8. (a) Explain any four addressing modes of TMS 320C 54XX processors. 7

   (b) Explain Interrupts of TMS 320C54XX Processors. 7

9. (a) Draw and explain the architecture of TMS 320C6X. 7

   (b) Explain how to build project in code composer studio in detail. 6

OR

10. (a) Draw and explain the architecture of Motorola DSP 563XX. 7

    (b) Compare the features of TMS 320C6 with Motorola DSP 563XX. 6

11. Explain the real time filtering using FFT by overlap and save method and overlap and add method. Find the output y(n) using overlap save method if x(n) = {2, 1, 3, 4, 2, 1, 3, 2} & h(n) = {1, –1, 1}. 13

OR

12. (a) Explain decimation filter with necessary expression and waveforms. 7

    (b) Write the technical notes on wavelet filter. 6

NTK/KW/15/7530/7538

Faculty of Engineering & Technology
Seventh Semester B.E. (Electronics Engg.)/ET/EC
(C.B.S.) Examination
DSP PROCESSOR & ARCHITECTURE

Time—Three Hours] [Maximum Marks—80

INSTRUCTIONS TO CANDIDATES

(1) All questions carry marks as indicated.

(2) Solve Question No. **1 OR** Questions No. **2**.

(3) Solve Question No. **3 OR** Questions No. **4**.

(4) Solve Question No. **5 OR** Questions No. **6**.

(5) Solve Question No. **7 OR** Questions No. **8**.

(6) Solve Question No. **9 OR** Questions No. **10**.

(7) Solve Question No. **11 OR** Questions No. **12**.

(8) Due credit will be given to neatness and adequate dimensions.

(9) Assume suitable data wherever necessary.

(10) Illustrate your answers wherever necessary with the help of neat sketches.

(11) Use of non-programmable calculator is permitted.

1. (a) Draw and explain the VLIW architecture in detail. 7

   (b) Draw and explain multiplier and multiplier accumulator unit. 6

OR

2. (a) Explain how pipelining structure improves throughput of P-DSPs. 7

   (b) Explain the various addressing modes of P-DSPs (Any THREE). 6

3. Draw and explain the architecture of TMS 320 C 5X. 13

OR

4. (a) Explain the status register ST0 & ST1 of C 5X. 7

   (b) Explain the AL syntax of TMS320C5X. 6

5. (a) Consider the following program involving only single word instructions :

   ADD*1

   SAMMTREGO

   MPY**

   SQRA**AR2

   Show the table showing contents of instruction pipeline. 7

   (b) Explain the instruction :

   (i) LST

   (ii) LACC

   (iii) SAMM

   (iv) SAR

   (v) SACC

   (vi) LDP. 7

OR

6. (a) Explain Operation Block Diagram of DSP starter kit. 7

   (b) Write an ALP of Square Wave Generation. 7

7. (a) Draw and explain bus structure of TMS 320C54XX. 7

   (b) Explain the internal memory organization of TMS 320C54XX. 7

OR