

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-VI(NEW) – EXAMINATION – SUMMER 2019****Subject Code:2164004****Date:18/05/2019****Subject Name:Infrastructure Planning and Appraisal****Time:10:30 AM TO 01:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- |   | <b>MARKS</b> |
|---|--------------|
| <b>Q.1 (a)</b> With the help of a flow chart, discuss the appraisal process framework of an infrastructure project. Briefly explain each steps.   | <b>07</b>    |
| <b>(b)</b> Two Project proposals are available for the business option of a plant which will have following income and expenditure status for the 10 years life line.   | <b>07</b>    |
| <p>Plan A is to develop the setup 50% initially with the cost of 10 lakh and complete the remaining half just after five years with the cost of 12 lakh. The income of the business for first five years will be 2 lakh per annum and operation &amp; maintenance cost per annum will be 25,000. For the rest period income will be 3 lakh and maintenance will be 50,000. The salvage value of the setup after 10 years will be Rs. 1,00,000.</p> <p>Plan B is to build full scale plant at the start with the cost of Rs. 20 lakh. The income of the business for the whole span of 10 years will be Rs. 2.85 lakh and operation &amp; maintenance cost per annum will be Rs. 45,000. The salvage value of the setup after 10 years will be Rs. 80,000.</p> <p>If the money worth is 12% per year and a period of 10 years ahead is the basis of comparison, which Plan will be economical?</p> |              |
| <b>Q.2 (a)</b> Briefly discuss the current status of Port Infrastructure sectors in Gujarat state and in India. Give a brief of existing policies in port sector and give your comments on effect of those policies in the upcoming days.<br>Also list the major players in port sector.  | <b>07</b>    |
| <b>(b)</b> What is RERA? In your view how RERA will impact the real estate industry in future? What are the current amendments done by central government in GST for real estate sector?  | <b>07</b>    |
| <b>OR</b>   |              |
| <b>(b)</b> A person purchases a plot of land having an area of 4,800 m <sup>2</sup> at Rs. 2,000 per m <sup>2</sup> . He then subdivides the plot and net area of all sub plots after making provision for service roads and common plot works out to 4,032 m <sup>2</sup> . Additional development cost at the starting of the project is Rs. 250 per m <sup>2</sup> . If he expects a return of 8% on his investment & 10% Profit. If all sub plots are likely to be sell out in the third year, at what minimum price should he sell   | <b>07</b>    |

- Q.3**
- (a) What factors are generally reviewed/analyzed for technology selection in an infrastructure project? **04**
  - (b) Differentiate between primary data collection and secondary data collection **03**
  - (c) Evaluate the primary viability of a real estate development project (150 apartments) at Ahmedabad using Decision Matrix Analysis. Use 5 important factors and appropriate weightages for the analysis. The minimum acceptable gross score is 3 on a 5 point scale. **07**

**OR**

- (c) A building was constructed with a cost of Rs. 50 lakh. Maintenance cost for a same building with an expected useful life of 50 years was estimated to be Rs. 25,000/year for the first 20 years. After 20 years there was a major rehabilitation cost of Rs. 5.5 lakh. For the rest life period the maintenance cost of building was estimated to be Rs. 30,000. If the rate of interest is 12% per annum, what is the equivalent uniform annual cost of building covering all investments? **07**

**OR**

- (c) **The past demand data of a product is given below.** **07**

Year	Demand (Nos)
2002	2500
2004	2875
2006	3208
2008	3268
2010	3100
2012	3115
2014	3550
2016	3667
2018	3975

Forecast the demand for the year 2025. Use any appropriate forecasting method

- Q.4**
- (a) Briefly explain the project structuring of a typical BOT – PPP infrastructure project with the help of an organizational structure chart. **03**
  - (b) How average cost of capital is calculated if the financing for an infrastructure project is arranged from multiple sources. **04**
  - (c) What is impact of urbanization on infrastructure sector? Looking to current global urbanization status, what do you predict about need of infrastructure in different continents? **07**

**OR**

- (c) What is the factors impacting on status of infrastructure of a state/country? According to you, what would be the probable solutions to improve the infrastructure status? **07**

- Q.5**
- (a) What is non-elastic supply and demand? **04**
  - (b) Give example of inelastic & negative elastic product other than essential products. **03**

- (c) Enlist various sources of finance in an infrastructure project. **07**

- (c) Each government wants to balance between rural development and urban development within limited budget provisions. There is a higher rate of return from urban sector compare to rural sector but at the same time it needs to balance the migration process. **07**

Discuss your comments or views to balance the growth of both sectors.

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