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COLLEGE OF ENGINEERING AND TECHNOLOGY

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Value Added Courses

2020-2021

Department of Science & Humanities.

20SH01- Laser Physics
(Online Mode)

MARK SHEET

Sl. No	Register Number	Student Name	MARKS
1.	20TD0902	ARAVIND. V	96
2.	20TD0903	ASRAF ALI. A	92
3.	20TD0904	BHARATHI. S	88
4.	20TD0905	BHUVANESWARAN. U	96
5.	20TD0906	DINESH KUMAR. T	92
6.	20TD0907	FAHMETHA. J	88
7.	20TD0908	FROSE. S	92
8.	20TD0909	GNANAMOORTHI. E	96
9.	20TD0910	HEMALAKSHMI. J	88
10.	20TD0911	JASMEEN.O	92
11.	20TD0912	JAYASUDHA. S	96
12.	20TD0913	KARTHIKA. K	88
13.	20TD0914	KAVIARASAN. S	88
14.	20TD0915	KAVIYA. K	92
15.	20TD0916	MALAVIKA. K	92

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16.	20TD0917	MARIMUTHU. N	96
17.	20TD0918	MERVIN IMMANUVEL. S	96
18.	20TD0919	NATRAJAN. R	88
19.	20TD0920	PARKAVI. S	96
20.	20TD0922	RANJITH. A	92
21.	20TD0923	SATCHIDHANANDHAM. A	88
22.	20TD0924	SNEGA. G	96
23.	20TD0925	VIJAYA LAKSHMI. L	88
24.	20TD0926	VISHNU PRIYA. V	96
25.	20TD0927	YASMIN. A	92
26.	20TC0501	AKASH M	88
27.	20TC0502	AKASH M	96
28.	20TC0503	ANKANI LEELA SAI VARMA	92
29.	20TC0505	BALAJI S	88
30.	20TC0506	BHARATHI K	88
31.	20TC0507	FARIDH KHAN J	96
32.	20TC0508	PRAVIN R	92
33.	20TC0509	PURUSHOTHAMAN D	88
34.	20TC0510	RAJESWARI R	96

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35.	20TC0512	SATHEESH KUMAR A	92
36.	20TC0513	SHARMILA S	96
37.	20TC0514	SRI HARI B	96
38.	20TC0515	SWATHI S	96
39.	20TC0516	THAYUMANAVAR S	92
40.	20TE0251	ARUN.S	92
41.	20TE0252	KANMANI.K	88
42.	20TE0253	NALLARASAN.E	96
43.	20TE0254	PRITHEESH KUMAR.R	88
44.	20TE0255	VENKATESAN.S	96

HOD

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VALUE ADDED COURSES
2020-2021
Department of Science & Humanities.
20SH01-LASER PHYSICS

NAME:
CLASS:
DATE:

1. What does the acronym "LASER" stand for?
   A. Light Amplification by Stimulated Emission of Radiation
   B. Light Absorption by Stimulated Emission of Radiation
   C. Light Amplification by Spontaneous Emission of Radiation
   D. Light Absorption by Spontaneous Emission of Radiation
   Answer: A. Light Amplification by Stimulated Emission of Radiation

2. Which of the following components is essential in a laser?
   A. Resonator cavity
   B. Cooling system
   C. Optical fiber
   D. Polarizer
   Answer: A. Resonator cavity

3. What is the process by which an electron drops to a lower energy level and emits a photon?
   A. Absorption
   B. Stimulated emission
   C. Spontaneous emission
   D. Population inversion
   Answer: C. Spontaneous emission

4. What is population inversion in the context of lasers?
   A. More electrons in a higher energy state than a lower energy state
   B. Equal number of electrons in higher and lower energy states
   C. More electrons in a lower energy state than a higher energy state
   D. Electrons evenly distributed among all energy states
   Answer: A. More electrons in a higher energy state than a lower energy state

5. What type of laser medium does a helium-neon laser use?
   A. Solid
   B. Liquid
   C. Gas
   D. Semiconductor
   Answer: C. Gas

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6. What is the primary purpose of the optical resonator in a laser?
   A. To cool the laser medium
   B. To focus the laser beam
   C. To amplify the light by multiple reflections
   D. To polarize the laser beam
   Answer: C. To amplify the light by multiple reflections

7. Which of the following is an example of a solid-state laser?
   A. Helium-neon laser
   B. Carbon dioxide laser
   C. Ruby laser
   D. Dye laser
   Answer: C. Ruby laser

8. What is the wavelength of the laser light emitted by a typical helium-neon laser?
   A. 532 nm
   B. 488 nm
   C. 1064 nm
   D. 632.8 nm
   Answer: D. 632.8 nm

9. What phenomenon is responsible for the coherent nature of laser light?
   A. Absorption
   B. Stimulated emission
   C. Spontaneous emission
   D. Refraction
   Answer: B. Stimulated emission

10. Which type of laser is commonly used in laser pointers?
    A. Helium-neon laser
    B. Argon-ion laser
    C. Semiconductor laser (diode laser)
    D. Dye laser
    Answer: C. Semiconductor laser (diode laser)

11. What is the typical power range of a commercial laser pointer?
    A. 0.1 mW to 1 mW
    B. 1 mW to 5 mW
    C. 5 mW to 50 mW
    D. 50 mW to 500 mW
    Answer: B. 1 mW to 5 mW

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12. Which component is used to achieve population inversion in a laser?
    A. Optical resonator
    B. Pumping source
    C. Output coupler
    D. Beam expander
    Answer: B. Pumping source

13. Which laser type operates in the ultraviolet region?
    A. Helium-neon laser
    B. Argon-ion laser
    C. Excimer laser
    D. CO2 laser
    Answer: C. Excimer laser

14. What property of laser light allows it to be focused to a small spot size?
    A. Monochromaticity
    B. Coherence
    C. High intensity
    D. Low divergence
    Answer: D. Low divergence

15. Which of the following is a typical application of CO2 lasers?
    A. CD and DVD players
    B. Cutting and welding
    C. Fiber optic communications
    D. Laser pointers
    Answer: B. Cutting and welding

16. In a laser, what is the purpose of the gain medium?
    A. To generate the initial photons
    B. To reflect the laser beam
    C. To amplify the light
    D. To cool the system
    Answer: C. To amplify the light

17. Which gas is commonly used in a carbon dioxide laser?
    A. Neon
    B. Helium
    C. Argon
    D. Carbon dioxide
    Answer: D. Carbon dioxide

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18. What is the main characteristic of laser light that distinguishes it from ordinary light?
    A. It is always visible
    B. It is incoherent
    C. It is monochromatic and coherent
    D. It is always of high power
    Answer: C. It is monochromatic and coherent

19. Which type of laser is known for its use in medical applications, such as eye surgery?
    A. Argon-ion laser
    B. NdYAG laser
    C. CO2 laser
    D. Dye laser
    Answer: B. NdYAG laser

20. What type of laser is typically used in barcode scanners?
    A. Ruby laser
    B. Dye laser
    C. Diode laser
    D. CO2 laser
    Answer: C. Diode laser

21. What does the term "coherence length" refer to in laser physics?
    A. The distance over which the laser beam remains collimated
    B. The distance over which the laser beam maintains phase correlation
    C. The distance the laser light travels in one second
    D. The distance over which the laser beam loses its intensity
    Answer: B. The distance over which the laser beam maintains phase correlation

22. Which material is used as the gain medium in an Nd laser?
    A. Neodymium-doped yttrium aluminum garnet
    B. Neodymium-doped yttrium oxide
    C. Neodymium-doped yttrium iron garnet
    D. Neodymium-doped yttrium aluminum oxide

    Answer: A. Neodymium-doped yttrium aluminum garnet

23. What is the role of a Q-switch in a laser?
    A. To stabilize the laser output
    B. To produce short, intense pulses of laser light
    C. To continuously pump the gain medium
    D. To filter specific wavelengths
    Answer: B. To produce short, intense pulses of laser light

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24. What is the typical wavelength range of a CO2 laser?
    A. 400 nm - 700 nm
    B. 700 nm - 1000 nm
    C. 1064 nm - 1550 nm
    D. 9.4 μm - 10.6 μm
    Answer: D. 9.4 μm - 10.6 μm

25. Which laser type can be tuned over a wide range of wavelengths?
    A. Helium-neon laser
    B. CO2 laser
    C. Dye laser
    D. Semiconductor laser
    Answer: C. Dye laser

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VALUE ADDED COURSES
2020-2021
Department of Science & Humanities.
20SH01-LASER PHYSICS

NAME: ARAVIND.V
CLASS: I/S&H
DATE: 20/08/2020

1. What does the acronym "LASER" stand for?
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24/25 96%

2. Which of the following components is essential in a laser?
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   C. Optical fiber
   D. Polarizer

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D. To polarize the laser beam

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    B. Argon-ion laser
    C. Excimer laser
    D. CO_2 laser

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Certificate of Completion

2020-2021

This is to certify that Mr/Ms ..... SRI HARI B .....

Year..... I ..... Department..... S&H ..... has successfully Completed the Value added course.

COURSE TITLE: ..... LASER PHYSICS ..... SCORE: ..... 96 .....

COURSE DURATION: ..... 9-8-20 to 13-8-20 .....

P. Rajesh Kanthe
.....
HOD

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VALUE ADDED COURSES

2020-2021

Department of Science & Humanities.

20SH02- Cosmetics Chemistry

(Online Mode)

MARK SHEET

Sl. No	Register Number	Student Name	MARKS
1.	20TH0251	ARUNADEVI K	96
2.	20TH0252	ASHOKKUMAR R	88
3.	20TH0253	DHARANIRASAN R	92
4.	20TH0254	JESINTHA MARY D	88
5.	20TH0255	LOGESH M	96
6.	20TH0256	MOHAMED DHOWFIQ A	88
7.	20TH0257	MOHANDASS T	92
8.	20TH0258	MONIKA M	96
9.	20TH0259	MUTHAZHAGAN S	92
10.	20TH0260	PRETHESHWARAN S	88
11.	20TH0261	PRIYANKA M	96
12.	20TH0262	SAKTHI YUVARAJ V	88
13.	20TH0263	SOWMIYA KK	88
14	20TH0266	YAZHINI K	92

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15.	20TB0301	ABINESH.A	96
16.	20TB0302	AMARESH.V	96
17.	20TB0303	HARISUDHAN.D	88
18.	20TB0304	KAPILDEV.S	96
19.	20TB0305	RAJENDIRAN.P	88
20.	20TB0306	SURESH KUMAR.R	92

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VALUE ADDED COURSES

2020-2021

Department of Science & Humanities.

20SH02-Cosmatic Chemistry

NAME:
CLASS:
DATE:

1. Which of the following is commonly used as a preservative in cosmetics?
   A. Sodium Lauryl Sulfate
   B. Parabens
   C. Glycerin
   D. Stearic Acid
   Answer: B. Parabems

2. What is the function of emulsifiers in cosmetic products?
   A. To add fragrance
   B. To preserve the product
   C. To stabilize mixtures of oil and water
   D. To color the product
   Answer: C. To stabilize mixtures of oil and water

3. Which of the following ingredients is commonly used for its moisturizing properties?
   A. Ethanol
   B. Glycerin
   C. Titanium Dioxide
   D. Zinc Oxide
   Answer: B. Glycerin

4. What is the main purpose of humectants in skincare products?
   A. To provide color
   B. To attract moisture to the skin
   C. To add scent
   D. To act as a preservative
   Answer: B. To attract moisture to the skin

5. Which of the following is a natural emulsifier often used in organic cosmetics?
   A. Lanolin
   B. Beeswax
   C. Mineral Oil
   D. Petrolatum
   Answer: B. Beeswax

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6. What is the role of antioxidants in cosmetic formulations?
   A. To prevent microbial growth
   B. To protect the skin from free radical damage
   C. To enhance the scent
   D. To increase viscosity
   Answer: B. To protect the skin from free radical damage

7. Which ingredient is commonly used as a UV filter in sunscreens?
   A. Salicylic Acid
   B. Benzoyl Peroxide
   C. Octinoxate
   D. Hyaluronic Acid
   Answer: C. Octinoxate

8. What is the function of surfactants in shampoos and cleansers?
   A. To moisturize the skin
   B. To create foam and remove dirt and oil
   C. To provide color
   D. To act as a thickening agent
   Answer: B. To create foam and remove dirt and oil

9. Which of the following is a common ingredient in anti-aging products?
   A. B. Talc
   C. Silica
   D. PRetinol
   ropylene Glycol
   Answer: A. Retinol

10. Which of the following is used as a thickening agent in cosmetic products?
    A. Water
    B. Fragrance
    C. Xanthan Gum
    D. Ethanol
    Answer: C. Xanthan Gum

11. Which type of cosmetic product is designed to temporarily dye the hair?
    A. Conditioner
    B. Shampoo
    C. Hair Mask
    D. Hair Color
    Answer: D. Hair Color

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12. What is the primary benefit of using hyaluronic acid in skincare?
    A. Exfoliation
    B. Hydration
    C. Pigmentation
    D. Oil Control
    Answer: B. Hydration

13. Which of the following ingredients is commonly found in acne treatment products?
    A. Vitamin E
    B. Salicylic Acid
    C. Shea Butter
    D. Coconut Oil
    Answer: B. Salicylic Acid

14. What is the purpose of a toner in a skincare routine?
    A. To cleanse the skin
    B. To hydrate and balance the skin's pH
    C. To exfoliate the skin
    D. To provide UV protection
    Answer: B. To hydrate and balance the skin's pH

15. Which ingredient is known for its anti-inflammatory properties and is commonly used in sensitive skin products?
    A. Alcohol
    B. Peppermint Oil
    C. Chamomile Extract
    D. Menthol
    Answer: C. Chamomile Extract

16. Which compound is often used as a skin whitening agent in cosmetics?
    A. Hydroquinone
    B. Beta Carotene
    C. Olive Oil
    D. Avocado Oil
    Answer: A. Hydroquinone

17. What is the role of silicones in cosmetic formulations?
    A. To add fragrance
    B. To enhance skin smoothness and provide a silky feel
    C. To increase pigmentation
    D. To act as a preservative
    Answer: B. To enhance skin smoothness and provide a silky feel

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18. Which ingredient is commonly used to exfoliate the skin?
    A. Lactic Acid
    B. Lanolin
    C. Dimethicone
    D. Petrolatum
    Answer: A. Lactic Acid

19. What is the function of a chelating agent in cosmetic products?
    A. To provide color
    B. To bind metal ions and improve stability
    C. To act as a thickening agent
    D. To add scent
    Answer: B. To bind metal ions and improve stability

20. Which ingredient is known for its ability to form a protective barrier on the skin?
    A. Propylene Glycol
    B. Vitamin C
    C. Petrolatum
    D. Salicylic Acid
    Answer: C. Petrolatum

21. Which of the following is a common natural colorant used in cosmetics?
    A. Red 40
    B. Carmine
    C. FD&C Blue No. 1
    D. Titanium Dioxide
    Answer: B. Carmine

22. What is the primary purpose of using alpha hydroxy acids (AHAs) in skincare products?
    A. Moisturization
    B. Chemical exfoliation
    C. Fragrance
    D. Preservation
    Answer: B. Chemical exfoliation

23. Which ingredient is commonly used in lip balms for its moisturizing properties?
    A. Sodium Lauryl Sulfate
    B. Beeswax
    C. Benzoyl Peroxide
    D. Ethanol
    Answer: B. Beeswax

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24. What is the function of Vitamin C in skincare products?
    A. To exfoliate the skin
    B. To brighten the skin and provide antioxidant protection
    C. To add fragrance
    D. To act as a thickening agent
    Answer: B. To brighten the skin and provide antioxidant protection

25. Which of the following is commonly used as a fragrance ingredient in cosmetics?
    A. Glycerin
    B. Linalool
    C. Zinc Oxide
    D. Titanium Dioxide
    Answer: B. Linalool

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VALUE ADDED COURSES

2020-2021

Department of Science & Humanities.

20SH02-Cosmatic Chemistry

NAME: LOGESH.M
CLASS: I/S&H
DATE: 20/08/2020

1. Which of the following is commonly used as a preservative in cosmetics?
   A. Sodium Lauryl Sulfate
   B. Parabens
   C. Glycerin
   D. Stearic Acid

24/25 96%

2. What is the function of emulsifiers in cosmetic products?
   A. To add fragrance
   B. To preserve the product
   C. To stabilize mixtures of oil and water
   D. To color the product

3. Which of the following ingredients is commonly used for its moisturizing properties?
   A. Ethanol
   B. Glycerin
   C. Titanium Dioxide
   D. Zinc Oxide

4. What is the main purpose of humectants in skincare products?
   A. To provide color
   B. To attract moisture to the skin
   C. To add scent
   D. To act as a preservative

5. Which of the following is a natural emulsifier often used in organic cosmetics?
   A. Lanolin
   B. Beeswax
   C. Mineral Oil
   D. Petrolatum

6. What is the role of antioxidants in cosmetic formulations?
   A. To prevent microbial growth
   B. To protect the skin from free radical damage
   C. To enhance the scent
   D. To increase viscosity

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7. Which ingredient is commonly used as a UV filter in sunscreens?
   A. Salicylic Acid
   B. Benzoyl Peroxide
   C. Octinoxate
   D. Hyaluronic Acid

8. What is the function of surfactants in shampoos and cleansers?
   A. To moisturize the skin
   B. To create foam and remove dirt and oil
   C. To provide color
   D. To act as a thickening agent

9. Which of the following is a common ingredient in anti-aging products?
   A. Talc
   B. Silica
   C. PRetinol
   D. ropylene Glycol

10. Which of the following is used as a thickening agent in cosmetic products?
    A. Water
    B. Fragrance
    C. Xanthan Gum
    D. Ethanol

11. Which type of cosmetic product is designed to temporarily dye the hair?
    A. Conditioner
    B. Shampoo
    C. Hair Mask
    D. Hair Color

12. What is the primary benefit of using hyaluronic acid in skincare?
    A. Exfoliation
    B. Hydration
    C. Pigmentation
    D. Oil Control

13. Which of the following ingredients is commonly found in acne treatment products?
    A. Vitamin E
    B. Salicylic Acid
    C. Shea Butter
    D. Coconut Oil

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14. What is the purpose of a toner in a skincare routine?
    A. To cleanse the skin
    B. To hydrate and balance the skin's pH
    C. To exfoliate the skin
    D. To provide UV protection

15. Which ingredient is known for its anti-inflammatory properties and is commonly used in sensitive skin products?
    A. Alcohol
    B. Peppermint Oil
    C. Chamomile Extract
    D. Menthol

16. Which compound is often used as a skin whitening agent in cosmetics?
    A. Hydroquinone
    B. Beta Carotene
    C. Olive Oil
    D. Avocado Oil

17. What is the role of silicones in cosmetic formulations?
    A. To add fragrance
    B. To enhance skin smoothness and provide a silky feel
    C. To increase pigmentation
    D. To act as a preservative

18. Which ingredient is commonly used to exfoliate the skin?
    A. Lactic Acid
    B. Lanolin
    C. Dimethicone
    D. Petrolatum

19. What is the function of a chelating agent in cosmetic products?
    A. To provide color
    B. To bind metal ions and improve stability
    C. To act as a thickening agent
    D. To add scent

20. Which ingredient is known for its ability to form a protective barrier on the skin?
    A. Propylene Glycol
    B. Vitamin C
    C. Petrolatum
    D. Salicylic Acid

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21. Which of the following is a common natural colorant used in cosmetics?
    A. Red 40
    B. Carmine
    C. FD&C Blue No. 1
    D. Titanium Dioxide

22. What is the primary purpose of using alpha hydroxy acids (AHAs) in skincare products?
    A. Moisturization
    B. Chemical exfoliation
    C. Fragrance
    D. Preservation

23. Which ingredient is commonly used in lip balms for its moisturizing properties?
    A. Sodium Lauryl Sulfate
    B. Beeswax
    C. Benzoyl Peroxide
    D. Ethanol

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2020-2021

This is to certify that Mr/Ms ..... KAPILDEV . S .....

Year..... I ..... Department..... S&H ..... has successfully Completed the Value added course.

COURSE TITLE: ..... COSMETICS CHEMISTRY ..... SCORE: ..... 96 .....

COURSE DURATION: ..... 9-8-20 to 13-8-20 .....

P. Radhakrishnan
..... HOD

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