GATE 2016, SET I, 1 Mark

A processor can support a maximum of 4GB, where the memory is word-addressable (a word consists of two bytes). The size of address bus of the processor is at least _____bits.

Sol.
First we will convert 4GB in to Bytes
$4GB = 2^{30} X\ 4 = 2^{30} X\ 2^2 = 2^{32}$ Bytes
Given in problem, a word consist 2 Bytes,
So, no of words = $2^{32} / 2 = 2^{31}$
The size of address bus of the processor is at least *31* bits.

Related Posts:

1. GATE | Find a+b Matrix? | EC GATE 2005 | Prof. Jayesh Umre
2. GATE | Inverse of 3X3 Matrix | Prof. Jayesh Umre
3. GATE | Inverse of 2X2 Matrix | Prof. Jayesh Umre
4. GATE | Top row of Matrix inverse ? | CE GATE 2005 | Prof. Jayesh Umre
5. GATE | The product of Matrix | CE 2008 | Prof. Jayesh Umre
6. GATE | Adjoint of a Matrix | Prof. Jayesh Umre
7. GATE, Context switch calculation in SRTF algorithm | Prof. Jayesh Umre
8. GATE 01
9. GATE, Longest Remaining Time First Algorithm | Prof. Jayesh Umre
10. GATE, AVG function and join DBMS | Prof. Jayesh Umre
11. GATE CS | Binary tree questions | Prof. Jayesh Umre
12. GATE | Binary Search Tree | Related Questions | Prof. Jayesh Umre
13. C SwitchCase numerical GATE CS2012 | Prof. Jayesh Umre
14. GATE SRTF | What is the total waiting time for process P2?
15. c program numerical GATE CS2012 | Prof. Jayesh Umre
16. C SwitchCase numerical GATE CS2012 | Prof. Jayesh Umre

17. GATE 2014 DBMS FIND Maximum number of Super keys | Prof. Jayesh Umre
18. GATE 2017 DBMS Query | Prof. Jayesh Umre
19. GATE 2004, Calculate height of Binary Tree | Prof. Jayesh Umre
20. GATE Calculate Total Waiting Time SRTF algorithm | Prof. Jayesh Umre
21. GATE 2010 Binary tree descendent | Prof. Jayesh Umre
22. GATE | Find Matrix F | ME GATE 2006 | Prof. Jayesh Umre
23. GATE | Singular Matrix | ME GATE 2004 | Prof. Jayesh Umre
24. GATE Notes
25. GATE 1996 CPU Scheduling algo completion time RR
26. GATE CSIT 2023 Solved Paper