

|  |
| --- |
| **APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**FOURTH SEMESTER B.TECH DEGREE EXAMINATION, DECEMBER 2018 |
| **Course Code: EC208** |
| **Course Name: Analog communication Engineering(EC)** |
| **Scheme of Valuation/Answer Key** |
| (Scheme of evaluation (marks in brackets) and answersof problems/key) |
| **PART A** |
|  |  | ***Answer all questions, each carries5 marks.*** | Marks |
| 1 | a) | 2 reasons - (3), Antenna Height ($ \frac{λ}{4}=$75000m)- (2) | (5) |
|  | b) | Definition -(3), input SNR(21.4dB)– (2) | (5) |
|  | c) | Modulation Index(Vm/Vc=0.6) – (2.5), Bandwidth(2fm=10KHz)- (2.5) | (5) |
| 2 | a) | Shot noise-(2), Partition noise-(2), White noise –(3) | (7) |
|  | b) | Derivation [F=F1+ (F2-1)/G1+ (F3-1)/G2] - (4) | (4) |
|  | c) |  Noise figure (F=Te/T0+1)– (4) | (4) |
| 3 | a) | Definition - (2), Expression –(2), Output waveform – (2), Spectrum- (1)  | (7) |
|  | b) | Working–(6), Circuit diagram – (2) | (8) |
| **PART B** |
| ***Answer any twofull questions, each carries15marks.*** |
| 4 | a) | Definition– (3) | (3) |
|  | b) | Image frequency(fi=f0+IF=1510KHz) – (1), Image frequency rejection ratio(f/f0-f0/f=0.74, for Q=50, Ar=-31.37dB or 0.027)- (3)  | (4) |
|  | c) | Working– (6), Diagram – (2) | (8) |
| 5 | a) | Working– (5), Circuit Diagram – (2) | (7) |
|  | b) | Explanation– (4), Block diagram- (2), Advantages – (2) | (8) |
| 6 | a) | Explanation– (5), Block diagram- (2) | (7) |
|  | b) | Expression– (5), Advantages– (3) | (8) |
| **PART C** |
| ***Answer any twofull questions, each carries15 marks.*** |
| 7 | a) | Explanation - (7), Diagram – (3) | (10) |
|  | b) | Working - (7), Diagram – (3) | (10) |
| 8 | a) | Explanation - (7), Diagram – (3) | (10) |
|  | b) | Equivalence- (4), FM obtained from PM – (6) | (10) |
| 9 | a) | Working - (7), Diagram – (3) | (10) |
|  | b) | Purpose- (2), procedure – (3) | (5) |
|  | c) | Working - (3), Diagram –(2) | (5) |
| \*\*\*\* |