answer \_\_\_\_\_  
\_\_\_\_\_

3. What are rabi crops?

Answer \_\_\_\_\_  
\_\_\_\_\_

4. What are kharif crops?

Answer \_\_\_\_\_  
\_\_\_\_\_

5. Give example for plants belonging to Leguminosae family.

Answer \_\_\_\_\_  
\_\_\_\_\_

6. Why paddy cannot be grown in the winter season?

Answer \_\_\_\_\_  
\_\_\_\_\_

7. What is ploughing?

Answer \_\_\_\_\_  
\_\_\_\_\_

8. How do you separate good, healthy seeds from damaged ones?

Answer \_\_\_\_\_  
\_\_\_\_\_

9. What is the use of seed drill?

Answer \_\_\_\_\_  
\_\_\_\_\_

10. What is compost?

Answer \_\_\_\_\_  
\_\_\_\_\_

11. What is crop rotation?

Answer \_\_\_\_\_  
\_\_\_\_\_

12. What are weeds?

Answer \_\_\_\_\_  
\_\_\_\_\_

13. What is animal husbandry?

Answer \_\_\_\_\_  
\_\_\_\_\_

**II. Answer the following questions in two or three sentences each.**

1. Soil has to be left without ploughing for some time between two crops. Why?

Answer \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. Write the role of Rhizobium bacteria in agricultural field.

Answer \_\_\_\_\_  
\_\_\_\_\_

3. In summer season, the frequency of watering crops is higher. Why?

Answer \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4. List out the methods of removal of weeds found in crop field by the farmers.

Answer \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

5. What are the precautionary measures to be followed by the farmers during application of a weedicide.

Answer \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**III. Match the following.**

**List A**

**List B**

**Answers**

1. Pully system

a) Lever system

\_\_\_\_\_

2. Sprinkler system

b) Sufficient water is not available

\_\_\_\_\_

3. Drip system

c) Traditional method

\_\_\_\_\_

4. Rahat

d) watering of trees

\_\_\_\_\_

**IV. Give scientific reason for the following statements.**

1. Earthworms are friends of farmers.

Answer \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

2. We should maintain uniform equal distance between the seeds during sowing.

Answer \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

3. Dried neem leaves are used for storage of food grains.

Answer \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

4. We should remove the weeds from the crop field.

Answer \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

5. Freshly harvested seeds must be stored after drying them properly in the sunlight.

Answer \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

6. Organic farming is the best method of agriculture.

Answer \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**V. Fill in the blanks with suitable answers.**

1. The first step of agricultural practices is \_\_\_\_\_

2. Microbes produce manure by the \_\_\_\_\_ of organic substances.

3. In N.P.K. fertilizers, 'K' represents \_\_\_\_\_ nutrient.

4. \_\_\_\_\_ vitamin is rich in cod liver oil from fish.

5. \_\_\_\_\_ method of irrigation is suitable for coffee crop field.

**VI. Give one word for the following.**

1. The process of cutting a crop after it is mature.

Answer \_\_\_\_\_

2. The tool used to level soil.

Answer \_\_\_\_\_

3. Traditional tool used for sowing.

Answer \_\_\_\_\_

**VII. Write the uses of the following tools used in agricultural field.**

Tool	Use
1. Hoe	_____
2. Cultivator	_____
3. Leveller	_____
4. Plough	_____

**VIII. Give examples for the following.**

1	Kharif crops	_____
2	Rabi crops	_____
3	Traditional method of irrigation	_____

**IX. Match the following.**

List A	List B	Answers
1. Plough	a. Triangular iron strip	_____
2. Plough share	b. Save labour and time	_____
3. Hoe	c. Tilling the soil	_____
4. Cultivator	d. Removal of weeds	_____

**X. Answer the following questions under the guidance of your teacher.**

1. Collect the names of different fertilizers used in agriculture and mention their composition.

Sl. No	Name of fertilizer	Composition
1		
2		
3		
4		

2. List out the differences between fertilizers and manure.

Fertilizers	Manure

--	--

3. Differentiate the food grains used in your home as monocots and dicots.

Monocot food grains	Dicot food grains

### SELF-EVALUATION

TIME: 30 MIN

MAX MARKS: 10

**I. Four alternatives are given to each of the following incomplete statement/question, choose and write the right answer. 2 x 1 = 2**

1. An example for a rabi crop.

1. Wheat                      2. maize                      3. paddy                      4. Soya bean

Answer \_\_\_\_\_

2. Microbes are involved in the following process.

1. Irrigation                      3. decomposition  
2. Photosynthesis                      4. Sowing

Answer \_\_\_\_\_

**II. Fill in the blanks with suitable words 2 x 1 = 2**

1. The process of loosening of soil \_\_\_\_\_  
2. The indigenous wooden plough is increasingly being replaced by \_\_\_\_\_ nowadays.

**III. Answer the following questions. 2 x 1 = 2**

1. Name the method which restores the nutrients to the soil.

Answer \_\_\_\_\_  
\_\_\_\_\_

2. Selection of seeds is an important role in cropping. Why?

Answer \_\_\_\_\_  
\_\_\_\_\_

**IV. Answer the following questions.**

**2 x 2 = 4**

1. How sprinkler system if differ from the drip system of irrigation?

Answer \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. Mention the advantages of manure in crop field.

Answer \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**STUDENT SELF-EVALUATION**

Sl. No	Learning indicators			
1	I understood the stages of agricultural practices			
2	I understood the types of crops			
3	I can recognise the different stages of cropping			
4	I am able to identify the tools, with their functions used in agriculture practices			
5	I know the types of fertilizers and manure with their advantages and disadvantages.			
6	I understood the types and utility of types of irrigation.			
7	I have learnt about weeds and their controlling measures.			

TEACHER'S OPINION : [PUT '✓' MARK IN THE APPROPRIATE BOX]

EXCELLENT		GOOD		AVERAGE	
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TEACHER'S SIGNATURE: \_\_\_\_\_

## CHAPTER – 2

### MICROORGANISMS – FRIEND AND FOE

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

1. The correct sequential order of the organisms given below is



1. Paramecium, Chlamydomonas, Spirogyra and Amoeba
2. Chlamydomonas, Spirogyra, Paramecium and Amoeba
3. Spirogyra, Paramecium, Chlamydomonas and Amoeba
4. Amoeba, Paramecium, Chlamydomonas and Spirogyra

Answer \_\_\_\_\_

2. Diseases caused by bacteria are

- |                             |                     |
|-----------------------------|---------------------|
| 1. Typhoid and Tuberculosis | 3. Polio and Rabies |
| 2. Tuberculosis and Polio   | 4. Flu and Typhoid  |

Answer \_\_\_\_\_

3. Medicines used to kill disease causing agents

- |               |                |                |                 |
|---------------|----------------|----------------|-----------------|
| 1. Antibodies | 2. Antibiotics | 3. Antiseptics | 4. Antioxidants |
|---------------|----------------|----------------|-----------------|

Answer \_\_\_\_\_

4. Correct option of the waste substances which do not undergo biodegradation is

1. Paper covers, Paper cups and Plastic cups
2. Plant and animal wastes, Vegetable and fruits wastes and Food retains
3. Polythene bags, Empty glass bottles and Broken plastic toys
4. Cloth bags, Plastic bangles and Rubber sandals

Answer \_\_\_\_\_

5. Match column – 1 with column – 2

Column – 1	Column – 2
1. Protozoa	a) Tuberculosis and Typhoid

2. Bacteria	b) Measles and Polio
3. Virus	c) Aspergillus and Ringworm disease
4. Fungi	d) Dysentery and Malaria

i. 1 – a, 2 – b, 3 – c, 4 – d

iii. 1 – d, 2 – c, 3 – b, 4 – a

ii. 1 – d, 2 – a, 3 – b, 4 – c

iv. 1 – d, 2 – b, 3 – a, 4 – c

Answer \_\_\_\_\_

6. Correct pair among the following

- |                      |   |  |
|----------------------|---|--|
| 1. Edward Jenner     | – | Pasteurization                             |
| 2. Alexander Fleming | – | Penicillin                                 |
| 3. Robert Koch       | – | Identification of cells for the first time |
| 4. Louis Pasteur     | – | Vaccination for small pox                  |

Answer \_\_\_\_\_

**II. Write ‘T’ if the statement is true and ‘F’ if the statement is false for the following statements.**

- Some microbes clean the environment by decomposing the organic wastes, dead bodies of plants and animals into simpler molecules ( )
- Prevention of spoilage of pickle is not possible by using vinegar ( )
- Common salt and edible oil acts as food preservatives in our daily life ( )
- Virus cause Foot and mouth disease, Hepatitis – A, Measles and Small pox ( )
- Corona virus that caused anxiety all over the world appeared first in Italy. ( )

**III. Answer the following questions.**

1. Name any two diseases caused by protozoa.

Answer \_\_\_\_\_

2. Give two examples for antibiotics.

Answer \_\_\_\_\_

3. Which microbes are responsible for: a) Tuberculosis b) Measles

Answer \_\_\_\_\_

4. Can we call paper as eco-friendly. Why?

Answer \_\_\_\_\_

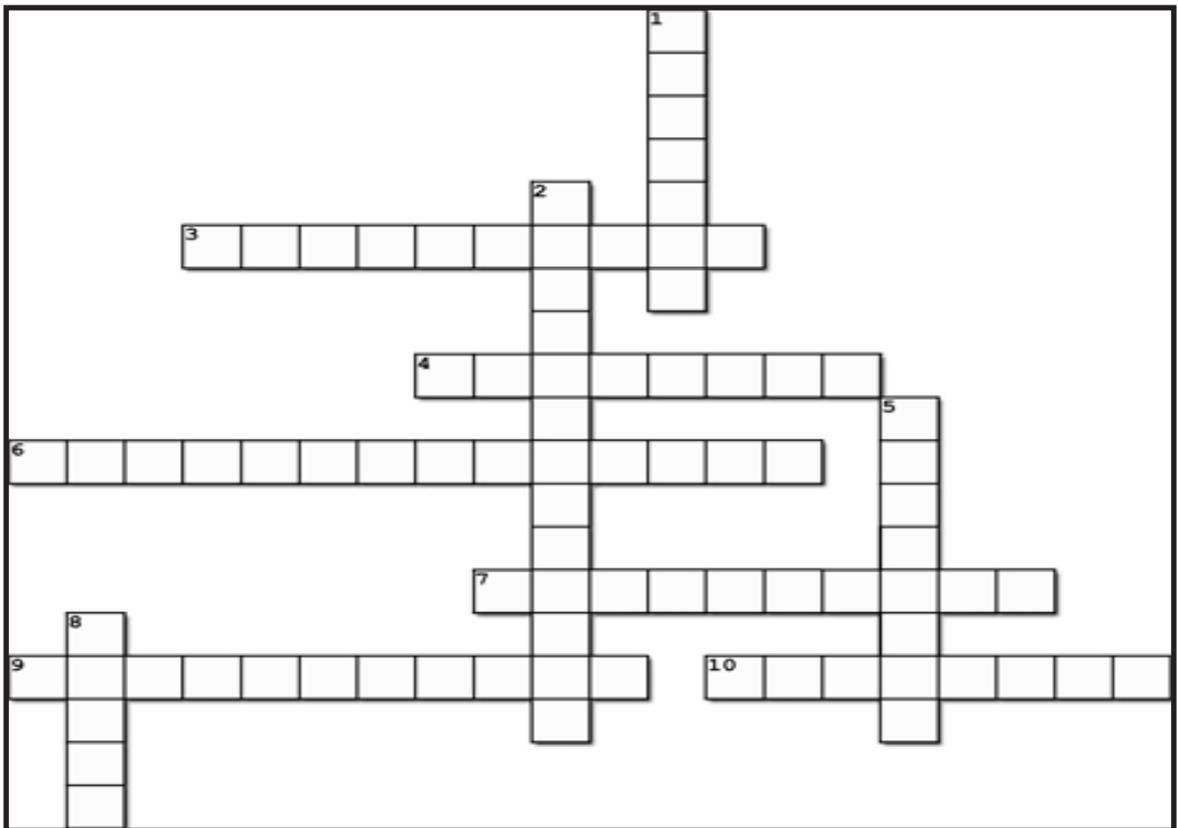
**IV. Complete the given word puzzle by using the clues given below:**

### Across

1. one of the diseases spreading through contaminated water and food
2. microbe causing Malaria
3. the chemical name of vinegar
4. bacteria converting milk in to curd

### Down

1. the antibiotic penicillin is obtained from this
2. this female mosquito is the vector of Dengue
3. the type of microbes causing diseases like Tuberculosis and Typhoid
4. technique invented by Louis Pasteur to protect milk from souring
5. microbes responsible for diseases like dysentery and malaria
6. one of the group of microbes



### V. Answer the following questions.

1. Name some diseases spread through viruses.

Answer \_\_\_\_\_

2. Give four examples for the diseases which can be cured through vaccination.

Answer \_\_\_\_\_  
\_\_\_\_\_

3. How do you identify Dengue causing mosquitoes- Aedes Aegypti?

Answer \_\_\_\_\_  
\_\_\_\_\_

4. Name two animal diseases and the microbes causing them.

Answer \_\_\_\_\_  
\_\_\_\_\_

**VI. Answer the following questions.**

1. What is fermentation process? Who invented this process? Which is the gas liberated during this process?

Answer \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. Classify these into biodegradable and non-biodegradable materials.

Plastic bags, Paper covers, Bags prepared by using cotton, Rubber slippers, Food remains, Vegetable peels, Glass cups and DDT.

Answer \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. Most of the microorganisms are beneficiary to human beings. Explain.

Answer \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**VII. Answer the following questions.**

1. Name the chemicals or techniques used to increase the preservation period for the following food items.

1. Jams and Fruit juice

3. Lemon pickle

2. Fish and Meat

4. Milk and Curd

1. Answer \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

2. Write the names of any four diseases caused by bacteria and also mention two symptoms for each disease.

Answer \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**VIII. Answer the following questions.**

1. Which insect transmits malaria? Name the microorganism responsible for this disease. What are the precautionary measures to be taken by you to prevent this disease?

Answer \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## SELF-EVALUATION

TIME: 30 MIN

MAX MARKS: 10

**I. Answer the following multiple-choice questions.**

**2 X 1 = 2**

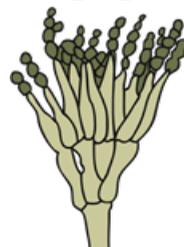
1. Pasteurization means

1. Heating the milk up to 35 – 40 minutes under 35<sup>o</sup> C temperature
2. Heating the milk up to 15 – 30 minutes under 70<sup>o</sup> C temperature
3. Heating the milk up to 25 – 30 minutes under 40<sup>o</sup> C temperature
4. Heating the milk up to 05 – 10 minutes under 60<sup>o</sup> C temperature

Answer \_\_\_\_\_

2. Observe the given diagram carefully and identify the antibiotic prepared from it.

1. Penicillium notatum – Tetracycline
2. Escherichia Coli – Insulin
3. Escherichia Coli – Streptomycin
4. Penicillium notatum – Penicillin



Answer \_\_\_\_\_

**II. Fill in the blanks with suitable answers.**

**2 X 1 = 2**

1. Fermentation: Louis Pasteur :: Hepatitis vaccination: \_\_\_\_\_
2. Lactobacillus: Milk turned into curd :: Rhizobium : \_\_\_\_\_

**III. Answer the following questions.**

**2 X 1 = 2**

1. What do you mean by food poisoning?

Answer \_\_\_\_\_

2. What is the major purpose of pasteurization process?

Answer \_\_\_\_\_

**IV. Answer the following questions.**

**2 X 2 = 4**

1. Write any two advantages and disadvantages of microorganisms.

Answer \_\_\_\_\_

2. What is nitrogen fixation process? Which microbe is responsible for this process?

Answer \_\_\_\_\_

### STUDENT SELF-EVALUATION

Si. No	Learning Indicators			
01	I know the meaning of microorganisms and their types			
02	I can identify the microorganisms and also label their parts			
03	I will explain the role of microbes in our daily life			
04	I will list out the applications of fermentation process			
05	I will differentiate injections and vaccinations			
06	I will search the reasons for different types of diseases transmitted from microorganisms			
07	I will explain the food preservative methods and techniques			
08	I will sketch the schematic representation of nitrogen cycle and explaining it in brief			

TEACHER'S OPINION : [PUT '✓' MARK IN THE APPROPRIATE BOX]

<b>EXCELLENT</b>		<b>GOOD</b>		<b>AVERAGE</b>	
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TEACHER'S SIGNATURE: \_\_\_\_\_

## CHAPTER 3

### SYNTHETIC FIBRES AND PLASTICS

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

1. An example for the material made by natural fibers

- |                    |                               |
|--------------------|-------------------------------|
| 1. Terylene cloths | 3. Bed sheets made from rayon |
| 2. Woolen blanket  | 4. Car seat belts             |

Answer \_\_\_\_\_

2. Parachutes and the ropes used to climb rocks are usually made from

- |          |         |           |              |
|----------|---------|-----------|--------------|
| 1. Nylon | 2. Jute | 3. Cotton | 4. Polyester |
|----------|---------|-----------|--------------|

Answer \_\_\_\_\_

3. Correct pair of thermoplastics among the following

1. Electric switches and combs
2. Plastic toys and handles of vessels
3. Polythene bags and PVC pipes
4. Polythene bags and pressure cooker handles

Answer \_\_\_\_\_

4. Plastic articles are not considered as eco-friendly. This is due to

1. The cost of these materials is cheaper and having more durability
2. These are poor conductors of electricity and available in different colours
3. These cause pollution and are non-biodegradable in nature
4. These can be quickly biodegraded and doesn't cause any kind of pollution

Answer \_\_\_\_\_

5. A group of materials prepared from synthetic fibers only

1. Nylon, Terylene and Wool
2. Cotton, Polycot and Rayon
3. PVC, Polythene and Bakelite
4. Acrylic, Silk and Wool

Answer \_\_\_\_\_

6. Match the column – I with column – II

Column – I	Column – II
1. Acrylic	a) Bed sheets and Carpet mats

2. Rayon	b) Sleeping bags, Ropes and Tents
3. Polyester	c) Sweaters, Shawls and Blankets
4. Nylon	d) Bottles, Dress materials and Films
i. 1 – b, 2 – a, 3 – d, 4 - c	iii. 1 – c, 2 – a, 3 – d, 4 - b
ii. 1 – c, 2 – d, 3 – a, 4 - b	iv. 1 – a, 2 – b, 3 – c, 4 – d
Answer _____	

7. Assertion: Acrylic fibers are used in the preparation of shawls and socks  
Reason: Acrylic fibers are the alternatives for the woolen fibers

1. Assertion is true but the reason is false
2. Reason is true but the assertion is false
3. Both assertion and reason are true
4. Both assertion and reason are false

Answer \_\_\_\_\_

**II. Observe the relation between first two words carefully and write the correct answer for the next word.**

1. Nylon : Tents and Ropes :: PET : \_\_\_\_\_  
\_\_\_\_\_
2. Polythene bags : Thermoplastics :: Handle of metallic vessel :  
\_\_\_\_\_
3. Plastic : Reuse :: Fossil fuels : \_\_\_\_\_  
\_\_\_\_\_
4. Paper envelope : Bio-degradable :: Tooth brush :  
\_\_\_\_\_

**III. Write ‘T’ if the statement is true and ‘F’ if the statement is false for the following statements.**

- |   |   |                          |
|---|---|--------------------------|
| 1 | Wearing of synthetic cloths in kitchen or laboratory is more suitable   | <input type="checkbox"/> |
| 2 | Recycling of milk packets used in our daily life is one of the best remedies to save our environment                              | <input type="checkbox"/> |
| 3 | Correct disposal of ‘use and throw’ synthetic materials is good   | <input type="checkbox"/> |
| 4 | Umbrellas used during summer as well as rainy season were made by jute  | <input type="checkbox"/> |
| 5 | Screw drivers used in repairing of electric circuits are fitted with plastics handles and help us to prevent from electric shocks | <input type="checkbox"/> |

- 6 Many kinds of harmful diseases are arisen due to the improper disposal of solid wastes in some metropolitan cities
- 7 Synthetic materials are easily combustible compared to natural substances


**IV. Answer the following questions.**

1. What are synthetic fibers?

Answer \_\_\_\_\_

2. The waste produced by use of plastics is not eco-friendly. Discuss.

Answer \_\_\_\_\_

3. Why plastics are used in preparing aircrafts and spacecrafts?

Answer \_\_\_\_\_

4. Give two examples for thermosetting plastics?

Answer \_\_\_\_\_

5. Two types of dresses are there in your home which are made by woolen and polyester. Which type of dress you want to wear during summer and why?

Answer \_\_\_\_\_

**V. Answer the following questions.**

1. Acrylic substances are different from woolen substances. How?

Answer \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

2. Mohit wanted to climb the rocks and he visits a shop near to his house. The shopkeeper shown ropes prepared from both cotton and nylon to him. But Mohit was in confusion to buy the ropes. What do you suggest Mohit and why?

Answer \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

3. Mention the uses of Bakelite and Melamine.

Answer \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4. Write any four characteristics of synthetic fibers.

Answer \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

5. What do you mean by biodegradable and non-biodegradable substances?

Answer \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

6. How is rayon prepared?

Answer \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**VI. Answer the following questions.**

1. Imagine that you are given cotton, wool, silk and nylon threads of same length and thickness. If these threads are fixed separately into four iron stands and put some weights on them, what do you observe. Answer the following based on your observations.

- a) Which thread breaks easily and why?
- b) Which thread will not break easily and why?

Answer \_\_\_\_\_

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2. Write the differences between thermoplastics and thermosetting plastics with examples.

Answer \_\_\_\_\_

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3. Plastic materials have become more popular. Give reasons.

Answer \_\_\_\_\_

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**VII. Answer the following questions.**

1. Identify the following statements as true or false and write the correct form of false statements.

- A. Synthetic fibers cannot be melted on heating.
- B. Most of the plastic items are biodegradable.
- C. Generally, the handles of the vessels used for cooking are made by metals.
- D. Terywool fibers are obtained by mixing Terylene and wool

Answer \_\_\_\_\_

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2. 'Manufacturing synthetic fibers is actually helping conservation of forests.' Comment.

Answer \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. Classify the following into ‘can be recycled’ and ‘cannot be recycled’ products. Pressure cooker handles, Ball point pens, Plastic boxes, Electric switches, Tooth brushes, Milk packets, Cotton hand bags and Insulation of electric wires.

Answer \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**VIII. Answer the following question.**

1. Despite being very useful, it is advised to restrict the use of plastics. Why is it so? Can you suggest some methods to limit its consumption.

Answer \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## SELF EVALUATION

TIME: 30 MIN

MAX MARKS: 10

**I. Answer the following questions.**

**2 X 1 = 2**

1. Correct option for the biodegradable substances,

1. Pressure cooker handles and Plastic cups
2. Nylon threads and PVC pipes
3. Vegetable retains and paper pieces
4. Tooth brush and Tents

Answer \_\_\_\_\_

2. Identify the wrong statement.

1. Plastics are stronger and more durable
2. Bakelite is a good conductor of heat and electricity
3. Thermoplastics can be remolded.
4. Fabric made from polyester does not get wrinkled easily

Answer \_\_\_\_\_

**II. Fill in the blanks with suitable answers.**

**2 X 1 = 2**

1. We are getting a fiber from wood pulp on chemical treatment is \_\_\_\_\_
2. Ropes used in parachutes are prepared by \_\_\_\_\_

**III. Answer the following questions.**

**2 X 1 = 2**

1. Terycot is made from two types of fibers. Name them.

Answer \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

2. We shouldn't burn the synthetic materials. Why?

Answer \_\_\_\_\_

\_\_\_\_\_

**IV. Answer the following questions.**

**2 X 2 = 4**

1. Name any 4R's related to Eco-friendly habits.

Answer \_\_\_\_\_

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2. What are thermoplastics? Give an example.

Answer \_\_\_\_\_

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**STUDENTS SELF ASSESSMENT SHEET**

Sl. No	Learning indicators			
01	I am able to tell the meaning and types of synthetic fibres.			
02	I can list out the characteristics of nylon and rayon.			
03	I can identify the differences between the materials made from acrylic and polyester.			
04	I can explain the properties of plastics.			
05	I will differentiate thermosetting and thermoplastic articles.			
06	I will explain the adverse effects of more use of plastics on environment.			

**: TEACHER'S OPINION:**

EXCELLANT		GOOD		AVERAGE	
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**Teacher's Signature:** \_\_\_\_\_

## CHAPTER 4

### METALS AND NON-METALS

#### I. Choose the correct option and write the answer:

1. The property of metals by which they can be made into thin sheets on beating.

1. Conductivity      2. Ductility      3. Malleability      4. Sonorous

Answer \_\_\_\_\_

2. Because of this property, metal rods are used in school bells

1. Conductivity      2. Malleability      3. Ductility      4. Sonorous

Answer \_\_\_\_\_

3. The right example for the displacement reaction is -----

i)  $\text{FeSO}_4 + \text{Cu} \rightarrow$  ,    ii)  $\text{ZnSO}_4 + \text{Cu} \rightarrow$  ,    iii)  $\text{CuSO}_4 + \text{Zn} \rightarrow$  ,

1. iii only      2. ii and iii      3. i and iii      4. all the three

Answer \_\_\_\_\_

4. When metals react with acids, generally this gas is liberated.

1. Oxygen      2. Nitrogen      3. Hydrogen      4. Chlorine

Answer \_\_\_\_\_

#### II. Fill in the blanks with correct answer:

1. An example for non- metal with lustrous nature is \_\_\_\_\_
2. The liquid metal at its room temperature is \_\_\_\_\_
3. Elements having the property of both metals and non-metals are called \_\_\_\_\_
4. The property of metals by which they can be drawn into small wires is \_\_\_\_\_

#### III. Give scientific reason for the following:

1. Metals are used in making of cooking vessels

Answer \_\_\_\_\_

2. School bells are not made with wood.

Answer \_\_\_\_\_

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3. Sodium metal is stored in kerosene.

Answer \_\_\_\_\_

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4. Phosphorous is stored in cold water.

Answer \_\_\_\_\_

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5. Gold and silver are used in making jewels.

Answer \_\_\_\_\_

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**IV. Define the following terms:**

1. Ductility:

Answer \_\_\_\_\_

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2. Malleability:

Answer \_\_\_\_\_

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3. Conductivity:

Answer \_\_\_\_\_

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4. Displacement reaction:

Answer \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**V. Write chemical equations for the following statements:**

1. Magnesium on heating with oxygen produces magnesium oxide.

Answer \_\_\_\_\_

2. Copper reacts with moisture air and carbon di oxide and produces copper hydroxide and copper carbonate.

Answer \_\_\_\_\_

3. Copper sulphate reacts with zinc to produce zinc sulphate and copper.

Answer \_\_\_\_\_

4. Copper sulphate reacts with iron to produce iron sulphate and iron.

Answer \_\_\_\_\_

**VI. Answer the following questions in detail:**

1. How does metals react with air? Explain with an example.

Answer \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. How does non-metals react with water? Explain with an example.

Answer \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. How do you say oxides of non-metals are acidic in nature?

Answer \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

4. Which gas is liberated when metals react with acids? Explain with an example.

Answer \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

5. What is a displacement reaction? Explain with an example.

Answer \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**VII. With the help of your teacher complete the following table.  
Which non-metals are used in the following?**

Sl. No.	Uses of non-metals	Name of the non-metal used
1	Respiration of living things	
2	In the manufacture of fertilisers	
3	In purification of water	
4	A purple coloured antiseptic for wounds	
5	In the manufacture of crackers	

**VIII. Complete the following table as directed:**

1. Some properties are given in table. Mark as “yes” or “No” in the columns of metals and non-metals according to their properties.

Sl. No.	Metals	List of properties	Non-metals
1		Malleability	
2		Ductility	

3		Conductivity	
4		Sonorous	
5		Lustrous	

**IX. Name the property of metals for the following:**

Sl. No.	Uses of the metals	Property of metals
1	In the body coaches of the vehicles	
2	In manufacture of electric wires	
3	In making of cooking vessels	
4	In the manufacture of Godrej beuro	
5	In the bells of temple	

**X. Answer the following questions:**

1. List out the physical properties of metals.

Answer \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

2. Give 5 examples for metals.

Answer \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

3. Give 5 examples for non-metals.

Answer \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

4. Write molecular formula for copper sulphate, iron sulphate and zinc sulphate.

Answer \_\_\_\_\_

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**XI. Answer the following activity (experiment) based questions:**

**1. Activity:** Magnesium is burnt in air to produce magnesium oxide. Water is added to magnesium oxide and stirred well. Red litmus and blue litmus paper is placed into this mixture. Now answer the following questions.

**A.** Write chemical equation when magnesium oxide is formed.

Answer \_\_\_\_\_

**B.** Which litmus paper gets change its colour?

Answer \_\_\_\_\_

**C.** What is the nature of the magnesium oxide with water?

Answer \_\_\_\_\_

**D.** What is the general property of metal oxides?

Answer \_\_\_\_\_

**2. Activity:** Sulphur is heated and fumes are collected in a glass jar. Water is added into the jar and stirred well. Red litmus and blue litmus paper is added into the solution.

**A.** Write chemical equation for the formation of fumes of sulphur di oxide.

Answer \_\_\_\_\_

**B.** Write chemical equation for the formation of sulphurous acid.

Answer \_\_\_\_\_

**C.** Which litmus paper gets change its colour?

Answer \_\_\_\_\_

**D.** What is the general property of oxides of non-metals?

Answer \_\_\_\_\_

**3. Activity:** A new copper vessel is exposed to air and moisture. After a week copper vessel is coated by green patches. Answer the following questions.

**A.** Which components of air act on the copper vessel?

Answer \_\_\_\_\_

**B.** Name the chemical substances present in green patches of the vessel.

Answer \_\_\_\_\_

**C.** Write the chemical equation for this process.

Answer \_\_\_\_\_

### SELF-EVALUATION

Time:30 Min.

Marks:10

**I. Choose the correct answer.**

**2 x 1 = 2**

1. Which of the following non-metal easily catches fire when exposed to air ?

- 1.Nitrogen            2.Oxygen            3.Sulphur            4.Phosphorus

Answer \_\_\_\_\_

2. Which of the following metal reacts with water vigorously?

- 1.Sodium            2.Gold            3.Iron            4.Zinc

Answer \_\_\_\_\_

**II. Answer the following questions.**

**2 x 1 = 2**

1. Copper does not displace iron from iron sulphate, why?

Answer \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

2. What is ductility?

Answer \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**III. Answer the following questions in two-three lines each. 3 x 2 = 6**

1. Write difference between metals and non-metals.

Answer \_\_\_\_\_

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2. Name the gas liberated when metals react with acids. How do you test the gas?

Answer \_\_\_\_\_

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3. Write important uses of metals in our daily life.

Answer \_\_\_\_\_

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### STUDENTS' SELF ASSESSMENT SHEET

Sl. No	Learning indicators			
1	Physical properties of metals and non-metals			
2	Chemical properties of metals and non-metals			
3	Uses of metals in our daily life			
4	Uses of non-metals in our daily life			
5	Skill of writing chemical equations			

### : TEACHER'S OPINION:

EXCELLANT		GOOD		AVERAGE	
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Teacher's Signature: \_\_\_\_\_

## CHAPTER 5

### COAL AND PETROLEUM

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

1. An example of Exhaustible resource among the following

1. Wind                      2. Soil                      3. Water                      4. Coal Tar

Answer \_\_\_\_\_

2. The fuel used in jet aircrafts

1. Kerosene Oil.                      3. Compressed Natural Gas.  
2. Diesel.                      4. Petrol.

Answer \_\_\_\_\_

3. A student is telling his classmate how he can save fossil fuels for the next generation. One of the four statements he made is not correct. Identify it.

1. Using public transport as much as possible.
2. When driving, the speed of the vehicle should be high and this is the best way to use the lowest fuel.
3. Using solar energy sources as an alternative to fossil fuels.
4. Use biofuels.

Answer \_\_\_\_\_

4. The combustion of coal in the presence of air,

1. Releases Nitrogen dioxide                      3. Releases Carbon dioxide gas.  
2. Releases carbon monoxide gas.                      4. Releases Sulphur gas.

Answer \_\_\_\_\_

5. Used as raw materials in making repellents of moths and other insects

1. Coal Tar                      2. Natural gas.                      3. Methane gas                      4.) Coal

Answer \_\_\_\_\_

6. A student named Havish says that petrol is a natural resource and cannot be made artificially. A factor that supports his understanding among the following is,

1. It takes millions of years for petrol to be produced naturally.
2. Petroleum can only be produced by the decay of the organism in living in sea

3. Petrol cannot be mined easily.
4. Availability of petrol is limited in earth.

Answer \_\_\_\_\_

**II. Match the constituents of petroleum given in List A with their uses given in List B.**

A List	B List
1. Diesel	a. Reduce friction
2. Lubricating Oil	b. Fuel for heavy motor vehicles and electric generators.
3. Bitumen	c. Preparation of Ointments
4. Paraffin Wax	d. Road Surfacing

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

**III. State whether the following statements are True / False. If it is false correct and write :-**

1. Liquid petroleum gas is used as a domestic and industrial fuel.  
Answer \_\_\_\_\_
2. The use of personal vehicles is a great way to save fossil fuels for future generations.  
Answer \_\_\_\_\_
3. The world's first oil well was drilled in our country.  
Answer \_\_\_\_\_
4. Coal gas is obtained when processing coke from coal.  
Answer \_\_\_\_\_

**IV. Write the meanings of:**

1. Carbonisation  
Answer \_\_\_\_\_
2. Fossil Fuels  
Answer \_\_\_\_\_

**V. Answer the following in a word or sentence: -**

1. Give an example for a fuel which can be easily transport through pipes.

Answer \_\_\_\_\_

2. Write any one fact that causes increase in global warming.

Answer \_\_\_\_\_

3. What are Petrochemicals? Give Examples.

Answer \_\_\_\_\_

**VI. Name these: -**

1. Material used in the preparation of detergents \_\_\_\_\_
2. Material used in the preparation of artificial fertilisers \_\_\_\_\_
3. Fuel which cause very less air pollution \_\_\_\_\_

**VII. Answer the following in a 2 or 3 sentence.**

1. Write any two preventive measures of air pollution.

Answer \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

2. Natural gas is a very important fossil fuel. Justify.

Answer \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

3. Write the difference between Exhaustible and Inexhaustible resources.

Answer \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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- 
- At present, the government is urging the use of solar and wind energy sources as an alternative to reduce the use of fossil fuels as urgently as possible. What is the reason for the government's decision?

Answer \_\_\_\_\_

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- Write four measures to save petrol /diesel while driving.

Answer \_\_\_\_\_

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**VIII. Answer the following in 5 or 6 sentences.**

- Explain how coal is formed by the remains of plant mass.

Answer \_\_\_\_\_

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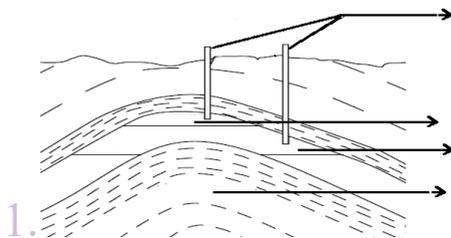
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**IX. Observe the below image of petroleum and natural gas deposits and**

label the deposits formed in different layers.



### 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. An important application of coke is,

1. Vehicle fuel

3. fuel

2. Extraction of metals

4. Processing of Natural gas

Answer \_\_\_\_\_

2. Naphthalene balls used to repel moths and insects are obtained from,

1. Coal

2. Coal Gas

3. Coal Tar

4. Petroleum

Answer \_\_\_\_\_

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

1. Write the meaning of Carbonisation.

Answer \_\_\_\_\_

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

1. Explain how petroleum is formed?

Answer \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

2. What happens in these situations?

**A.** Petrol and diesel undergoes incomplete combustion.

**B.** Increase in the level of carbon dioxide in the atmosphere more than its

limit

Answer \_\_\_\_\_

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**IV. Answer the following in 5-6 sentences.**

**3X1=3**

1. Write the harmful effects of over usage of fossil fuels in environment.

Answer \_\_\_\_\_

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**Student Self -Evaluation**

Sl. No	Learning Indicators			
1	I know that coal, petroleum and natural gas are fossil fuels.			
2	I have an understanding that the fossil fuels are exhaustible and they must be used judiciously.			
3	I can identify the products of coal.			
4	I can explain how petroleum and coal are formed.			

**: TEACHER'S OPINION:**

EXCELLANT		GOOD		AVERAGE	
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Teacher's Signature: \_\_\_\_\_

## CHAPTER-6

# CONSERVATION OF PLANTS AND ANIMALS

### I. Answer the following questions in a sentence or a word.

1. What is deforestation?

Answer \_\_\_\_\_

2. What is soil erosion?

Answer \_\_\_\_\_

3. Define biosphere.

Answer \_\_\_\_\_

4. Define biodiversity.

Answer \_\_\_\_\_

5. What is wild life sanctuary?

Answer \_\_\_\_\_

6. What is the objective of biosphere reserve?

Answer \_\_\_\_\_

\_\_\_\_\_

7. Define habitat.

Answer \_\_\_\_\_

8. What is the objective of tiger project in India?

Answer \_\_\_\_\_

\_\_\_\_\_

9. What is red data book?

Answer \_\_\_\_\_

### II. Answer the following questions with two or three sentences.

1. Mention the purposes of man that causes deforestation.

Answer \_\_\_\_\_

\_\_\_\_\_

2. Name the natural calamities responsible for deforestation.

Answer \_\_\_\_\_

3. Is it right to forbid a tribal race from living in the middle of the jungle?  
Justify your answer.

Answer \_\_\_\_\_

4. What happens if the natural habitat of an organism is destroyed?

Answer \_\_\_\_\_

5. Write the causes of soil erosion.

Answer \_\_\_\_\_

6. Write any two methods of conservation of wild life.

Answer \_\_\_\_\_

7. Which are the causes for natural habitat loss?

Answer \_\_\_\_\_

**III. With respect biodiversity conservation match the following.**

- |                       |                         |
|-----------------------|-------------------------|
| 1. Endemic species    | a. Black buck _____     |
| 2. Pachmarhi reserve  | b. Bird sanctuary _____ |
| 3. Endangered species | c. Sal and mango _____  |
| 4. Ranganathittu      | d. Giant squirrel _____ |

**IV. Give reasons for the following statements.**

1. In biosphere reserves human activity is prohibited.

Answer \_\_\_\_\_

2. Carbon dioxide concentration increases due to deforestation.

Answer \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. Conservation of wildlife is necessary for the development of the country.

Answer \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4. Biodiversity is essential for the maintenance of culture.

Answer \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

5. Organisms are losing their habitats in these days.

Answer \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

6. Organisms of a species breed with the same species only.

Answer \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**V. Fill in the blanks with suitable answers.**

1. The first reserve forest of India is \_\_\_\_\_
2. An example for endangered animal is \_\_\_\_\_
3. Group of plants found in particular geographical area \_\_\_\_\_
4. \_\_\_\_\_ changes are responsible for migration of birds.
5. Introduction of new species affect habitat of \_\_\_\_\_ species.

**VI. Give one word for the following.**

1. Conversion of fertile soil in to desert.

Answer \_\_\_\_\_

2. The area where living organisms found on earth.

Answer \_\_\_\_\_

3. The place where organisms are live and interbred.

Answer \_\_\_\_\_

4. Group of collection variety of fauna, flora and microbes.

Answer \_\_\_\_\_

5. Interaction between biotic and abiotic components.

Answer \_\_\_\_\_

**VII. Complete the following table by mentioning yes/no. If ‘yes’ write the name of the area.**

Protected area	National park	Wildlife sanctuary	Biosphere reserve
In my taluk			
In my district			
In my state			
In my country			

**VIII. Match the following.**

- |                            |                                |       |
|----------------------------|--------------------------------|-------|
| 1. Sathpura reserve forest | a. Jim carbet                  | _____ |
| 2. Endangered animal       | b. Tiger project               | _____ |
| 3. National park           | c. endemic species information | _____ |
| 4. Red data book           | d. Wild buffalo                | _____ |

**IX. Answer the following questions with the help of your teacher.**

1. Collect and paste the picture of endangered animal and mention their name and habitat.


2. List out the five mega biodiversity countries in the world and mention the percentage of diversity.

Sl. No	Nation	% Of Biodiversity
1		
2		
3		
4		
5		

3. List the factors responsible for the migration of birds.

Answer \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

4. Differentiate zoo from wildlife sanctuary.

Zoo	Wildlife sanctuary

5. With the help of your teacher list out the reserve forest areas of our state.

Reserve forests	District and place
1.	
2.	
3.	
4.	

6. Write the related words for the following as given in the example.

**Example:** The species whose population is drastically decreasing.

Answer: endangered species

**A.** Growing trees again in damaged forest.

Answer \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**B. The species disappeared from the earth.**

Answer \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**C. These are established to conserve wildlife in their natural habitat.**

Answer \_\_\_\_\_

\_\_\_\_\_

### SELF-ANALYSIS

TIME: 30 min

MAX MARKS: 10

**I. Four alternatives are given to each of the incomplete statement/ question, choose the right answer**

**2 x 1 = 2**

1. The project in Karnataka for the Conservation of elephants.

1. Project lion

3. project elephant

2. Project tiger

4. Project deer

Answer \_\_\_\_\_

2. Information about endangered species.

1. Green data book

3. Blue data book

2. Red data book

4. White data book

Answer \_\_\_\_\_

**II. Fill in the blanks with suitable words**

**2 x 1 = 2**

1. Total number of plant species of an area is \_\_\_\_\_

2. Exposure of topmost layer of soil causes \_\_\_\_\_

**III. Answer the following questions.**

**2 x 1 = 2**

1. What is a species?

Answer \_\_\_\_\_

\_\_\_\_\_

2. What are the benefits of recycling of paper?

Answer \_\_\_\_\_  
\_\_\_\_\_

**IV. Answer the following questions.**

**2 x 2 =4**

1. Mention the projects of government of India to conserve the wildlife.

Answer \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. Explain the effects of deforestation.

Answer \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**STUDENT SELF EVALUATION:**

Sl No	Learning indicators			
1	I have understood the causes and effects of deforestation			
2	I know about methods of conservation of forests and wildlife			
3	I know fauna and flora.			
4	I know about wildlife Sanctuaries and national parks			
5	I know about endemic species and red data book information			
6	I have the knowledge about benefits of recycling of paper and reforestation			

**: TEACHER’S OPINION:**

EXCELLANT		GOOD		AVERAGE	
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**Teacher’s Signature:** \_\_\_\_\_

## CHAPTER 7

### FORCES AND PRESSURE

**I. Each of the following question/statement is followed by four alternates. Chose the correct one and write it.**

1. If we release a magnet held in our hand, it falls to the ground. The Force responsible for this is,

- |                         |                         |
|-------------------------|-------------------------|
| 1. Magnetic force,      | 3. Electrostatic Force, |
| 2. Gravitational Force, | 4. Muscular force       |

Answer \_\_\_\_\_

2. The unit of measuring force is \_\_\_\_\_

- |           |           |           |              |
|-----------|-----------|-----------|--------------|
| 1. Pascal | 2. Kelvin | 3. Newton | 4. Magdeburg |
|-----------|-----------|-----------|--------------|

Answer \_\_\_\_\_

3. Which of the following force is utilised in reducing air pollution by removing dust, soot and fly-ash particles from the smoke coming out of chimneys of factories?

- |                         |                        |
|-------------------------|------------------------|
| 1. Electrostatic force, | 3. Muscular force,     |
| 2. Magnetic force,      | 4. Gravitational force |

Answer \_\_\_\_\_

4. Some mustard oil is kept in a beaker, it will exert pressure,

- |                    |                     |
|--------------------|---------------------|
| 1. Downwards only, | 3. Upwards only,    |
| 2. Sideways only,  | 4. In all direction |

Answer \_\_\_\_\_

5. A pressure of 10kPa acts on an area of  $0.3\text{m}^2$ , the force acting on the area will be

- |          |        |       |         |
|----------|--------|-------|---------|
| 1. 3000N | 2. 30N | 3. 3N | 4. 300N |
|----------|--------|-------|---------|

Answer \_\_\_\_\_

**II. Fill in the blanks with suitable answers**

1. If the two forces applied to an object are equal and opposite in directions, the net force acting on the object will be \_\_\_\_\_.
2. The change appreciable when a batsman hits a moving cricket ball are

\_\_\_\_\_ and \_\_\_\_\_.

3. Atmospheric pressure \_\_\_\_\_ with increasing height.
4. The north pole of a magnet \_\_\_\_\_ the north pole of another magnet.
5. The filling of ink in a fountain pen is based on the existence of \_\_\_\_\_.

### III. Answer the following question in a word or a sentence

1. What is the push or pull on an object known as?

Answer \_\_\_\_\_

2. Name one contact force?

Answer \_\_\_\_\_

3. What is atmospheric pressure?

Answer \_\_\_\_\_

4. Where is the pressure high - 10 m below the surface of the sea or 20m below the surface the sea?

Answer \_\_\_\_\_

5. A ball of dough is rolled into flat chapatti- name the force exerted to change the shape of the dough?

Answer \_\_\_\_\_

6. A gas filled balloons moves up. Which of the following smaller - upward force acting on it or the force of gravity?

Answer \_\_\_\_\_

### IV. Short answer questions

1. In the given picture a boy is repeatedly hitting the tire to keep it moving. If he stops hitting what happens. Why?

Answer \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

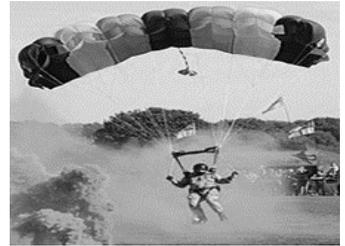


2. A Meteor falling towards the earth starts burning when it enters the earth's atmosphere. why?

Answer \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

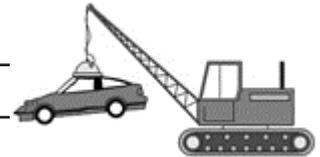
3. observe the figure - a man landing with a parachute. Name the force which is responsible for downward motion. Will he be able to come down with the same speed without the parachute?

Answer \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



4. Calculate the pressure when a force of 200 N is exerted on an area of (a)  $10\text{m}^2$ , (b)  $5\text{m}^2$

Answer \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



5. The Figure shows a car stuck to an electromagnet. Name the forces responsible for it. Which one of them is larger?

Answer \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## V. Give reasons

1. sometimes strong winds during a storm blow away roof tops.

Answer \_\_\_\_\_  
\_\_\_\_\_

2. Shape of an ointment tube changes when we squeeze it

Answer \_\_\_\_\_  
\_\_\_\_\_

3. Wooden or concrete sleepers are kept below the railway line.

Answer \_\_\_\_\_

4. It is difficult to cut cloth using a pair of scissors with blunt blades.

Answer \_\_\_\_\_

### SELF-ANALYSIS

TIME: 30 MINUTES

MARKS:10

**I. Four alternatives are given for each of the following questions. Choose the correct one and write it. 2X1=2**

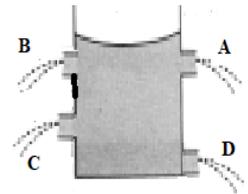
1. During dry weather while combing hairs sometimes we experience hair flying apart. The force reasonable for this is,

- |                        |                  |
|------------------------|------------------|
| 1.Gravity              | 3.Friction       |
| 2.Electro static force | 4.Magnetic force |

Answer \_\_\_\_\_

2. A water tank has four fixed taps A, B, C & D as shown in figure. The water will flow out at the same pressure from taps at,

- |            |            |
|------------|------------|
| 1.B and C, | 3.C and D, |
| 2.A and C, | 4.A and C, |



Answer \_\_\_\_\_

**II. Fill in the blanks 2X1=2**

- Frictional and muscular force are examples of \_\_\_\_\_ force
- Drinking straw works on the existence of \_\_\_\_\_ pressure

**III. Give reasons 1½ X2=3**

1. The walls of dams are thicker at the bottom than at the top?

Answer \_\_\_\_\_

2. We can cut objects more effectively using a sharp knife than the blunt knife.

Answer \_\_\_\_\_

**IV. Answer the following question**

**1X3=3**

1. A magnet attracts a piece of iron toward it. So, is attraction and repulsion a push or pull? Explain.

Answer \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**STUDENT SELF ASESMENT SHEET**

(put your response to appropriate Column)

<b>Sl. No</b>	<b>Learning indicators</b>			
1	I know that Force is a push or pull			
2	A force arises due to the interaction between two objects			
3	I have learnt that Force has both magnitude and direction.			
4	I know that Force acting on an object may cause a change in its motion or shape			
5	Force can act on an object with or without being in contact with it			
6	I have learnt that Force per unit area is the pressure			
7	I know - Liquids and gases exert pressure on the walls of their containers			
8	I know- the pressure exerted by air Around us is known as atmospheric Pressure			

**: TEACHER'S OPINION:**

EXCELLANT		GOOD		AVERAGE	
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**Teacher's Signature:** \_\_\_\_\_

## CHAPTER 8

### FRICTION

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

1. A big wooden box is being pushed on the ground from east to west direction. The force of friction due to ground will act on this box towards,

1.Towards North

3.Towards East

2.Towards South

4.Towards West

Answer \_\_\_\_\_

2. A Spring balance can be used to measure-

A.Mass of an object

B.Force acting on an object

C.Density of an object

D.Height of an object

5.A and B

6.B and C

7.B and D

8.Only D



Answer \_\_\_\_\_

3. To sharpen the blade of a knife by rubbing it against a surface, which of the following will be most suitable?

1.Stone

2.Plastic block

3. Wooden block

4.Glass block

Answer \_\_\_\_\_

4. A toy car released with the same initial speed will travel fastest on,

1.A Muddy surface

3.A Cemented surface

2.A Polished marble surface

4.A Brick surface

Answer \_\_\_\_\_

5. If we oil on door hinges, the friction will

1.Increase

3.Disappear altogether

2.Decrease

4.Remain unchanged

Answer \_\_\_\_\_

6. Which of the following statement is incorrect?

1. Friction acts on a ball rolling along the ground

2. Friction acts on a boat moving on water.\_

3. Friction acts on a bicycle moving on a smooth road.
4. Friction does not act on a ball moving through air.

Answer \_\_\_\_\_

7. The object which is difficult to be held with hands smeared with oil,
- |                      |                  |
|----------------------|------------------|
| 1. Earthen cup       | 3. Glass tumbler |
| 2. Thermocol tumbler | 4. Wooden cup    |

Answer \_\_\_\_\_

8. Ball bearing is a device which usually converts

1. Rolling friction into sliding friction.
2. Static friction into sliding friction.
3. Sliding friction into rolling friction.
4. Rolling friction into static friction.



Answer \_\_\_\_\_

## II. FILL IN THE BLANKS WITH SUITABLE ANSWERS

1. Friction prevents our foot from \_\_\_\_\_ over the ground.
2. The shape of an aeroplane is similar to that of a \_\_\_\_\_ in flight.
3. Dolphins are stream lined by nature to reduce \_\_\_\_\_ with water.
4. Friction between \_\_\_\_\_ and \_\_\_\_\_ of wheel stops the running bicycle.
5. Friction can be reduced by using \_\_\_\_\_

## III. MATCH THE FOLLOWING.

Column – A	Column – B	Answer
1. Lubricants	a) Heat	_____
2. Friction produces	b) Rolling friction	_____
3. Wheels	c) Less the friction	_____
4. Ball bearings	d) Oil and grease	_____
5. Soapy floor	e) Ceiling fan	_____
	f) More the friction.	_____

## IV. STATE WHETHER THE GIVEN STATEMENTS ARE TRUE OR FALSE.

1. Friction is always useful to us. \_\_\_\_\_
2. Fluids are only liquids. \_\_\_\_\_

3. Friction is less for smooth surface. \_\_\_\_\_
4. A soapy floor is slippery due to increased friction \_\_\_\_\_
5. It is easier to move a lighter object than a heavy object. \_\_\_\_\_
6. Friction depend on the nature of surfaces in contact. \_\_\_\_\_

**V. ANSWER THE FOLLOWING QUESTIONS IN ONE SENTENCE.**

1. Which force helps us to write on a paper or a blackboard?

Answer \_\_\_\_\_

2. How can fluid friction be minimised?

Answer \_\_\_\_\_

3. Which type of friction comes into play when a book kept on cylindrical pencil is moved by pushing?

Answer \_\_\_\_\_

4. Name any two machines in which ball bearings are used.

Answer \_\_\_\_\_

5. Write two common lubricants.

Answer \_\_\_\_\_

6. What is the direction of force of friction acting on a moving object?

Answer \_\_\_\_\_

7. Handle of cricket bat or badminton racket is rough. Why?

Answer \_\_\_\_\_

8. Why does a matchstick catch fire when rubbed on the rough surface of the box?

Answer \_\_\_\_\_

**VI. GIVE REASONS FOR THE FOLLOWING QUESTIONS.**

1. If we push a book kept on a table, it stops after sometime.

Answer \_\_\_\_\_

\_\_\_\_\_

2. The worn-out tyres are discarded.

Answer \_\_\_\_\_  
\_\_\_\_\_

3. Lubricants are applied between the moving parts of a machine.

Answer \_\_\_\_\_  
\_\_\_\_\_

4. People often rub their hands in winter.

Answer \_\_\_\_\_  
\_\_\_\_\_

5. The rubber eraser used to erase pencil writing loses a portion of it, every time it is used.

Answer \_\_\_\_\_  
\_\_\_\_\_

## VII. ANSWER THE FOLLOWING QUESTIONS.

1. Two identical metal sheets A and B are rubbed with a paper and sand paper respectively. Which of the metal sheets will shine more and why?

Answer \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. Gagan and Nischay, while returning from school saw a labour pushing hrrd to move a heavy box. Gagan immediately ran to him and started helping him in pushing the box where as Nischay brought two iron-bars and asked the labours to put them below the box and then to push the box.

**A.** What are the factors that affect friction?

Answer \_\_\_\_\_  
\_\_\_\_\_

**B.** Who helped the labour more, Gagan or Nichay. why?

Answer \_\_\_\_\_  
\_\_\_\_\_

C. What values of Gagan and Nischay are shown here?

Answer \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### SELF EVALUATION

Time: 20 Min

Max Marks: 10

**I. Four alternatives are given each of the incomplete statement. choose the right answer and underline it.  $2 \times 1 = 2$**

1. Friction always.

1. Opposes the motion

3. Both (a) and (b)

2. Helps the motion

4. None of these.

Answer \_\_\_\_\_

2. Fluids are

1. Liquids

2. Gases

3. Both (1) & (2)

4. None of these.

Answer \_\_\_\_\_

**II. Fill in the blanks with suitable answer**

$2 \times 1 = 2$

1. Rough surfaces produce \_\_\_\_\_ friction than smooth surface.

2. the shape of bodies of birds, fishes and ships are \_\_\_\_\_.

**III. Answer the following questions.**

$3 \times 2 = 6$

1. Ram has to push a lighter box and Shyam has to push a similar heavier box on the same floor. Who will have to apply a larger force and why?

Answer \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

2. Give one use of heat produced by friction and why is heat produced by friction dangerous in some cases?

Answer \_\_\_\_\_

\_\_\_\_\_

3. Why are grooves provided in the soles of shoes? Explain.

Answer \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### STUDENTS SELF ASSESSMENT SHEET

(Put your response in appropriate column)

Sl. No	Learning indicators			
1	I know that Friction opposes the relative motion between two surfaces in contact			
2	I can explain types of Friction.			
3	I know that Friction is important for many of our activities.			
4	I know that friction is sometime undesirable.			
5	I know that friction can be reduced by using lubricants			
6	I know that fluid friction can be minimised by giving suitable shapes to bodies moving in fluids.			

#### : TEACHER'S OPINION:

EXCELLANT		GOOD		AVERAGE	
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Teacher's Signature: \_\_\_\_\_

## CHAPTER-9

### SOUND

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

1. Sound vibrations recognized by an individual ultimately reaches to  
1. Outer ear                      2. Inner ear                      3. Eardrum                      4. Brain

Answer \_\_\_\_\_

2. In which of the following situations vibrations of object cannot be observed.

1. Amplitude and frequency are minimum
2. Amplitude and frequency are maximum
3. Amplitude is minimum and frequency is maximum
4. Amplitude is maximum and frequency is minimum

Answer \_\_\_\_\_

3. For human ear, the range of audible frequency \_\_\_\_\_.

1. 20Hz to 200Hz
2. 20Hz to 20000Hz
3. 20Hz to 2000Hz
4. more than 20kHz

Answer \_\_\_\_\_

4. If the amplitude becomes twice, the loudness of the sound,

1. Increases by 2times
2. Increases by 4times
3. increases by 3times
4. Decreases by  $\frac{1}{2}$

Answer \_\_\_\_\_

5. The relationship between frequency and time period of an oscillating body is,

1.  $v \propto T$
2.  $v = 1/T$
3.  $v = T$
4.  $v/T = \text{constant}$

Answer \_\_\_\_\_

**II. Fill in the blanks with suitable words:**

1. The to and fro or back and forth motion of an object is called \_\_\_\_\_.
2. The number of oscillations per second is called \_\_\_\_\_.
3. Unpleasant sound is called \_\_\_\_\_.

4. S.I. unit of Loudness of sound is \_\_\_\_\_.

5. Sound does not travel in \_\_\_\_\_.

**III. In the following statements mark 'T' against those which are true and 'F' against those which are false:**

1. Vibrating objects produces sound. [     ]

2. Sound produced from musical instruments leads to noise pollution. [     ]

3. Sound does not travel in liquid media. [     ]

4. Noise pollution can be reduced by growing plants along the road side. [     ]

5. Sound is carried in all direction in a medium. [     ]

**IV. Answer the following questions in a word:**

1. Name the media in which speed of the sound is maximum.

Answer \_\_\_\_\_

2. Which factor decides the pitch of the sound?

Answer \_\_\_\_\_

3. What is the speed of sound in air?

Answer \_\_\_\_\_

4. Name the unit of frequency.

Answer \_\_\_\_\_

**V. Give scientific reasons for the following:**

1. The voices of women and children are different from men.

Answer \_\_\_\_\_

2. The roar of a lion is very loud while the sound of bird is quite feeble.

Answer \_\_\_\_\_

3. Two astronauts are floating close to each other in space, cannot talk each other without using any special device.

Answer \_\_\_\_\_

4. We are able to hear sound of a clock clearer at night than in a day.

Answer \_\_\_\_\_  
\_\_\_\_\_

**VI. Answer the following questions:**

1. Explain with an activity- a medium is necessary for the propagation of sound.

Answer \_\_\_\_\_  
\_\_\_\_\_

2. How does sound travel from one place to another? Explain.

Answer \_\_\_\_\_  
\_\_\_\_\_

3. How human beings produce sound? Explain.

Answer \_\_\_\_\_  
\_\_\_\_\_

4. What is Time period?

Answer \_\_\_\_\_  
\_\_\_\_\_

5. How are frequency and pitch of a sound related?

Answer \_\_\_\_\_  
\_\_\_\_\_

6. Explain with an activity- the loudness of sound depends on its amplitude.

Answer \_\_\_\_\_  
\_\_\_\_\_

7. The frequency of sound wave is 20 Hz. Find its time period.

Answer \_\_\_\_\_  
\_\_\_\_\_

**SELF-EVALUATION**

Time: 30 min

Marks: 10

**I. Four alternatives are given to each of the following incomplete statement/question. Choose the right answer: 2X1=2**

1. The maximum displacement of an oscillating object is called \_\_\_\_\_.

1. Frequency                      2. Velocity                      3. Amplitude                      4. Pitch

Answer \_\_\_\_\_

2. The musical instrument which produces sound by blowing air is \_\_\_\_\_.

1. Veena                      2. Flute                      3. Tabala                      4. Ghatam

Answer \_\_\_\_\_

**II. Fill in the blanks with suitable words: 3X1=3**

1. The loudness of sound is determined by \_\_\_\_\_.
2. Sound of frequency lower than 20Hz is called \_\_\_\_\_.
3. The \_\_\_\_\_ nerve is present in the inner ear.

**III. Answer the following questions:**

1. What are the harms of Noise pollution? -2-

Answer \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

2. Differentiate between musical sound and noise. -3-

Answer \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**STUDENT SELF EVALUATION FORMAT**

(Put your response '√' in appropriate column)

Sl. No.	Learning indicators			
1	I can prove sound is produced by vibrating objects			
2	I can explain sound produced by humans			
3	I can demonstrate that sound need a medium for propagation			
4	I can define amplitude, time period, frequency of vibration.			
5	I can list the harms of noise pollution.			

**: TEACHER'S OPINION:**

EXCELLANT		GOOD		AVERAGE	
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Teacher's Signature: \_\_\_\_\_