

BACHELOR OF ENGINEERING IN CHEMICAL ENGINEERING EXAMINATION, 2018

(1st Year, 1st Semester)

HUMANITIES

Time : Three hours

Full Marks : 100

(50 marks for each part)

Use Separate Answer scripts for each part

PART - I

(ENGLISH)

1. Answer **any one** of the following questions: (15 marks)
 - a. Describe how Arthur Conan Doyle portrays Sherlock Holmes as a person possessing keen observing and reasoning skills in 'The Adventure of the Blue Carbuncle'.
 - b. Who in your opinion is the better friend in O' Henry's 'After Twenty Years' – Bob or Jimmy?
 - c. Discuss the way in which Mulk Raj Anand portrays village life in 'The Barbers' Trade Union'.

2. Answer **any one** of the following questions: (15 marks)
 - a. You are part of a national NGO working on child immunization programmes in rural Bengal. Write a report addressed to the Director stating your experience and the steps that can be taken to alleviate the problems that you have witnessed.
 - b. A reputed English medium school in Mumbai requires Physics teachers for the senior section. Applicants must be post-graduates in Physics and possess a B.Ed degree as well. Those who have taught in similar positions before will be given preference. Apply with testimonials to The Principal, Akshar International, 32, Goregaon (West), Mumbai- 104.

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3. Make sentences with **any five** of the following words: (5x2=10)
 Staunchest, cantankerous, akimbo, tottering, twirling, scintillating, vicinity, absurdity, impressively, drizzle.
4. Read the following passage carefully and answer the questions that follow: (10 marks)

For many years, most physicists supported one of two cosmological theories: the steady-state universe and the Big Bang. The theory of the steady-state universe states that the universe has always existed exactly as we observe it at present, whereas the Big Bang theory postulates that the universe was conceived from a singularity in space-time that has expanded into current universe. The validity of either theory was not tested until 1929, when Edwin Hubble famously discovered what is now known as Hubble's Law. Hubble's experiment is now a famous benchmark in modern physics. Hubble, using the Mount Wilson Observatory, observed a class of stars known as Cepheid variables, luminous stars that blink and flicker with a rate that depends on their distance from the observer. Using this relation and years of observing, Hubble calculated the distance to many of these variable stars. Milton Humason, a fellow astronomer, helped Hubble to calculate the stars' relative velocities to Earth. When Hubble combined the two data sets he found an interesting relationship: all the stars appeared to be moving away from us! In fact, the speed at which they were moving increased with an increasing distance from Earth. Hubble realized, from this small set of data, that the earth was a part of the expanding universe. As the universe expands outward in all directions, any observer from a fixed vantage point will look out and see everything running away from them. The further away any two points are, the more the expansion affects them, and the faster they appear to be moving away from each other. Hubble's result was the first experimental proof that we do not live in a steady-state universe, but rather a dynamic and expanding one.

- a. What are the two main cosmological theories and what do they state? (3)
 - b. How did Edwin Hubble conduct his experiment? (3)
 - c. What did he observe and what inference was he able to draw through this experiment? (3)
 - d. Give the meanings of: luminous, dynamic (1)
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B.E. CHEMICAL ENGINEERING
FIRST YEAR FIRST SEMESTER EXAM– 2018
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PART II (50 Marks)

SOCIOLOGY

Answer question no.1 and any two others.

1. Write short notes on any four of the followings 5X4=20
- a) Basic sociology
 - b) Sociology and history
 - c) Sociology and economics
 - d) Development
 - e) Technology assessment
 - f) Foreign direct investment
 - g) Micro level analysis
 - h) Managers
2. Contrast and compare sociology's functional and conflict theoretical perspective. 15
3. What is the relationship of sociology with other social science discipline? 15
4. How are managers important in any organization? 15
5. What is technology transfer? Examine the different modes of technology transfer? 15