

Roll Number: \_\_\_\_\_

**Thapar Institute of Engineering & Technology, Patiala**  
(Deemed University)

School of Humanities & Social Sciences

**End Semester Test-2022**

B. E. (COE, CS, ENC, ECE, EM, EIC, ELE)	Course Code: UHU005
3 <sup>rd</sup> and 7 <sup>th</sup> Semester	Course Name: Humanities for Engineers
07 <sup>th</sup> December, 2022	Day and Time: Saturday, 16:30 to 19:30 Hours
Time: 3 Hours, M. Marks: 45	Name of Faculty: Dr. Rakesh Kumar Sharma, Dr. Rudra Rameshwar, Dr. Anupam Sharma, Dr. Shilpi Tyagi, Dr. Sheena Chhabra

**Instructions:**

- i. Attempt all questions. And Attempt all the parts of Questions at one place.
- ii. Be precise, write examples if asked in questions. And assume any missing data (if any)
- iii. Do mention page numbers on first page of 'Answer Sheet' in the space provided

Q.1 Case Study Title : *An Unfiltered Situation*, Theme : *Engineering Ethics*

Ram is one of four managers working with a nonprofit mechanical engineering firm that aims to develop sustainable mechanized systems for underdeveloped nations or regions. (3\*2=6)

The firm funds numerous small projects and tries to utilize a community's local resources to create the project design deliverables. Typically, a manager will select a specific project to supervise based on their areas of expertise and personal interest. The manager is then responsible for assembling a team of volunteers with the appropriate experience, balancing engineering and technical aptitude with cultural awareness and social sensitivity. Several years ago, Ram chose to fund an application from a village in 'Nagla Basua'. He deployed a team of volunteers to the remote location, a mountain village that lacked a reliable source of drinking water. The engineering team designed and built an inexpensive filtration mechanism that allowed the community to purify the water available in sufficient quantities to supply the entire population of several hundred residents.

The project had been a success when delivered to the community, with a measurable decrease in instances of water-borne illnesses.

However, Shyam, a member of the 'Nagla Basua' village's community council and a healthcare worker, recently contacted Ram. Shyam informed Ram that the filters had broken down a while ago. The village had failed to restore all the filtration systems, as the cost to fix the filters proved to be too expensive. During this time, the community had reverted to their old practice of drinking unfiltered water. Shyam was growing alarmed by the rising number of infants and children suffering from intestinal illnesses caused by drinking contaminated water. He also noted that community members were growing increasingly skeptical of the system and the need for filtration. Ram is unsure what the firm can do for the community. As part of their routine procedures, his team trained multiple community members in the use and required maintenance of the filters. The engineering team projected that the system should have remained operating efficiently and effectively for at least a decade with regular and proper maintenance.

**Answer the following questions after reading the above case study:**

- a) Is Ram personally responsible for the filtration failure?
- b) Was the benefit worth the eventual cost of replacing all the filters, especially since many in the community now doubt the efficiency of the filters?
- c) Does Ram face any ethical dilemmas if she chooses not to do anything? What about the 'Nagla Basua' community?

Q2 Transactional analysis is used to address one's interactions and communications with the assumption and purpose that each individual is valuable and has the capacity for positive change and personal growth." In the light of the above statement, discuss various types of transactions and ego states with suitable examples.

(4)



- Q.3 Kohlberg's theory of moral development was based on extensive research done on the reactions of people of all ages to specific moral situational dilemmas. Kohlberg was specifically interested in reasoning processes involved in decision-making. The way in which children perceive their rights is also based on reasoning processes that are indivisibly linked to their level of development and more specifically to their level of moral development since the area of human rights can be considered essentially moral. Since Kohlberg's theory is primarily concerned with development, a great deal of insight can be gained into the developmental shift that occurs in children's reasoning about the rights to which they feel they should be entitled. (3+3)
- a): Explain the various levels of morality and level of moral development as per Kohlberg's theory.
- b). Discuss the "developmental shift that occurs in children's reasoning about the rights" to which they feel they should be entitled with the change of age and level of development give suitable examples.
- Q.4 Describe the various types of creativity? Discuss the different steps in the creative process (2+2)
- (a) using suitable examples.
- (b) Explain Emotional Intelligence. Explain how four components of EI helps an individual to be successful in life. (4)
- Q.5 A firm operating in a monopolistically competitive market faces the following demand (3)
- (a) function  $P = 8,000 - 4Q$ . The long run average cost function of the firm is  $LAC = 8,000 - 7Q + 0.002Q^2$ . Calculate the equilibrium price and output. Identify whether the firm is operating in profits or losses. Show it graphically as well.
- (b) Explain the price determination under perfect competition for the industry and firm considering short period. (3)
- Q.6 Culture is an inevitable part of human life; thus, it also affects the organizations in which (1+3)
- (a) individuals are employed. Keeping this in mind, explain how culture impacts organizational behaviour. Also, discuss Hofstede's six dimensions of culture in the context of organizational behaviour.
- (b) "Discuss the phenomena of Halo Effect and Contrast Effect as biases in perception. (2)
- Q7 Discuss the various types of inflation and analyze the criteria used for differentiating (2+2)
- between them. Explain how inflation can be controlled.
- Q8 For a particular process, the cost function is given by  $C = 56 - 8x + x^2$ , where  $C$  is cost (2)
- (a) per unit and  $x$ , the number of units produced. Find the minimum value of the cost and the corresponding number of units to be produced.
- (b) The total cost function of a firm is  $C(x) = x^3/3 - 5x^2 + 28x + 10$  where  $x$  is the output. A tax at the rate of ₹ 2 per unit of output is imposed and the producer adds it to his cost. If the market demand function is given by  $p = 2530 - 5x$ , where  $p$  is the price per unit of output, find the profit-maximizing the output and price. (3)

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*Thapar Institute of Engineering and Technology, Patiala*

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**END SEMESTER EXAMINATION**

Course Code: UHU016

Course Name: Introductory Course in French

Date: December 10, 2022

M. Marks: 100

Duration: 3 hours

Name of Instructor: Parmeet Singh

**NOTE:** 1. Please check that this question paper consists of 2 printed pages.

2. Attempt **all** questions and please write down the serial number of the question before attempting it.

**Q.1. Lisez le texte et répondez aux questions:**

Stéphane travaille dans une grande entreprise à Toulouse. Il habite avec sa femme et ses deux enfants dans un appartement près de son bureau. Chaque jour, il arrive à bureau à neuf heures du matin et rentre chez soi à cinq heures quinze du soir. Sa femme est femme au foyer et c'est elle qui s'occupe des enfants pendant la journée. Les enfants sont heureux parce qu'ils ont assez de temps à passer avec leurs parents. Chaque soir, ils vont à la piscine et s'amuse bien. Le week-end, ils vont au marché pour faire du shopping et dînent dans un restaurant de leur choix. Aujourd'hui, les enfants sont ravis parce que Stéphane leur a promis qu'ils visiteront New York pendant leurs vacances d'été. C'est la première fois qu'ils voyagent à l'étranger. Donc, les enfants sont fous de joie de partir en vacances.

**a) Répondez aux questions suivantes:**

[4]

1. Où travaille Stéphane?
2. Quelle est la profession de la femme de Stéphane?
3. À quelle ville habite Stéphane?
4. Pourquoi les enfants sont contents aujourd'hui?

**b) Vrai ou faux?**

[2]

1. Le bureau de Stéphane est loin de son appartement.
2. Les enfants ont déjà visité New York.

**c) Trouvez les contraires des mots suivants du texte:**

[4]

- |           |          |          |           |
|-----------|----------|----------|-----------|
| 1. Petite | 2. Hiver | 3. Matin | 4. Triste |
|-----------|----------|----------|-----------|

**Q.2. Conjuguez les verbes suivants au présent:**

[15]

- |         |          |             |          |           |
|---------|----------|-------------|----------|-----------|
| 1. Être | 2. Aller | 3. Bavarder | 4. Faire | 5. Manger |
|---------|----------|-------------|----------|-----------|

**Q.3. a) Traduisez les phrases suivantes en français:**

[10]

1. They speak English and French.
2. No, I don't sing well.
3. I am visiting Paris next week.
4. She is going to the library.
5. It is pleasant today.
6. How much is it?
7. Which car do you like?
8. He is going to open the door.
9. She likes playing tennis.
10. We are watching television.

**b) Traduisez les phrases suivantes en anglais:**

[10]

1. Je fais de l'équitation.
2. Ils mangent du pain au petit déjeuner.
3. Elle fait ses études à l'Université de Montréal.

4. Je ne fais rien.
5. Quel temps fait-il?
6. Ces poires sont trop mûres.
7. Mes amis sont aux États-Unis.
8. La Coupe du monde 2022: L'Angleterre écrase le Sénégal (3-0) et rejoint la France en quarts de finale.
9. Je ne peux pas venir.
10. Le mont Blanc est le plus haut sommet d'Europe.

**Q.4. Écrivez un dialogue entre le client et le vendeur dans une boutique de vêtements.** [15]

**Q.5. Écrivez un email à votre amie en décrivant votre vie à l'Université de Toronto.** [15]

**Q.6. a) Répondez aux questions suivantes:** [5]

1. Quelle est votre nationalité?
2. Quel âge as-tu?
3. Quelles langues parlez-vous?
4. Est-ce que vous êtes français?
5. Comment vous appelez-vous?

**b) Soulignez le mot qui convient:** [5]

1. C'est (mon/ma/mes) maison.
2. Quelle est (ta/ton/votre) adresse, s'il te plait?
3. J'adore (mon/tes/ma) ville.
4. Ils aiment (ses/leur/leurs) enfant.
5. Je te présente (mon/ma/mes) amie Sylvie.

**c) Complétez avec *ce, cette, cet, ces*:** [5]

1. \_\_\_\_\_ problème est complexe.
2. \_\_\_\_\_ histoire est terrible.
3. \_\_\_\_\_ homme est dangereux.
4. \_\_\_\_\_ alcool est trop fort.
5. \_\_\_\_\_ veste est très chère.

**d) Complétez avec *du, de la, de l', d', de, des*:** [5]

1. Le père \_\_\_\_\_ Élisabeth est architecte.
2. Où est le frère \_\_\_\_\_ enfant?
3. Qui a la trousse \_\_\_\_\_ étudiante?
4. Où sont les chaussures \_\_\_\_\_ filles?
5. Voilà la maison \_\_\_\_\_ grand-mère.

**e) Complétez avec *le, la, l', les*:** [5]

1. \_\_\_\_\_ chaleur est très forte.
2. \_\_\_\_\_ froid est très vif.
3. \_\_\_\_\_ nuages arrivent.
4. \_\_\_\_\_ orage est violent.
5. \_\_\_\_\_ habitants de notre ville.