8th dec

imp !!

(iv) Infix to prefix exp.

(i) Given exp lai reverse bata lekhne

(ii) same as infix to post fix
but,
(→ pop until)

) → push garne

· operator
check TOS operator

if,
· TOS is ↑ → pop
· equal / less → push

1. convert following infix exp to prefix showing stack status after every step.
K + L - M * N + (O ^ P) * W / U / V * T + Q

Soln

Reversing the given exp
Q + T * V / U / W *) P ^ O (+ N * M - L + K
↑

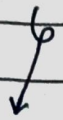
S.N.	scan char.	output string	stack
1.	q	q	␣
2.	+	q	+
3.	T	q T	+
4.	X	q T	+ X
5.	V	q T V	+ X
6.	/	q T V	+ X / (push as same power)
7.	U	q T V U	+ X /
8.	/	q T V U	+ X //
9.	W	q T V U W	+ X //
10.	X	q T V U W	+ X // X
11.	)	q T V U W	+ X // X) (ayesi push)
12.	P	q T V U W P	+ X // X)
13.	^	q T V U W P	+ X // X) ^
14.	0	q T V U W P 0	+ X // X) ^

pop until (is reached

15.	(	QTVUWPO^	+X//X
16.	+	QTVUWPO^X//X	++
		as all have ↑ than +	
17.	N	QTVUWPO^X//X N	++
18.	X	QTVUWPO^X//X N	++X
19.	m	QTVUWPO^X//XN m	++X
20.	-	QTVUWPO^X//XN mX	++-
21.	1	QTVUWPO^X//XN mX1	++-
22.	+	QTVUWPO^X//XN mX1	++-+
23.	K	QTVUWPO^X//XN mX1K	++-+
24.	←	QTVUWPO^X//XN mX1K+-++	1←

The exp is:

QTVUWPO∧X//XNMX1K+-++



yesai theri reverse garne
⇒ ans hunxa

By reversing the o/p string, we get the resulting prefix exp:

++-+K1XMNX//X∧OPWUVTQ