

8. (a) Explain any four addressing modes of TMS 320C54XX 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

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