

Unit 2 - Week 1

Course outline
How does an NPTEL online course work?
Week 1
<ul style="list-style-type: none"> <input checked="" type="radio"/> Introduction and motivation <input checked="" type="radio"/> Colloidal dispersions, terminology and classification <input type="radio"/> Stability in colloids <input type="radio"/> Source, synthesis and characterisation of colloids <input checked="" type="radio"/> Characterisation of colloidal particles - I <input type="radio"/> Weekly Feedback 1 : Colloids and Surfaces <input type="radio"/> Quiz : Assignment 1
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Assignment 1

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2020-09-30, 23:59 IST.

1) A schematic representation of different schemes or mechanisms that lead to charges on colloidal particles is shown in Figure 1. Identify the different mechanism listed in Column A and match with the respective Figures, (A) to (H) listed in Column B. 4 points

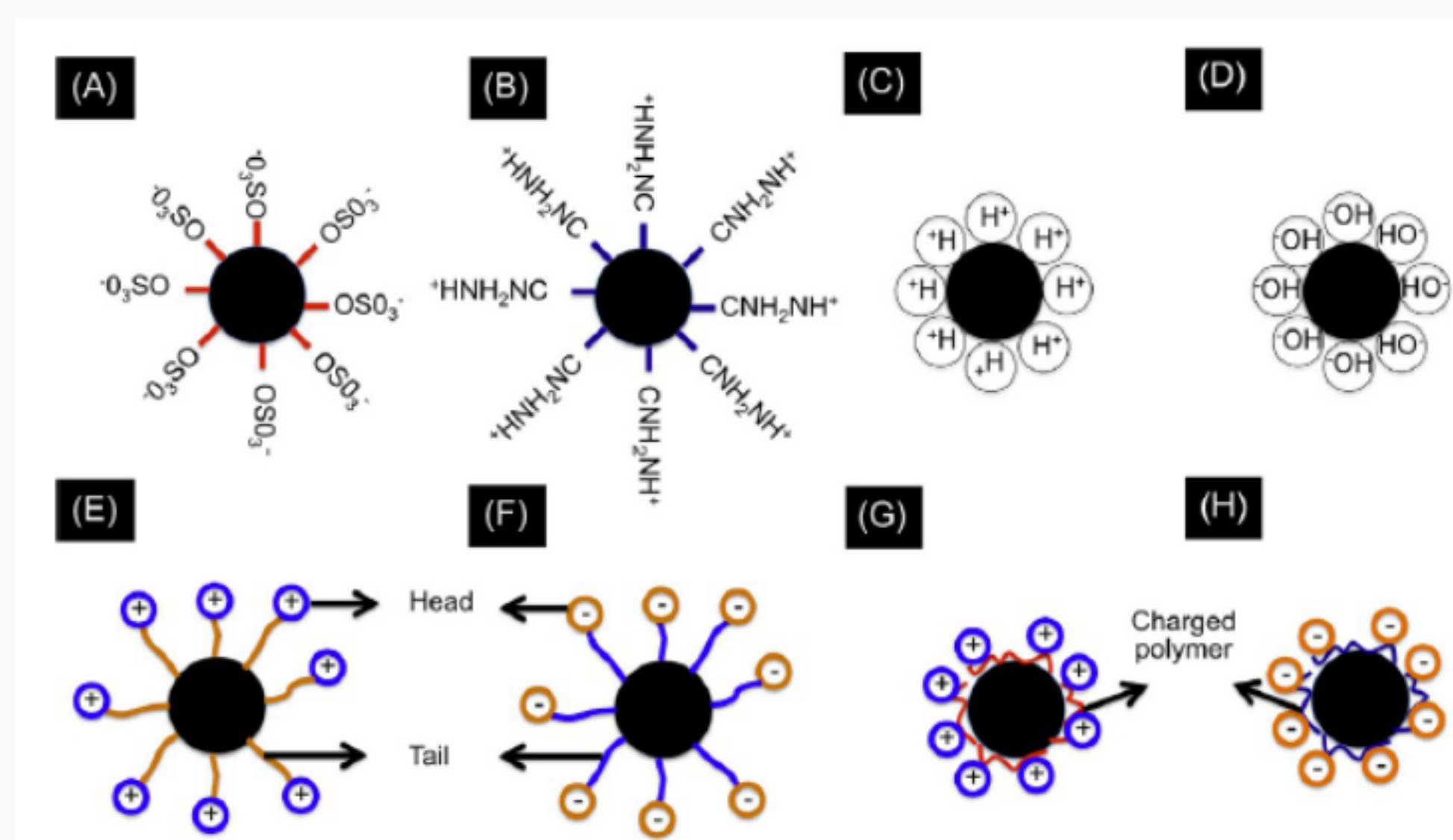


Figure 1

Column A	Column B
(i) Adsorption of polyelectrolytes	I. (A) and (C)
(ii) Adsorption of ions	II. (C) and (D)
(iii) Adsorption of surfactants	III. (D) and (F)
(iv) Dissociation of charged groups	IV. (G) and (H)
	V. (A) and (H)
	VI. (E) and (F)
	VII. (D) and (E)
	VIII. (A) and (B)

- (i) – IV (ii) – II (iii) – VI (iv) – VIII
 (i) – II (ii) – IV (iii) – VIII (iv) – VI
 (i) – VI (ii) – VIII (iii) – IV (iv) – II

No, the answer is incorrect.
Score: 0

Accepted Answers:

(i) – IV (ii) – II (iii) – VI (iv) – VIII

A table given below represents a classification of colloids based on the type of continuous and dispersed phases. The column titled "Examples" is filled with letters A, B, C and D. Identify the terms represented by numbers (1) to (8) that fall into each category.

Continuous Phase	Dispersed Phase	Term	Examples
Gas	Liquid	Aerosol	A
Gas	Solid	Aerosol	B
Liquid	Gas	Foam	C
Liquid	Solid	Dispersion	D

- (1) paint
 (2) smoke
 (3) smog
 (4) dust
 (5) lather
 (6) fog
 (7) whipped cream
 (8) ink

2) A = _____ ? 1 point

- (3) and (6)
 (2) and (4)
 (5) and (7)
 (1) and (8)

No, the answer is incorrect.
Score: 0

Accepted Answers:

(3) and (6)

3) B = _____ ? 1 point

- (3) and (6)
 (2) and (4)
 (5) and (7)
 (1) and (8)

No, the answer is incorrect.
Score: 0

Accepted Answers:

(2) and (4)

4) C = _____ ? 1 point

- (3) and (6)
 (2) and (4)
 (5) and (7)
 (1) and (8)

No, the answer is incorrect.
Score: 0

Accepted Answers:

(5) and (7)

5) D = _____ ? 1 point

- (3) and (6)
 (2) and (4)
 (5) and (7)
 (1) and (8)

No, the answer is incorrect.
Score: 0

Accepted Answers:

(1) and (8)

Choose the correct answer from the following

6) The size range of particles referred to as "colloids" is 0.5 points

- 1 nm to 1000 nm
 1 mm to 1000 nm
 1 μm to 1000 μm
 0.1 nm to 10 nm

No, the answer is incorrect.
Score: 0

Accepted Answers:

1 nm to 1000 nm

7) Following is not an example of thermodynamically stable colloidal system: 0.5 points

- Dispersion of charged colloids
 Micellar solutions
 Microemulsions
 polymer solutions

No, the answer is incorrect.
Score: 0

Accepted Answers:

Dispersion of charged colloids

8) An example of kinetically stable colloids is 0.5 points

- Micellar solutions
 Dispersion of charged colloids
 Microemulsions
 polymer solutions

No, the answer is incorrect.
Score: 0

Accepted Answers:

Dispersion of charged colloids

9) An example of association colloids is 0.5 points

- Dispersion of charged colloids
 Micellar solutions
 Microemulsions
 Ink
 both (ii) and (iii)

No, the answer is incorrect.
Score: 0

Accepted Answers:

both (ii) and (iii)