

Q. BLOCK \rightarrow STMT | {STMTS}

STMTS \rightarrow ϵ | STMT STMTS

STMT \rightarrow EXPR | if {EXPR} BLOCK | while {EXPR} BLOCK
| do BLOCK while

(EXPR) | BLOCK

EXPR \rightarrow a | constant | EXPR + ^(A) EXPR | EXPR - EXPR |

EXPR * EXPR | EXPR / EXPR

Sol.

(i) \bullet a

(ii) ϵ

(iii) BLOCK \rightarrow STMT | {STMTS}

STMTS \rightarrow STMT

STMT \rightarrow (same)

EXPR \rightarrow (same)

(iv) BLOCK \rightarrow a | constant | EXPR + EXPR | EXPR - EXPR |

EXPR * EXPR | EXPR / EXPR | if {EXPR} BLOCK | while

{EXPR} BLOCK | do BLOCK while (EXPR) | {STMTS}

STMTS \rightarrow ~~STMT~~ (B) | (A) | {STMTS}

STMT \rightarrow (B) | {STMTS}

EXPR \rightarrow (same)