

**M. TECH.-III (INFORMATION TECHNOLOGY) (CBCS – 2015  
COURSE) : WINTER - 2017**  
**SUBJECT : SELF STUDY PAPER – I : INFORMATION THEORY CODING AND  
CRYPTOGRAPHY**

Day : **Thursday**  
Date : **25/01/2018**

**W-2017-2910**

Time : **11.00 AM TO 02.00 PM**  
Max. Marks : 60

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**N.B.**

- 1) All questions are **COMPULSORY**.
  - 2) Figures to the right indicate **FULL** marks.
  - 3) Answers to both the sections should be written in **SEPARATE** answer book.
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**SECTION – I**

**Q.1** Explain the Lempel-Ziv algorithm in detail. **(10)**

**OR**

What is channel capacity and channel coding? Explain in detail.

**Q.2** State and explain Euler's theorem. **(10)**

**OR**

Explain any one technique for the generation of :  
**a) Prime Number    b) Random Number**

**Q.3** .What are the different division algorithms? Explain. **(10)**

**OR**

What are the methods of generating cyclic codes? Explain.

**SECTION – II**

**Q.4** What are Golay codes? Explain with example. **(10)**

**OR**

What are the techniques of decoding BCH codes? Explain

**Q.5** .Explain the IDEA algorithm in detail. **(10)**

**OR**

What is PGP? What is digital signature? Explain in detail.

**Q.6** What is sliding window compression? Explain in detail. **(10)**

**OR**

What are different video compression algorithms? Explain any one detail.

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