C–4762	Sub. Code
	11H

COMMON FOR ALL U.G. DEGREE EXAMINATION, NOVEMBER 2021

First Year – First Semester

Part I – Hindi

STORY, NOVEL, GRAMMAR AND TRANSLATION

(2016 to 2018 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

सभी प्रश्नों के उत्तर संक्षेप में लिखिए।

1. श्रीकंठ सिंह का संक्षिप्त परिचय दीजिए।
2. पंडित परमसुख का संक्षिप्त परिचय दीजिए।
3. सूबेदारनी ने लहनासिंह से क्या कहा था?
4. 'पाँच मिनट' कहानी में गोपाल ने प्रसन्न होकर अम्मा से क्या कहा?
5. कल्याणी के बच्चों का नाम लिखिए।
6. कृष्णा की शादी किससे हुई और क्यों?
7. रुक्मिणी का संक्षिप्त परिचय दीजिए।
8. मन्साराम की मृत्यु का जिम्मेदार कौन है और क्यों?
9. लिंग बदलिए :

   (a) बकरा (b) माली

   (c) मालिक (d) नौकर

10. वचन बदलिए:

(a) आँख (b) बहू

(c) लता (d) गुड़िया

Part B $(5 \times 5 = 25)$

सभी प्रश्नों के उत्तर दीजिए। उत्तर संक्षेप में हो।

11. (a) प्रेमचन्द के व्यक्तित्व और कृतित्व पर एक टिप्पणी लिखिए।

या

(b) कौन – किसके लिए क्या प्रायश्चित करता है?

12. (a) 'उसने कहा था' कहानी में अमृतसर शहर का वर्णन कैसे किया गया है?

या

(b) पाँच मिनट कहानी की शीर्षक की सार्थकता पर विचार कीजिए।

13. (a) निर्मला उपन्यास के शुरुआत में निर्मला ने क्या स्वप्न देखा? उसका परिणाम क्या हुआ?

या

(b) सियाराम किसके साथ भाग गया? और क्यों?

14. (a) भुवनमोहन सिन्हा का संक्षिप्त परिचय दीजिए।

या

(b) 'सुधा' का संक्षिप्त परिचय दीजिए।

15. (a) 'संज्ञा' किसे कहते हैं? उनके भेदों को उदाहरण सहित समझाइए।

या

(b) सर्वनाम किसे कहते हैं? उनके भेदों को उदाहरण सहित समझाइए।

Part C

$(3 \times 10 = 30)$

सभी प्रश्नों के उत्तर दीजिए। उत्तर विस्तार से हो।

16. (a) कहानी कला के तत्वों के आधार पर 'पाँच मिनट' कहानी का सारांश लिखिए।

या

(b) 'निर्मला' उपन्यास का सारांश लिखिए।

17. (a) 'तोताराम' का चरित्र चित्रण कीजिए।

या

(b) विशेषण किसे कहते हैं? उनके भेदों को उदाहरण सहित समझाइए।

18. (a) अंग्रेज़ी में अनुवाद कीजिए।

उनकी तेज़-मिज़ाजी की एक घटना मुझे याद है। कोई 5-6 वर्ष की मेरी उम्र रही होगी। एक दिन मैंने पिताजी की मेज़ पर दो फ़ाउंटेन पेन पड़े देखे। मेरा जी ललचाया। मैंने दिल में कहा - पिताजी एक साथ दो पेनों का क्या करेंगे? एक मैंने अपनी जेब में डाल लिया। बाद में बड़े ज़ोरों की तलाशी हुई कि पेन कहाँ चला गया। अब तो मैं घबराया। मगर मैंने बताया नहीं। पेन मिल गया और मैं अपराधी माना गया। पिताजी बहुत नाराज हुए और मेरी खूब मरम्मत की। मैं दर्द और अपमान से अपना-सा मुँह लिये माँ की गोद में दौड़ गया। कई दिनों तक मेरे छोटे-से बदन पर क्रीम और मलहम लगाये गये।

या

(b) कल्याणी का चरित्र-चित्रण कीजिए।

C–4761	Sub. Code
	11F

U.G. DEGREE EXAMINATION, NOVEMBER 2021

First Year — First Semester

Fashion Design

Part I — FRENCH

(Common for All U.G. Degree Courses)

(2016 to 2018 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Translate into French :

   (a) Days and (b) Year

2. Give the French equivalent words :

   (a) India and (b) Japan

3. Give the grammar words for :

   (a) Pronoun and (b) adjectives

4. Translate into French :

   (a) 500 and (b) 1000

5. Les signes De punctuation :

(a) ! and (b) ...

6. Les signes orthographiques :

(a) ê and (b) è

7. Les symbols phonetiques :

(a)  and (b) 

8. Translate into French :

(a) Deux cents and (b) Trois cents

9. Give reciprocal verbs :

(a) Se tromper and (b) Se battre

10. Le verb Être :

(a) Suis -je? and (b) Es - tu?

Part B (5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) List out the numbers from 20 to 40 in French.

Or

(b) List out the numbers from 40 to 60 in French.

12. (a) Le verbes :

(i) Avoir –

(ii) Être –

(iii) Pouvoir –

(iv) Devoir –

(v) Falloir –.

Or

(b) Reciprocal verbs :

(i) Se parler

(ii) S' écrire

(iii) Se quereller

(iv) S' insulter

(v) Se voir.

13. Passé composé of :

(a) (i) Être –

(ii) Avoir –

(iii) Faire –

(iv) Voire –

(v) Entendre –

Or

(b) (i) Vendre –

(ii) Prendre –

(iii) Mettre –

(iv) Boire –

(v) Dire –.

14. List of some verbs of motion :

(a) (i) Aller –

(ii) Venir –

(iii) Sortir –

(iv) Partir –

(v) Monter –.

Or

(b) (i) Tomber –

(ii) Entrer –

(iii) Rentrer –

(iv) Arriver –

(v) Rester –.

15. (a) List out 'Days in a week' in French.

Or

(b) List out any five colours in french.

Part C (3 × 10 = 30)

Answer **all** questions, choosing either (a) or (b).

16. Traduisez les phrases suivantes en français :

(a) (i) What is your name ?

(ii) My name is ————————

(iii) What is your nationality ?

(iv) I am an ————————

(v) Where were you born ?

(vi) I was born in ————————

(vii) What is your address in ———————— ?

(viii) Are you alone ?

(ix) Have you got passport ?

(x) Where is the custom office ?

Or

(b) (i) What is your college name ?

(ii) Where it is located ?

(iii) Give your college address ?

(iv) In which course are you studying ?

(v) How many courses are there in your college?

(vi) How many lecturers are there in your college ?

(vii) What is your father name ?

(viii) What is your mother name ?

(ix) How many siblings are there ?

(x) List out your hobbies.

17. (a) List out any ten fruits in French.

Or

(b) List out any ten vegetables in French.

18. (a) Write the alphabets in French.

Or

(b) Write down the "Months of the Year" in French.

———————

C–4760

Sub. Code
11T

U.G. DEGREE EXAMINATION, NOVEMBER 2021

First Year / First Semester

Part I – தமிழ்ச் செம்மொழியும் தமிழர்களின் பன்முகத்திறனும்

(Common for All U.G. Degree Courses)

(2016 to 2018 onwards)

Duration : 3 Hours Maximum : 75 Marks

பகுதி அ (10 × 2 = 20)

எல்லா வினாக்களுக்கும் விடை தருக.

1. உலகச் செம்மொழிகள் எவை?

2. தமிழ்மொழியின் தொன்மையை விளக்குக.

3. இரட்டை ஆடை என்பதனை விவரி.

4. வண்ண ஆடை என்பது யாது?

5. ஆடவர் அணியும் அணிகலன்கள் மூன்றினைக் குறிப்பிடுக.

6. 'சிலம்பு' பற்றி நீவிர் அறிவன யாவை?

7. மணல் சிற்பம் பற்றி விவரி.

8. நாடகக் கலையின் தோற்றம் பற்றி எழுதுக.

9. கடல் வாணிபம் பற்றி எழுதுக.

10. சோதிடம் பற்றிய செய்திகளைக் குறிப்பிடுக.

பகுதி ஆ $(5 \times 5 = 25)$

எல்லா வினாக்களுக்கும் விடை எழுதுக.

11. (அ) மொழிக் குடும்பங்கள் என்பதனைப் புலப்படுத்துக.

(அல்லது)

(ஆ) தமிழ் மொழியின் சிறப்புக்களைத் தெளிவுபடுத்துக.

12. (அ) ஆண்களுக்கான ஆடைகள் பற்றி எழுதுக.

(அல்லது)

(ஆ) ஆடைகளில் வேலைப்பாடுகள் குறித்து விவரிக்க.

13. (அ) அணிகலன்களின் வகைகளைப் புலப்படுத்துக.

(அல்லது)

(ஆ) குழந்தைகளின் அணிகலன்கள் பற்றி எழுதுக.

14. (அ) ஓவியக்கலையின் தோற்றம் பற்றி வரைக.

(அல்லது)

(ஆ) தமிழர்களின் சிற்பக்கலைத் திறனுக்குச் சான்று தந்து விவரிக்க.

15. (அ) பொருளாதார வளர்ச்சி பற்றி இலக்கியங்கள் குறிப்பிடுவன குறித்து எழுதுக.

(அல்லது)

(ஆ) மேலாண்மை பற்றி திருக்குறள் கூறியுள்ளமையைச் சான்றுடன் நிறுவுக.

பகுதி இ $(3 \times 10 = 30)$

எல்லா வினாக்களுக்கும் விடை தருக.

16. (அ) செம்மொழிக்கான தகுதிகளைப் பட்டியலிடுக.

(அல்லது)

(ஆ) தமிழர் ஆடைகள் குறித்து நீவிர் அறிவன யாவை?

17. (அ) பழந்தமிழக அணிகலன்கள் பற்றி மதிப்பீடு செய்க.

(அல்லது)

(ஆ) தமிழர் கலைகள் தமிழப் பண்பாட்டைப் பறை சாற்றுவன என்பதனைத் தெளிவுபடுத்துக.

18. (அ) பழந்தமிழர்களின் வாணிபம் பற்றி விவரிக்க.

(அல்லது)

(ஆ) பல்துறைப் பதிவுகள் உடையன நம் தமிழ் இலக்கியங்கள் என்னும் கருத்தை ஆய்க.

———————

C–4764	Sub. Code
	21F

U.G. DEGREE EXAMINATION, NOVEMBER 2021

Second Year – Second Semester

PART I – FRENCH

(Common for ALL UG Degree Courses)

(2016 to 2018 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Translate in French :
   (a) Months
   (b) Year.

2. How will you greet "Good Day and Thank you" in French?

3. Mettez les phrases en order :–
   (a) Samedi/est/demain /é.
   (b) Vont/l'/ils/école/à.

4. Donnez le contraire : [Give the opposite]
   (a) Joli × ————————
   (b) Bon × ————————.

5. Mettez au Féminin : [Make the sentences Feminine]
   (a) il est petit :
   (b) il est Joli :

6. Mettez au pluriel :[Make the sentences plural]

(a) J' ai un crayon ————————

(b) Tu as une gomme ————————.

7. Éerivez les nombres in lettres : (Write the given numbers in lettres)

(a) 39;46

(b) 25;60.

8. Dites les nombres : [Tell the Numbers]

(a) Les filles dans la classe : ————————

(b) Les garcons dans la classe : ————————.

9. Complète (complete)

. I lest Français

Elle est ————————

. Nous sommes d' Halie

Nous sommes ————————.

10. Complétez les expressions

(a) B – –i – – r, m – – s – – – r.

(b) B – – S – – r, m – – – m – – s – l – –.

Part B $(5 \times 5 = 25)$

Answer **all** questions, choosing either (a) or (b).

11. Éerivez ces phrases au pluriel [write the sentences in plural]

(a) (i) Le crayon est noir

_____

(ii) C'est une robe rouge

_____

(iii) La maison est blanche

_____

(iv) Le drapeau est vert

_____

(v) C'est un chapeau marron

_____.

OU

(b) (i) Le bateau est gris

_____

(ii) La cravate est grise

_____

(iii) C'est un oiseau Jaune

_____

(iv) l' horloge est rose

_____

(v) La fleur est orange

_____

12. Complétez avec les verbes donnés :

(Complete with the verbs given)

(a) (i) Nous _____ une belle maison [avoir]

(ii) Tu _____ français [parler]

(iii) Vous _____ américain [é tre]

(iv) Je _____ 'al' école [aller]

(v) Ma cravate _____ marron [étre].

OU

(b) (i) Jacques et Anne ———————— àla campagne [aller]

(ii) ils ———————— le gáteau [aimer]

(iii) Elle ———————— àla piscine [alter]

(iv) Il ———————— anglais et Français [parler]

(v) Elles ———————— une voiture rouge [avoir].

13. Refaites avec les articles définis :

[change indefinite articles into definite articles]

(a) (i) un homme ————————

(ii) des garcons ————————

(iii) des élèves ————————

(iv) des livres ————————

(v) un oiseau ————————.

OU

(b) (i) un chaise ————————

(ii) une image ————————

(iii) un tableau ————————

(iv) des chaise ————————

(v) des styles ————————

14. (a) Mettez au pluriel [Make these sentances in plural]

(i) Elle parle français

(ii) Il aime la fille

(iii) J' habite à paris

(iv) Il a une glace

(v) Tu regardes la télévision.

OU

(b) Chassez l' intrus : [chase the odd one out]

(i) Lundi, dimanche,mardi, jeudi ————————

(ii) Géographie, français, hindi , indien ————————

(iii) Demain, semaine, école, aujourd' hui ————————

(iv) Saoudien, espangnol, portugois, Allemagne ————————

15. (a) Décrivez votre mére en 5-6 lignes [Describe your mother in 5-6 lines]

OU

(b) Décrivez votre famille. [Describe your family]

Part C (3 × 10 = 30)

16. Translate the French Words into English :

(a) (i) l' école

(ii) le Frére

(iii) le garcon

(iv) la glace

(v) la grand -mére

(vi) les grands-parents

(vii) le grand-pére

(viii) habiter

(ix) laid

(x) indien.

OU

(b) Mettez au pluriel [write in plural form]

(i) le livre

(ii) le stylo

(iii) la gomme

(iv) la fille

(v) l' école

(vi) le-restaurant

(vii) la copine

(viii) l' élève

(ix) le cahier

(x) la-chaise.

17. (a) Ecrivez le jours de la semaine.

OU

(b) Ecrivez les mois de l' année.

18. (a) Ecrivez les quatre noms de légumes en français.

OU

(b) Ecrivez les quatre noms de fruits en français.

———————

C–1696

Sub. Code
21H

U.G. DEGREE EXAMINATION, NOVEMBER 2021

Second – Year/Second – Semester

Part I – Hindi

HINDI II – PROSE, GRAMMAR AND TRANSLATION

(2016 to 2018 onwards)

(Common for all UG courses)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

सभी प्रश्नों के उत्तर संक्षेप में लिखिए।

1. किसी विदेशी को भारत अनेक देशों का समूह क्यों प्रतीत होता है?
2. घृणा का समाज में क्या महत्व है?
3. रजिया ने लेखक को पहली मुलाकात में क्यों प्रभावित किया?
4. युवती कवि की ओर क्यों आकर्षित हुई?
5. 'बहता पानी निर्मला' पाठ का निष्कर्ष क्या है?
6. जिस समय महात्मा गाँधी राजनीति में अवतीर्ण हुए उन दिनों देश की दशा क्या थी?
7. प्रेरणार्थक क्रिया किसे कहते हैं?
8. अपूर्ण क्रिया से क्या मतलब है? उदाहरण दीजिए।
9. अकर्मक क्रिया किसे कहते है? उदाहरण दीजिए।
10. वर्तमान काल के कितने भेद है? उनका नाम मात्र लिखिए।

Part B $(5 \times 5 = 25)$

सभी प्रश्नों के उत्तर लिखिए।

संदर्भ सहित व्याख्या कीजिए।

11. (a) 'कोस-कोस पर बदले पानी, चार कोस पर बानी'।

या

(b) अक्षर हम उससे वंचित हो जायँ, तो हमारा अस्तित्व बहुत दिन न रहे।

12. (a) यह बच्ची आज पहली बार आयी थी और न जाने किस बालसुलभ उत्सुकता ने उसे मेरी ओर खींच लिया था।

या

(b) आज त्रयोदशी के दिन यह शोभा है। कल और भी अधिक प्रकाश होगा।

13. (a) रमता राम इसलिए कहते हैं कि जो रमता नहीं, वह राम नहीं। टिकना तो मौत है।

या

(b) आधी-भूखी जनता कोई धर्म नहीं रख सखी, न कोई कला, न कोई संगठन।

व्याकरण

14. (a) 'ने' विधि का प्रयोग समझाइए।

या

(b) भूतकाल के भेदों को उदाहरण सहित समझाइए।

15. (a) हिन्दी में अनुवाद कीजिए।

We are all citizens of India. Each of us is a member of one great community, which includes every Indian. We should be grateful for this privilege and the thought of it should always prevent us from doing anything unworthy.

या

(b) The newspaper tells us what is happening in our country. It tells us what parliament is doing at Delhi. When there is a big fire or a heavy storm some where, the newspaper tells us about it.

Part C $(3 \times 10 = 30)$

सभी प्रश्नों के उत्तर विस्तार से लिखिए।

16. (a) कहानी कला की दृष्टि से 'मक्रील' की समीक्षा कीजिए।

या

(b) 'बहता पानी निर्मला' पाठ का सारांश लिखकर विशेषताएँ बताइए।

17. (a) क्रिया विशेषण किसे कहते है? अर्थ के अनुसार इसके कितने भेद हैं? उदाहरण सहित समझाइए।

या

(b) 'कारक' किसे कहते हैं? उनके भेदों को उदाहरण सहित समझाइए।

18. हिन्दी में अनुवाद कीजिए।

(a) The first kind of rubber to be grown in the plantation was not para rubber, but a plant called ceara. Ceara has one advantage, that is, these trees grow quickly, they do not need so much cone as the para and they produce rubber sooner. But the life of a ceara tree is not long. It is much smaller a tree than the para, and it does not produce so much of the juice as the para. Para rubber has now taken the place of ceara almost everywhere.

या

(b) There are a number of large towns in Arabia and of them two are very famous. One is Mecca which is looked upon as a holy place by Muslims. It has a great mosque called 'Kaaba' and thousands of Muslims go there every year to perform Haji. The second famous city is called Medina. The prophet lived there for ten years and died and was burried there. It is also considered as a sacred city.

———————

C–1694

Sub. Code
21T

U.G. DEGREE EXAMINATION, NOVEMBER 2021

Second Year – Second Semester

பகுதி I — தமிழ்

இலக்கணமும் படைப்பிலக்கியமும்

(Common for all UG Degree courses)

(2016 to 2018 onwards)

Duration : 3 Hours Maximum : 75 Marks

பகுதி அ (10 × 2 = 20)

எல்லா வினாக்களுக்கும் **ஓரிரு வரிகளில்** விடை தருக.

1. சார்பெழுத்துக்கள் என்பன எவை?
2. மொழி முதலில் வரும் எழுத்துக்கள் யாவை?
3. பாரதியார் பற்றி குறிப்பு வரைக.
4. வைரமுத்துவின் சிறப்புகள் பற்றி எழுதுக.
5. தமிழ் மொழியில் தோன்றிய முதல் சிறுகதை எது?
6. அகிலனின் சிறுகதைப் பண்புகள் யாது?
7. இணைய இதழ்கள் குறிப்பு வரைக.
8. தமிழ் வளர்ச்சித் துறையின் பணிகள் யாவை?
9. மின்நூலகம் என்பதனை விவரி.
10. சிறுகதை ஆசிரியரின் பண்பு என்ன?

பகுதி ஆ (5 × 5 = 25)

எல்ல வினாக்களுக்கும் **ஒரு பக்க** அளவில் விடை தருக.

11. (அ) மொழியிறுதி எழுத்துக்களைச் சான்றுடன் தருக.

(அல்லது)

(ஆ) மெய்ம்மயக்கம் என்பதனை விவரிக்க.

12. (அ) 'ஒரு கூடை சென்ரியூ' தலைப்பிலான கவிதையை விவரி.

(அல்லது)

(ஆ) 'தாயும் சேயும்' பற்றிய கண்ணதாசன் கருத்துக்களைத் தருக.

13. (அ) அசோகமித்ரனின் கதை கூறும் பாங்கு யாது?

(அல்லது)

(ஆ) அய்க்கண் சிறுகதைப் போக்கினை விவரிக்க.

14. (அ) இணையமும் வேலைவாய்ப்பும் குறித்து விளக்குக.

(அல்லது)

(ஆ) இணைய வளர்ச்சியால் ஏற்படும் சமூக மாற்றங்கள் யாவை?

15. (அ) இன்றைய கவிதைகளின் போக்கு பற்றி உரைக்க.

(அல்லது)

(ஆ) தமிழ்ப் படைப்பிலக்கிய ஆளுமைகள் பற்றி விளக்குக.

பகுதி இ (3 × 10 = 30)

எல்லா வினாக்களுக்கும் **விரிவான** விடை தருக.

16. (அ) வல்லினம் மிகுமிடங்களைச் சான்றுடன் தெளிவுபடுத்துக.

(அல்லது)

(ஆ) பாரதிதாசன், மீரா போன்றோர் படைப்புகளை நும் பாடப்பகுதி வழி மதிப்பிடுக.

17. (அ) புதுக்கவிதை சமூக நோக்கமுடையது எனும் கருத்தை ஆய்க.

(அல்லது)

(ஆ) சிறுகதையில் காணலாகும் புரட்சிப் போக்குகளை மதிப்பிடுக.

18. (அ) இணைய இதழ்களின் நோக்கம் பற்றி விவரிக்க.

(அல்லது)

(ஆ) 'அன்பு காட்டும் வழி' எனும் பொருளில் 30 வரிகளில் கவிதை படைத்திடுக.

———————

C–4763	Sub. Code 91411/12

U.G. DEGREE EXAMINATION, NOVEMBER 2021.

First Year – First Semester

Part II – English

PROSE AND COMMUNICATION SKILLS

(Common for All UG courses)

(2016 to 2018 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** the questions.

1. Who is compared to the man who stumbles through his lessons?
2. What ails us today according to Indira Gandhi?
3. Why didn't the wheel of writing revolve?
4. What answer did the boy give?
5. What were Canadian children taught to sing and draw?
6. What are the prayers of Sarojini Naidu?

Fill in the blanks with appropriate form of verbs.

7. I ———————— him yesterday. (see)
8. He ———————— to film. (go)

Change into passive voice.

9. I post a letter.

Use appropriate articles.

10. This is ———————— girl whom I saw in ———————— garden yesterday.

Part B (5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) How does we attain Excellence in education according to Livingston's ideas of education?

Or

(b) What are the three kinds of courage mentioned by Indira Gandhi?

12. (a) Discuss the significance of the title crime and punishment by R.K. Narayan.

Or

(b) What was the parents' attitude to corporal punishment?

13. (a) What books did Margaret Atwood enjoy reading? - Discuss.

Or

(b) What are the three visions that Sarojini Naidu talks of?

14. (a) Attempt a note on the use of simple present tense.

Or

(b) Write short notes on the use of past perfect tense.

15. (a) What are modal auxiliaries?

Or

(b) Write about definite articles.

Part C

(3 × 10 = 30)

Answer **all** the questions, choosing either (a) or (b).

16. (a) Illustrate the views of Livingstone on education.

Or

(b) What are Gardiner's views on desirability or otherwise of forming habits?

17. (a) Write a critique on Indira Gandhi's speech.

Or

(b) What is the main reason behind for reading animal stories by Margaret Atwood?

18. (a) Write about present Continuous tense and its uses.

Or

(b) Write an essay on articles. Give examples.

———————

C–1697

Sub. Code
91421/22

U.G. DEGREE EXAMINATION, NOVEMBER 2021

Second Year/Second Semester

Part II – English

PROSE, EXTENSIVE READING AND COMMUNICATION SKILLS

(Common for All UG Degree courses)

(2016/2018 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Who were the foreigners who invaded and looked India?

2. What is the real duty of the artist to the society?

3. What does a glory has departed mean?

4. How did Jimmy and Bob first get to know each other in "After Twenty Years" by O ' Henry?

5. What is the setting in place of the story "An Astrologer's Day"?

6. What are the three types of discipline?

7. Define: Adverbial clause.

8. He ———————— his wife are playing now. (Use suitable conjunction)

9. Change into Indirect speech.

Master to servant, "Go to market and buy some vegetables".

10. Gold is more precious than any other metals

(change into positive degree).

Part B $(5 \times 5 = 25)$

Answer **all** questions.

11. (a) Indians attitude to burning social issues, according to Kalam.

Or

(b) What is the real duty to Artist to the society?

12. (a) Write an on the message given by Nehru in his speech 'A Glory has Departed".

Or

(b) What are Robert Lynd's views on the efficacy or otherwise of arguing?

13. (a) Describe the characted 'Jimmy'.

Or

(b) What is the moral of the story "An Astrologer's Day" by R.K. Naraygan?

14. (a) Write a short note on Adverbial clause.

Or

(b) Fill in the blanks with suitable conjunctions.

(i) I tried to hit the nail ———— hit my thumb instead.

(ii) I have two gold fish ———— a cat.

(iii) You can have peach ice cream ———————— a brownie sundae.

(iv) Neither the black dress ———————— the gray one looks right on tree

(v) My dad always worked hard ———————— we could afford the things we wanted.

15. (a) Change the following sentences into Direct speech :

(i) He said that he had got a toothache

(ii) Manu said that he was very busy then

(iii) He asked her to give him a cap of water.

Or

(b) What are the different degrees of adjectives? Explain with examples.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Write an essay on Kalam's three visions.

Or

(b) Write an essay on the glorious tribute that Nehru pays to Gandhi.

17. (a) Three kinds of discipline are important for everyone according to John Holt.

Or

(b) Write a critical appreciation on the story "An Astrologer's Day".

18. (a) Underline the subordinate clause in the following sentences:

(i) As he was not there, I could not speak to him

(ii) I waited for him until he is came

(iii) We eat so that we my line

(iv) I don't know whether he is innocent

(v) If you eat two much, you will fall ill

(vi) I am sure that you are wrong

(vii) The teacher said that honesty is the best policy

(viii) Tell me where you have put my books

(ix) The man who committed the theft night has been caught

(x) It is difficult to understand why he distrusts his own children.

Or

(b) Change the following sentences into indirect speech.

(i) She says, "I like ice-cream "

(ii) She said, "She will see your later"

(iii) She says, "where do you live"?

(iv) "Please help me"

(v) He said, "I was playing football when the accident occured "

C–4765	Sub. Code
	31

U.G. DEGREE EXAMINATION, NOVEMBER 2021

Third Semester

Part – II – ENGLISH COMMUNICATIVE SKILLS

(Common for all UG Degree Courses)

(2016 onwards / 2018 onwards / 2020 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define communication.

2. List out some barriers to communication.

3. Differentiate homophones and homonyms.

4. She can work, ————————? (Write the question tag)

5. Give some example of unnecessary articles.

6. How words are confused in English?

7. Explain vowels.

8. What is intonation?

9. Define Skimming and Scanning.

10. What are the characteristics of good handwriting?

Part B (5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Explain the types of communication.

Or

(b) Elucidate the kinds of verbal and non-verbal communication with example.

12. (a) Write the meaning of the phrasal verb and use it in sentence.

(i) Blow up

(ii) Breakdown

(iii) Breakup

(iv) Check out.

Or

(b) Write the question tag

(i) You play the guitar, ————————?

(ii) She plays football on Sundays, ————————?

(iii) He never goes out with his dog, ————————?

(iv) Open the window, ————————?

(v) Let's take the next bus, ————————?

13. (a) Explain ten confused adverbs with examples.

Or

(b) Write down the use of the infinitive.

14. (a) Explain vowel sounds with example.

Or

(b) What is the stress involved in speaking skills?

15. (a) Write down the mechanics of handwriting.

Or

(b) Explain loud and silent reading.

Part C (3 × 10 = 30)

Answer **all** questions, choosing either (a) or (b).

16. (a) What is communication and write the ways of challenging the barriers of communication?

Or

(b) Explain the types of communication in detail.

17. (a) Transformation sentences :

(i) In spite of his being a rich man. Thomas led a simple life (change into compound and complex)

(ii) It rained heavily. The school was closed (change into simple and complex)

(iii) It he works hard, he will succeed (change into compound and simple)

Or

(b) Jot down the rules of phrasal verb and prepositional phrases.

18. (a) Explain SQ3R in detail.

Or

(b) Detail how vowels and consonants are important.

C–3623	Sub. Code
	41

B.Sc. DEGREE EXAMINATION

NOVEMBER 2021 EXAMINATION

Fourth Semester

EMPLOYABILITY SKILLS

(2016/2018 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define employability skills.
2. List out skills for employability.
3. Write obstacles to write formal letter.
4. What are the details to be included in Resume?
5. What is e-mail?
6. Differentiate note making and note taking.
7. What do you mean by composition?
8. What is book review?'
9. What do you understand by Topic sentence?
10. Define Body language.

Part B (5 × 5 = 25)

Answer **all** questions by choosing either (a) or (b).

11. (a) Explain Interview techniques.

Or

(b) Brief notes on Telephone etiquette.

12. (a) Bring out different types of greetings.

Or

(b) How to summarise a report?

13. (a) What are the difference between formal and informal letter?

Or

(b) Write about Do's and Don'ts in job application.

14. (a) Distinguish among controlled and guided composition.

Or

(b) Brief notes on developing creative competency.

15. (a) Comment on the use of visual aids in non-verbal communication.

Or

(b) What are the different types of non-verbal communication?

Part C

(3 × 10 = 30)

Answer **all** questions by choosing either (a) or (b).

16. (a) Write on essay on Interview skills.

Or

(b) Highlight the importance of Time – management.

17. (a) How to write resume?

Or

(b) Discuss the salient features of Report-uniting.

18. (a) Explain kinds of composition.

Or

(b) Elaborate the features of non-verbal communication.

———————

C–1689

Sub. Code
17/18/19/24/ 25/26/27/28

U.G. DEGREE EXAMINATION, NOVEMBER 2021

First Year — Second Semester

ENVIRONMENTAL STUDIES

(Common for all UG Degree Courses)

(2016 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define Natural environment.
2. What are the problems of ground water management?
3. What are the components of environment?
4. Define Multi cropping.
5. What is Deforestation?
6. Define Hydrosere.
7. Which is the most beautiful hill town situated in the palani hills?
8. Define Range.
9. Explain Distillery.
10. Explain Oil Pollution.

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Explain the scope of environmental studies.

Or

(b) What are the objectives of environmental education?

12. (a) Give any five indirect uses of forest to human society.

Or

(b) What are the uses of dams? Explain.

13. (a) Give any ten water control measures.

Or

(b) Explain renewable energy resources.

14. (a) Write a short account on ecological pyramids.

Or

(b) Summarize the problems caused by fertilizers and pesticide.

15. (a) Explain the types of soil pollution.

Or

(b) Write an account on rain water harvesting.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Explain how the environment is spoiled by mining process.

Or

(b) Write an essay on mineral resources and food resources.

17. (a) Write notes on desert ecosystem and grass land ecosystem.

Or

(b) India is a mega diversity zone - Explain.

18. (a) Write an essay on the role of I.T. in environment and human health.

Or

(b) What are the merits and demerits of energy production from ocean thermal energy.

———————

C–4796	Sub. Code
	11613

B.Sc. DEGREE EXAMINATION, NOVEMBER 2021.

First Semester

Nautical Science

NAUTICAL MATHEMATICS – I

(2016 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. State the axioms of probability.

2. Define random experiment.

3. Express Tangent of a circle.

4. Find the equation of normal to the parabola $x^2 = 9y$ at $(-3, 1)$.

5. If $y = a^2$, find $\frac{dy}{dx}$.

6. Write any two properties of right-angled spherical triangle.

7. Find the derivative of $y = \log(\sin x)$.

8. Evaluate $\int \sqrt{x^2 + a^2}\, dx$.

9. When is the system of equations said to be consistent?

10. Find the rank of the matrix $A = \begin{bmatrix} 1 & 1 \\ 1 & 1 \end{bmatrix}$.

Part B (5 × 5 = 25)

Answer **all** questions, by choosing either (a) or (b).

11. (a) Discuss linear regression, methods of least squares.

Or

(b) A continuous random variable has a pdf $f(x) = 3x^2$, $10 \le x \le 1$. Find a and b such that

(i) $p(x \le a) = p(x > a)$ and

(ii) $p(x > b) = 0.05$.

12. (a) Derive the equation for the parabola if the vertex is $(4, 1)$ and the focus is, $(4, -3)$.

Or

(b) Find the volume of a sphere.

13. (a) In a spherical triangle, ABC, derive

$$\frac{\sin A}{\sin a} + \frac{\sin B}{\sin b} + \frac{\sin C}{\sin c}.$$

Or

(b) In a spherical triangle ABC, C is right angle, prove that $\sin^2 \tfrac{1}{2} c = \sin^2 \tfrac{1}{2} a \cos^2 \tfrac{1}{2} b + \cos^2 \tfrac{1}{2} a \sin^2 \tfrac{1}{2} b$.

14. (a) If $\sin y = x \sin(a + y)$, prove $\frac{dx}{dy} = \frac{\sin^2(a + y)}{\sin a}$.

Or

(b) Evaluate $\int \frac{dy}{x^2 - y^2}$.

15. (a) Find the rank of the matrix $A = \begin{vmatrix} 1 & -2 & 1 \\ 1 & -1 & -2 \\ 1 & -2 & -1 \end{vmatrix}$.

Or

(b) Verify the matrix $A = \begin{vmatrix} -2 & -1 & 1 \\ 1 & 1 & 2 \\ 2 & -1 & 2 \end{vmatrix}$ satisfies its characteristics equation.

Part C $(3 \times 10 = 30)$

Answer **all** questions, by choosing either (a) or (b).

16. (a) Find the correlation coefficient between X and Y from the following data :

X :	54	48	40	52	58	63	57	69
Y :	112	116	125	117	109	135	118	103

Or

(b) Find the equation of the sphere passing through the points $(1, 1, -2)$ and $(-1, 1, 2)$ and having its centre on the live $x + y - z - 1 = 0$, $2x - y + z = 2$.

17. (a) Given $e = 64°37'$, $A = 51°25'$, $C = 90°$ solve the triangle.

Or

(b) Evaluate $\int_0^{\pi/2} \log \sin x \ dx$.

18. (a) Verify Hamilton theorem for the matrix $\begin{vmatrix} 2 & 1 & 3 \\ -2 & 2 & -2 \\ -4 & -1 & -5 \end{vmatrix}$.

Or

(b) Diagonalize the matrix $\begin{vmatrix} 2 & -2 & -1 \\ 2 & -1 & -2 \\ -1 & -2 & 1 \end{vmatrix}$ by means of an orthogonal transformation.

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C–4797	Sub. Code 11614

B.Sc. DEGREE EXAMINATION, NOVEMBER 2021

First Semester

Nautical Science

NAUTICAL PHYSICS AND ELECTRONICS – I

(2016 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. State Kepler's Laws.

2. What is meant by surface tension?

3. List out the advantages of solenoid.

4. What is hysteresis?

5. Define Poiseullie's method.

6. What is Marine Hydrometer?

7. What is photovoltaic cell?

8. Define Astronomical Telescope.

9. What is PN junction diode?

10. What is Thermistor? Give its any two applications.

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) State and derive the Newton's experimental law.

Or

(b) Explain planetary motion and centre of gravity.

12. (a) Difference between Isogonic and Isoiclinic lines.

Or

(b) Write a short notes on Magnetic elements of earth.

13. (a) Discuss the Bernoulli's equation and its application.

Or

(b) Explain the visual VHF Omni Range (VOR).

14. (a) Write the application of photodiode.

Or

(b) Explain about Diffraction by single slit.

15. (a) Briefly explain about N-type and P-type semiconductors.

Or

(b) What is a semiconductor? Give its characteristics and uses.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Explain the following :

(i) Weston differential pulley

(ii) Hydrograph

(iii) Projectile.

Or

(b) Give a Brief notes on Transformers and Insulation tester and its uses.

17. (a) Write a short notes on :

(i) Luminous intensity

(ii) Photometers

(iii) Photo Electric effect.

Or

(b) Explain the working construction and characteristics of the transistor.

18. (a) Write short notes on :

(i) Radar Altimeters

(ii) Becons

(iii) Interrogating Radar.

Or

(b) Illustrate the uses, characteristics, care and precautions of batteries.

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C–4798	Sub. Code
	11615

B.Sc. DEGREE EXAMINATION, NOVEMBER 2021

First Semester

Nautical Science

NAVAL ARCHITECTURE- I

(2016 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

Note. 1: Use of Hydrostatic particulars of M.V.Hindship is allowed.

2: Draw diagrams wherever applicable.

1. What is a pump room? Which type of ship will have pump room?

2. What is Wheel house? Briefly explain.

3. Define FWA?

4. What is Archimedes principle?

5. What is RORO vessel?

6. What is the purpose of Load line?

7. Define the term "Reserve Buoyancy"?

8. Define LOA and LBP?

9. Define Draft and freeboard.

10. What are the safety precautions to be taken while welding?

Part B $(5 \times 5 = 25)$

Answer **all** questions choosing either (a) or (b).

11. (a) Write a short notes on

(i) Cold Storage Spaces.

(ii) Wheel house.

Or

(b) Write short notes on tankers and bulk carriers?

12. (a) Draw Starboard side of LOAD LINE Mark of ship of 99m long.

Or

(b) Describe the advantages of welding over riveting?

13. (a) A ship is floating in FW at a draft of 6.8m. If the max. FW draft is 7.0m and the SW TPC is 40. Find the DWT available.

Or

(b) A box shaped v/I 18m × 5m × 2m floats in SW at a draft of 1.40m. Calculate the RB%?

14. (a) Briefly explain different types of welding.

Or

(b) Explain DB tanks of ship with a neat diagram.

15. (a) In a vessel of 11250 t displacement, KG 8.7 m, 250 t of cargo is loaded on the UD (KG = 10 m). Find the final KG.

Or

(b) Given the following particulars of a ship, Calculate her fluid GM : W = 10000 t, KG = 9.0 m, KM =9.8 m, moment of inertia of surface of tank about its centre line = 1242 m4 RD heavy of fuel oil in the tank = 0.95.

Part C (3 × 10 = 30)

Answer **all** questions choosing either (a) or (b).

16. (a) Define the following

(i) AFT perpendicular

(ii) TPC

(iii) Reserve buoyancy

(iv) DWA

(v) Draft moulded.

Or

(b) Draw and explain the following parts of a ship.

(i) Engine Room

(ii) McGregor Hatch cover of a cargo hold.

17. (a) Define the following using diagram.

(i) Metacenter

(ii) Centre of gravity

(iii) Centre of buoyancy

(iv) Metacentric height

(v) Righting lever.

Or

(b) Write the difference between stiff ship and tender ship.

18. (a) A ship's derrick, whose head is 22 m above the keel, is used to discharge a weight of 20 t (KG 5 m), lying on the centre line. If the ship's displacement and KG before discharging were 6000 t and 8 m calculate the KG

(i) when the derrick lifts the weight and

(ii) after discharging.

Or

(b) A ship displacing 9000 t has KM 8.7m, KG 7.2m. She is now listed 8° to port. She has port and stbd deep tanks each 10m long, 10m wide and 8m deep. The port side deep tank which was full of SW is pumped out until its sounding is 2m. Assuming that no other tanks on the ship are slack, find the final list.

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C–4799	Sub. Code 11616

B.Sc. DEGREE EXAMINATION, NOVEMBER 2021

First Semester

Nautical Science

SHIP OPERATION TECHNOLOGY – I

(2016 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Write down the names and timing of watches.

2. Mention the safety precautions while shipping and painting works on the deck.

3. Write down the L.S.A (Life Saving Appliances) on-board.

4. Write down the Life raft equipments.

5. What is the use of the H.R. unit for life raft?

6. What is fire and give the types of fire?

7. What is SCBA? What is safety margin in SCBA?

8. Mention the types of ropes used on-board and give some names of it?

9. Which is the strongest rope among natural fibre ropes and synthetic fibre ropes? Why?

10. What is the difference between SCBA and smoke helmet?

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Name paint defects with details.

Or

(b) What are all the precautions to be taken while painting on aloft?

12. (a) What is the normal launching procedure of life raft?

Or

(b) Draw a neat diagram of portable foam type fire extinguisher and mention its parts.

13. (a) Write down any five types of synthetic fibre ropes with details.

Or

(b) Write down the precautions and procedures to be followed before using the SCBA set.

14. (a) Write down the care and maintenance of steel wire ropes.

Or

(b) What is the use of Hand lead lines? How will you check the sounding (depth) by this and what is the benefit of lead?

15. (a) Give the types of paints with details.

Or

(b) Write down the procedures before entering into an enclosed space.

Part C

(3 × 10 = 30)

Answer **all** questions.

16. (a) Write down the full procedure for lowering a life boat in case of emergency.

Or

(b) Draw a neat diagram of a life buoy and mention the different attachments to the life buoys.

17. (a) Write in detail about inert gas.

Or

(b) State the types of fire on-board a ship and the suitable types of extinguishers for each type of fire.

18. (a) Give atleast ten points about special characteristics and care of synthetic ropes.

Or

(b) Draw a neat diagram of compass(points) Rose and write down all the points from North to North.

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C–1786

Sub. Code
11623

B.Sc. DEGREE EXAMINATION, NOVEMBER 2021

Second Semester

Nautical science

NAUTICAL MATHEMATICS -II

(2016 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Find the modulus of $\frac{(2-i)(1+i)}{1-i}$.

2. Find the roots of $1+i$.

3. Write down the trapezoidal formula.

4. Write the simpson's 1/3 rule formula.

5. If A is constant vector, prove that $div\vec{A}=0$.

6. Define surface integral.

7. Find the order and degree of the equation $(1+y')^2=y'^2$.

8. Solve $\frac{dy}{dx}+2y\tan x=\sin x$.

9. Solve $\left(D^2-3D+2\right)y=0$

10. Discuss Oscillatory electric circuits.

Part B $(5 \times 5 = 25)$

Answer **All** questions.

11. (a) If Z_1 and Z_2 are any two non zero complex numbers then prove that

$$\arg\left(\frac{z_1}{z_2}\right) = \arg z_1 - \arg z_2 .$$

Or

(b) Prove that $e^z = \sum_{n=0}^{\infty} \frac{z^n}{n!}$.

12. (a) Evaluate $\int_0^6 \frac{dx}{1+x^2}$ by simpson's 1/3 rule. Also check actual integration.

Or

(b) Evaluate $\int_0^1 \frac{dx}{1+x^2}$ with $h = \frac{1}{6}$ by trapezoidal rule.

13. (a) If $\vec{F} = x^2 y\vec{i} + y^2 z\vec{j} + z^2\vec{k}$ find $curl\left(curl\,\vec{F}\right)$.

Or

(b) Prove that $\vec{F} = yz\vec{i} + zx\vec{j} + xy\vec{k}$ is irrotational.

14. (a) Solve $ydx - xdy + 3x^2y^2e^{x^2}dx = 0$.

Or

(b) Solve $\frac{dy}{dx} = 1 + x + y + xy$.

15. (a) Solve $y'' + 2y' + y = x \cos x$

Or

(b) Solve $x^2 \frac{d^2y}{dx^2} - x\frac{dy}{dx} + y = \log x$.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Find the sum to infinity of the series

$$1 - \frac{1}{2}\cos\theta + \frac{1.3}{2.4}\cos 2\theta - \frac{1.3.5}{2.4.6}\cos 3\theta + \ldots (-\pi < \theta < \pi)$$

Or

(b) (i) Solve the hyperbolic equation $\cosh x - 5\sinh x - 5 = 0$

(ii) Simplify the expression $z = i^{-2i}$.

17. (a) By dividing range into ten equal parts, evaluate $\int_0^{\pi} \sin x \, dx$ by trapezoidal rule and simpson's 1/3 rule.

Or

(b) Find the area between $y^2 = 4x$ and $x^2 = 4y$ by Green's theorem.

18. (a) Solve $\left(1 + e^{x/y}\right)dx + e^{x/y}\left(1 - x/y\right)dy = 0$ given that $y = 1$, where $x = 0$.

Or

(b) Solve $\left(D^2 + 2D + 2\right)y = e^x \sin x + 7$

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C–1787

Sub. Code
11624

B.Sc. DEGREE EXAMINATION, NOVEMBER 2021

Second Semester

Nautical Sciences

NAUTICAL PHYSICS AND ELECTRONICS – II

(2016 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Write any two uses of Nuclear energy in waste Hazards.
2. What is meant by Electrostatic charge?
3. Define an Impedance.
4. Convert the binary number 101101 to its equivalent decimal number.
5. What is Boolean algebra?
6. Define α in transistor.
7. Why the base of the transistor is made thin?
8. Write any two advantages of amplitude modulation.
9. What is superhetrodyne principle?
10. Define intermediate frequency.

Part B (5 × 5 = 25)

Answer **all** questions choosing either (a) or (b).

11. (a) Explain the safety precautions in nuclear reactor.

Or

(b) Give a short note on electrostatic charging in oil splashing.

12. (a) Write difference between Hertz antenna and Marconi antenna.

Or

(b) Explain a working principle of monostable multivibrator.

13. (a) Using Boolean techniques, Simplify the following expression:

$$Y = AB + (AB + C) + B(B + C)$$

$$Y = AB + \overline{A}C + BC$$

Or

(b) Explain in detail about the input and output characteristics of common base configuration.

14. (a) Define the basic concepts of CW, MCW, AM and FM Modulation.

Or

(b) Write a short note on Switching transistors and its characteristics.

15. (a) Explain the characteristics of radio receivers such as fidelity and selectivity.

Or

(b) Write a short note on the effect of ionosphere on radio waves.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Explain in detail about the uses of nuclear energy as a power for the ships and submarines.

Or

(b) (i) Give a short note on Skip distance and Skip zone.

(ii) Write short notes on MUF.

17. (a) (i) Sketch the importance of De Morgan's theorems in Boolean algebra.

(ii) Find the complement of the function $Y = A(BC + BC)$.

Or

(b) Explain in detail about transistor as an amplifier in CE mode.

18. (a) What is modulation? Describe their techniques, advantages and disadvantages.

Or

(b) (i) Explain the functions of receiving antenna.

(ii) Write a short note on Ship borne VHF.

C–1788	Sub. Code 11625

B.Sc. DEGREE EXAMINATION, NOVEMBER 2021

Second Semester

Nautical Science

SHIP OPERATION TECHNOLOGY - II

(2016 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What is the meaning of "Anchor aweigh"?
2. What is the purpose of "swivel piece" fitted in Anchor & Chain cable?
3. State the "Man overboard alarm".
4. List down the Distress signals used on board ship.
5. What precautions are to be followed while repairing Radar?
6. Specify the safety precautions for entering into the "Battery room".
7. Define Fire Triangle.
8. How many "Fire pumps" are to be fitted on general Cargo ship?
9. What is the effect of "Dead weight"?
10. Which rope is preferred for mooring purpose and justifies your answer?

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Explain the weighing process of anchor.

Or

(b) Discuss the letting go process of anchor.

12. (a) Explain the construction and parts of life boats.

Or

(b) List out Life saving appliances used on board ship and explain about any two of them.

13. (a) What is International shore connection? Draw a neat diagram and mention the specification on it.

Or

(b) Discuss the methods of fire extinguishing in detail.

14. (a) Draw a neat diagram of CO_2 extinguisher and label the parts.

Or

(b) Draw a neat diagram of Foam extinguisher and label the parts.

15. (a) Describe the dangers of using different types of roes in one mooring station.

Or

(b) Write down the sequence of actions to be initiated for Man overboard.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Write detail notes on preparation for arrival and departure check list.

Or

(b) Explain in detail about the survey and markings of Anchor and chain cable.

17. (a) With an aid of neat diagram explain the Fixed CO_2 system for Cargo ship.

Or

(b) Draw a neat diagram of Mooring of a ship and label the ropes & its uses.

18. (a) What actions to be initiated when the Anchor is dragging towards shore?

Or

(b) Draw a neat diagram of Life raft and mark the parts.

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C–1789	Sub. Code 11626

B.Sc., DEGREE EXAMINATION, NOVEMBER 2021

Second Semester

Nautical Science

NAVIGATION – I

(2016 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What is Great circle?

2. Define the term Pole.

3. Describe Parallel sailing.

4. What do you understand by the term Mercator sailing?

5. Define Nautical mile.

6. Specify the Compass error.

7. How will you measure the speed of ship?

8. Mention the use of Traverse table.

9. What is Sextant?

10. How will you measure the depth of sea?

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) With neat diagram distinguish Meridians and Latitudes.

Or

(b) Describe Geographical mile.

12. (a) Draw boxing of Compass and mark cardinal points.

Or

(b) Describe plane sailing and Middle latitude sailing.

13. (a) Find the Gyro error and fill the gyro compass error & name them.

	1	2	3
Rtg(T)	275° (T)	126°(T)	044°(T)
Rtg(G)	276°(G)	l24°(G)	044°(G)

Or

(b) Discuss the process of obtaining the position of the ship at any time.

14. (a) Find the magnetic bearing and fill the following table.

Brg(T)	275°(T)	147°(T)	004°(T)
Var	15°E	12°W	6.5°E
Brg(M)	-	-	-

Or

(b) Explain the procedure for checking accuracy of azimuth mirrors.

15. (a) How will you find the errors by radio signals.

Or

(b) Find the course and distance from

Position A: Lat 40° 12'N Long: 086° 38'E
to Position B: Lat 40° 24'N Long: 093° 41'E

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Explain the measurement of distance in navigation.

Or

(b) Explain the following terms:

(i) D'Lat

(ii) D'Long

(iii) Longitude of a place

(iv) Ltitude of place.

17. (a) Discuss the method of Construction of a Mercator's chart.

Or

(b) State the optical principles of the Sextant and show how sextant measures double the angle through which the index bar is moved.

18. (a) Find the course and distance from the Mercator sailing

From : 24°00'N 074°15'W
To : 46°00'N 053°45'W

Or

(b) Find the course and distance using TT

A: 20°30.0'N 179°36.0'E
B: 16°18.0'N 173°32.0'W

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C–4800	Sub. Code 11632

B.Sc. DEGREE EXAMINATION, NOVEMBER 2021

Third Semester

Nautical Science

CARGO HANDLING AND STOWAGE - I

(2016 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

Draw diagrams wherever applicable.

1. Briefly explain about a bulk carrier.
2. Define the term "PROOF LOAD".
3. What do you understand by the term "Dangerous Goods"?
4. What is an off shore supply vessel?
5. Define the term broken stowage.
6. Define the term "Dew point Temperature".
7. Define the term SWL.
8. What is "Cargo sweat"?
9. What are two types of containers?
10. Name any four deck cargoes.

Part B (5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Your ship has to **discharge bulk coal cargo** by using ship's cranes and Grabs. What are the checks you will carry out prior commencement of discharging?

Or

(b) Explain the terms

(i) Dead weight

(ii) Displacement

(iii) Ullage

12. (a) What are the log book entries you make in DECK LOG BOOK after the cargo watch?

Or

(b) What is the need for ventilation of cargo inside a hatch?

13. (a) Draw a 20FEET container and mark its parts.

Or

(b) Explain the contents and use of "**Rigging Plan**".

14. (a) Explain the contents of **cargo securing manual**.

Or

(b) Briefly explain about the functions of an off shore supply vessel.

15. (a) Explain advantage and disadvantage of containers.

Or

(b) You are carrying various general cargoes. What care you will take for the prevention of sweat?

Part C (3 × 10 = 30)

Answer **all** questions. Choosing either (a) or (b).

16. (a) Enumerate the duties of the watch keeping officer for carrying out cargo watch in port during night time for a bulk cargo.

Or

(b) What are the types of ventilation systems? Explain the operation of any one type of ventilation system with a diagram.

17. (a) What are the container lashing materials? Briefly explain each lashing material with a diagram.

Or

(b) Draw the parts of a simple derrick and label its parts.

18. (a) Explain in detail about the preparation of a hold for loading grain cargo.

Or

(b) You are on a tanker. When will you carry out ballasting and de ballasting operations? Explain.

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C–4801	Sub. Code
	11633

B.Sc. DEGREE EXAMINATION, NOVEMBER 2021.

Third Semester

Nautical Science

MARINE ENGINEERING AND CONTROL SYSTEM – I

(2016 onwards)

Time : Three Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What is the influence of carbon on steel?

2. Specify the methods of heat treatment of steel.

3. What is the effect of vacuum on flash point of water?

4. What is reefer compartment?

5. What is the advantage of Hydrophore system?

6. What is the function of circuit breaker?

7. What is Auto-pilot?

8. What is combustion in IC Engine?

9. What is the function of a Steering gear on board ship?

10. Define Alternator.

Part B (5 × 5 = 25)

Answer **all** questions, by choosing either (a) or (b).

11. (a) Discuss the elementary metallurgy of steel production.

Or

(b) Describe various types of steels and their uses.

12. (a) Describe the treatment for obtaining potable water.

Or

(b) Discuss the safety arrangements provided in Marine boiler.

13. (a) Describe the air conditioning arrangements on board ship.

Or

(b) Write short notes on step up and step-down transformer.

14. (a) Describe the working principle of Centrifugal pump.

Or

(b) Explain the safety and emergency arrangements provided in Steering gear.

15. (a) What are the two modern methods of steel making?

Or

(b) Explain P V diagram with neat sketch.

Part C (3 × 10 = 30)

Answer **all** questions, by choosing either (a) or (b).

16. (a) With a neat diagram explain the working principle of fire tube boiler.

Or

(b) Enumerate the various types of pumps used onboard ship and explain the ballasting arrangements on ship with neat diagram.

17. (a) Draw a line sketch of a vapour compression system and explain its working.

Or

(b) Discuss the Electro hydraulic steering system with an aid of diagram.

18. (a) Label the components of a four stroke Marine propulsion engine with neat diagram.

Or

(b) State the Emergency power distribution arrangements made on board ship.

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C–4802	Sub. Code 11634

B.Sc. DEGREE EXAMINATION, NOVEMBER 2021

Third Semester

Nautical Science

VOYAGE PLANNING, COLLISION PREVENTION – I

(2016 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

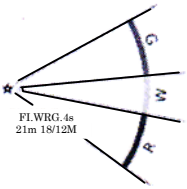
1. What is a Nautical Chart?

2. What do you mean by chart datum?

3. What is the use of leading lights?

4. What is the reason behind using the nearest latitude scale while measuring distance on a chart?

5. Identify the symbol



6. What is Admiralty Chart Catalogue?

7. What is Deviation and Deviation card?

8. What is DR position?

9. What do mean by a vessel not under command?

10. State Rule 5 of ROR.

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Briefly explain Rule 13 of COLREGS.

Or

(b) How to determine risk of collision and how to avoid it?

12. (a) What do you understand by a nautical chart? Briefly explain various types Nautical charts.

Or

(b) What is a Mercator Chart? State its advantages and disadvantages.

13. (a) What are Chart Corrections? How are they applied and documented?

Or

(b) What is depth contour? Define Shallow and Safety contours.

14. (a) How will you determine that the other vessel is on reciprocal course? What will be your action?

Or

(b) Explain charted height and drying height with the help of a diagram.

15. (a) Define

(i) Underway

(ii) Restricted Visibility

(iii) WIG craft

(iv) Vessel

(v) Sailing vessel

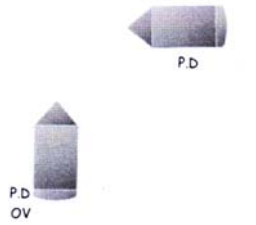
Or

(b) What factors are to be kept in mind while taking action to avoid collision?

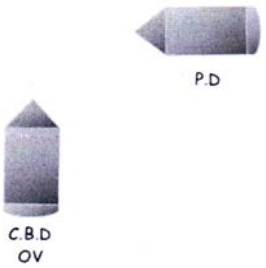
Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) State what action will you take in the following situations according to which rule of the ROR



Situation 1



Situation 2

Or

(b) What is the essence of Rule 18 COLREGS.

17. (a) Define

(i) Vessel engaged in fishing

(ii) NUC V/L

(iii) RAM V/L

(iv) CBD V/L

(v) Look out

Or

(b) Explain the conduct of vessels in a Narrow Channel.

18. (a) Briefly explain the conduct of vessels in RV.

Or

(b) What different factors are considered while deciding "safe speed".

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C–4803	Sub. Code
	11635

B.Sc. DEGREE EXAMINATION, NOVEMBER 2021

Third Semester

Nautical Science

NAVAL ARCHITECTURE – II

(2016 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Name the different types of steel used in ship construction.

2. Why do we use Longitudinal frames in ship construction?

3. What is the purpose of Double bottom tanks?

4. Name the contents of Shell expansion plan.

5. State the Simpson's first rule.

6. What are the causes of corrosion on board ships?

7. What is the use of Hawse pipe?

8. Where is the position of centre of gravity of a hanging mass?

9. Define Meta-centric height.

10. What is the effect of change of density on ship's draught?

Part B (5 × 5 = 25)

Answer **all** questions choosing either (a) or (b).

11. (a) Express the numbering system of hull and deck.

Or

(b) Describe the use of Casting and Forging in ship construction.

12. (a) How are the water tightness achieved in the openings on deck and super structures?

Or

(b) With an aid of a neat diagram explain the Ballast line system.

13. (a) Sketch and label the parts of Balanced type of Rudder.

Or

(b) Express the ways and means to resist the Panting and Pounding stresses on ships structures?

14. (a) Explain the working of the ICCP system with a neat diagram.

Or

(b) The equally spaced half ordinates of a watertight flat 27 m long are1.1, 2.7, 4.0, 5.1, 6.1, 6.9 and 7.7 respectively. Calculate the area of the flat.

15. (a) A ship of 8500 tonne is composed of masses of 2000, 3000, 1000, 2000 and 500 tonne at positions 2, 5, 8, 10 and 14 m above the keel. Determine the height of the centre of gravity of the ship above the keel.

Or

(b) Draw the meta-centric diagram for a vessel of constant triangular cross section.

Part C (3 × 10 = 30)

Answer **all** questions choosing either (a) or (b).

16. (a) Draw the diagram of collision bulkhead and mark all the structural parts.

Or

(b) What are Classification societies? State the circumstances under which the ships can be detained at port.

17. (a) Explain the strengthening members provided to Hull with neat diagram.

Or

(b) A ship of 5000 tonne displacement, 96 m long, floats at draughts of 5.60 m forward and 6.30 m aft. The TPC is 11.5, GM_L 105 m and centre of floatation 2.4 m aft of midships.

Calculate:

(i) The MCT1cm.

(ii) The new end draughts when 88 tonne are added 31 m forward of mid-ships.

18. (a) Sketch the Mid-ship section of general cargo ship and mention the structural parts.

Or

(b) A vessel of constant rectangular cross section is 12 m wide, Draw the Meta-centric diagram using 1.2 m intervals of draught up to the 7.2 m waterline.

C–4804	Sub. Code
	11636

B.Sc. DEGREE EXAMINATION, NOVEMBER 2021

Third Semester

Nautical Science

SHIP OPERATION TECHNOLOGY — III

(2016 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** the questions.

1. Name different types of anchors.

2. What is PMS?

3. What is the special characteristic of primer paint?

4. What is the advantage of Sat C?

5. Why EPIRB is provided on-board?

6. What is the use of "IAMSAR" manual?

7. Differentiate immersion suit from TPA.

8. Give four examples for SMCP.

9. What are the different coverage areas of GMDSS?

10. How does work permit enhance safety?

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) How do you prepare to enter into an enclosed space?

Or

(b) How do you prepare for Bunkering?

12. (a) What are the actions to be taken prior to dry docking?

Or

(b) How will you receive a pilot on-board at night?

13. (a) Give example for a safety and securities message each.

Or

(b) Draw diagrams of different search patterns as recommended by IAMSAR.

14. (a) How to use the watch-keeping channels in VHF and GMDSS?

Or

(b) Mention any five painting defects with their cause.

15. (a) How to carry out fumigation on-board a ship?

Or

(b) What is the requirement of primer, intermediate and topcoat of paints?

Part C (3 × 10 = 30)

Answer **all** the questions.

16. (a) What is the logic behind establishing RPSL and how to deal with it?

Or

(b) How does safety committee meeting contribute to improve safety?

17. (a) What is the function of classification society and write short notes on classification society?

Or

(b) (i) Why is it important to maintain crew accommodation?

(ii) What information is given by the ship to dry dock to facilitate dry docking?

18. (a) What different measures are adopted to keep steel surfaces free from corrosion?

Or

(b) (i) What do you mean by ranging or anchor cable? How is ranging carried out?

(ii) What additional measures are taken to make hatch covers water tight?

(iii) What is the difference between weather-tight and water-tight?

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C–4805	Sub. Code
	11637

B.Sc. DEGREE EXAMINATION, NOVEMBER 2021

Third Semester

Nautical Science

NAVIGATION — II

(2016 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

Note: 1) Draw diagram wherever it is applicable.

2) Use of Norie's tables or other tables allowed.

3) Use of 2008 Nautical Almanac is allowed.

1. Define "First Point of Aries".

2. Define " Equinoctial".

3. Define observer's Zenith and Nadir.

4. Define " Declination"

5. What is sidereal day?

6. Briefly explain "Retarding of Clocks" at Sea?

7. What is Mean solar day?

8. To an observer the sun's LHA was 290°, when its GHA was 40°. Find the "Observer's Longitude".

9. Define “Amplitude”

10. Define “ GHA”.

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Briefly explain “STANDRAD TIME and ZONE TIME”.

Or

(b) What is International Date Line? How the clocks are adjusted when a ship crosses an INTERNATIONAL DATE LINE? Explain.

12. (a) Define the term ‘Equation of time’.

Or

(b) (i) Define ‘local meantime’.

(ii) Convert the following Longitude into Time.

(1) 082° 30’

(2) 142° 38’

(3) 178° 23’

13. (a) (i) Explain the term ‘Intercept’ with diagram.

(ii) Find the correct GMT date and time. On 2nd March PM at ship in DR 16°12’N 092° 10E chron time 00h 30m 12s and error 02m 06s slow

Or

(b) (i) What is the relationship between true altitude and true zenith distance? Explain.

(ii) Find the deviation and compass error from the following: True Azimuth: 231.5°(T) Compass Azimuth: 229.0°(C) Variation 2.5°W.

14. (a) On 2nd Sept 2008 in DR 40° 28' N 064° 20'E, the rising sun bore 090°©. If the variation is 5°W, Find the deviation.

Or

(b) On 1st May 2008, in DR 30° 06' N 179° 45' W, the setting sun bore 285°(C). If the variation is 2° W, find the deviation of the ship's head

15. (a) Briefly explain the relationship between LONGITUDE and TIME.

Or

(b) Briefly explain "STELLAR MAGNITUDE".

Part C (3 × 10 = 30)

Answer **all** questions, choosing either (a) or (b).

16. (a) Explain how the seasons are caused on earth.

Or

(b) Explain why stars Rise, Culminate and Set 4 minutes earlier each day?

17. (a) On 28th April 2008, in DR 37° 22'N 96° 36'W, the sextant Meridian altitude of the moon's LL was 31° 58.8'. If IE = 0.4' off the arc and HE = 17m, required the Latitude and LOP.

Or

(b) On 1st Sept 2008, DR Equator 50° 27'E, the sextant meridian altitude of the Sun's UL was 82° 10.4'. If IE = 2.4' on the arc and HE = 17m, find the latitude and the LOP.

18. (a) On 5th March, 2008 AM at ship in 38° 11'S 151° 10' E, the sextant altitude of Sun's LL was 35° 59.1', when chron. (error 00m 46s slow) showed 10h 54m 54s. If HE was 30m and IE was 1.3' off the arc, calculate the direction of the LOP and the Intercept.

Or

(b) On 29th Nov 2008 in DR 26° 27'N 130° 27'W, the sextant attitude of the Sun's UL East of the meridian was 28° 11' when the GPS clock showed 05h 47m 49s. If HE was 10m and IE was 2.3' off the arc. Calculate the direction of the LOP and the longitude when it cuts the DR latitude.

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C–1796	Sub. Code 11642

B.Sc. DEGREE EXAMINATION, NOVEMBER 2021

Fourth Semester

Nautical Science

CARGO HANDLING AND STOWAGE – II

(2016 onwards)

Duration: 3 Hours Maximum: 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What is the special feature of Container?
2. What are Reefer Containers?
3. Describe the angle of repose.
4. Define spontaneous combustion.
5. Specify any four Log Book entries.
6. Name any four High-density cargoes.
7. What is self-trimming?
8. Define DOA.
9. What is Grain Book?
10. Describe the use of COW System.

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) How will you segregate the containers for carrying dangerous goods?

Or

(b) What are the refined products of Crude Oil?

12. (a) With an example state the spontaneous combustion?

Or

(b) How will you prepare cargo hold for receiving Bulk Cargoes?

13. (a) What are the uses of various equipment used for Hold Cleaning?

Or

(b) State all the entries of Log Book.

14. (a) How will you avoid insect or rodent infestations inside the cargo space for carrying grains?

Or

(b) Discuss the grain Loading stability criteria for Ships.

15. (a) What is Nitrogen Padding?

Or

(b) Enumerate Pump Room Entry Precautions.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Write notes on:

(i) Tanks

(ii) Pumps

(iii) Coffer dams

(iv) Deep tanks

Or

(b) Write notes on the following container securing gears:

(i) Container Shoes

(ii) Stacking Cones

(iii) Inter layer Stackers

(iv) Bottle screws

17. (a) Mention the specified precautions for loading of:

(i) Coal

(ii) Sulphur

(iii) Iron ore

(iv) Urea

Or

(b) Classify the cargoes as per the IMSBC Code.

18. (a) Write down all Ship/shores check list for grain loading.

Or

(b) Discuss SOPEP and SMPEP equipment.

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C–1797	Sub. Code 11643

B.Sc. DEGREE EXAMINATION, NOVEMBER 2021

Fourth Semester

Nautical Science

MARINE ENGINEERING AND CONTROL SYSTEMS-II

(2016 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define Centrifugal pump.

2. What is super charging?

3. List out the different types of Lubricating oil for different duties.

4. Define Power weight ratio.

5. What is the purpose of Engine Indicators?

6. What is the use of trim indicators?

7. Define ullage.

8. What is IGS?

9. Define Data logging.

10. Define UMS.

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Briefly describe a pump of the type that is installed in a hydraulic system for deck machinery.

Or

(b) Describe the routine planned maintenance of mooring Winches.

12. (a) Explain the precautions for scavenging fire and its causes.

Or

(b) Explain the importance of Lubrication of Machinery parts.

13. (a) Sketch and describe thrust block.

Or

(b) Discuss the system used to control pollution of sea from ships sewage and oil.

14. (a) Explain the remote controlling of ballasting?

Or

(b) Draw and explain C.P Propeller.

15. (a) Explain the various types of smoke/Fire detection system.

Or

(b) Sketch and describe Auto Ventilation control system.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Write short notes on:

(i) Maximum Continuous Rating

(ii) Brake horse power.

(iii) Shaft horse power.

(iv) Specific fuel consumption.

(v) Mechanical efficiency.

Or

(b) Sketch layout of Lubrication oil system onboard ship.

17. (a) Enumerate the selection criterion of Marine Diesel Engines.

Or

(b) Sketch and describe Inert gas systems for petroleum carrier.

18. (a) List out the functions of following and their remote controls.

(i) Propeller.

(ii) Bow thruster

(iii) Rudders.

Or

(b) Explain any two types of fire fighting system on various for safety.

C–1798	Sub. Code 11644

B.Sc. DEGREE EXAMINATION, NOVEMBER 2021

Fourth Semester

Nautical Science

VOYAGE PLANNING, COLLISION PREVENTION – II

(2016 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define "SIDELIGHTS".

2. What is a flashing light?

3. What is the size specified for a "ball" shape as per cocregs?

4. State the day signal exhibited by a CBD V/L.

5. What is the use of a chart catalogue?

6. When is a flag hoisted Half-most?

7. What is the purpose of 'Quarantine flag'?

8. What do you mean by a secondary port?

9. What are the various navigational aids used on charts?

10. What do you mean by a depth contour?

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) What is a NUC V/L? What are the day and night signals exhibited by it?

Or

(b) What are the characteristics of light exhibited by cardinal buoys? Explain briefly.

12. (a) Define the following :

(i) Short blast (ii) Prolonged blast

(iii) Towing light (iv) Stern light

Or

(b) What are the maneuvering signals given by vessels in a Narrow Channel?

13. (a) Write short notes on 'M' and 'MS' notices.

Or

(b) Write briefly on chart catalogue.

14. (a) Draw a diagram and indicate the following :

(i) Ensign staff (ii) Foremast Yard

(iii) Mainmast yard (iv) Jack staff

Or

(b) Write short notes on :

(i) Tidal streams (ii) Traffic lanel

15. (a) Write short notes on ECDIS.

Or

(b) Write the various use of RADAR.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Write briefly about :
    (i) Ships Routing
    (ii) Traffic Separation schemes and its symbols.

Or

(b) Draw a block diagram of RADAR and explain briefly on it.

17. (a) Write briefly how a passage plan is made with various stages.

Or

(b) What are the various distress signals as per COCREGS?

18. (a) Find the height of tide at 1930 hrs. Standard time on 4th February at DARWIN. Extract from the tide tables for the day under reference are as under

Extract from ATT

	TIME	HEIGHT
	0315	1.7m
4 FRI	0904	6.5m
	1502	1.9m
	2112	6.9m

Or

(b) Find the time at which there will be 7 metres of water in the afternoon of 27th April on a Shoal patch off DARWIN where the chart shows 3 metres sounding extracts from the Adm. Tide Tables for the day are as follows :

Extract from ATT

	TIME	HEIGHT
	0550	6.6m
27 THU	1157	2.5m
	1743	6.3m

C–1799	Sub. Code 11645

B.Sc. DEGREE EXAMINATION, NOVEMBER 2021

Fourth Semester

Nautical Science

NAVAL ARCHITECTURE - III

(2016 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What is “Launching”?

2. Define Centre of Pressure.

3. What do you understand by the “LOA”?

4. List down the types of welding joints.

5. What precautions are to be taken in the event of partial loss of intact buoyancy?

6. Define the term Gross tonnage.

7. Describe “Free Board” of a ship.

8. Define “Class A-60” division bulkhead.

9. What is the effect of “Bilging”?

10. What are the three conditions of ship?

Part B (5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Draw the layout of the Shipyard.

Or

(b) What is Grounding and mention the action to be taken in the event of grounding?

12. (a) List the advantages of Electric Arc welding.

Or

(b) Express the minimum safety cargo ship construction rule.

13. (a) What is sea trial? When and why is carried out? Discuss the structural fire protection rule built in Passenger ship.

Or

(b) What is Plimsol line? With an aid of neat sketch mark the subdivisions of Load lines.

14. (a) A box shaped vessel is 70 m long and is floating at an even keel at 4.5 m draft. A mid-ship compartment is 7 m long and is empty. Find the increase in draft if this compartment is bilged.

Or

(b) What are the functions of classification societies?

15. (a) Describe the classes of fire division zones.

Or

(b) Define Angle of Loll with neat diagram.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Discuss the structural fire protection rule built in Passenger ship.

Or

(b) How will you calculate bilging and flooding limits of compartments?

17. (a) Explain the stability and trim during Dry docking of ship.

Or

(b) Explain the angle of Heel when turning with neat diagram.

18. (a) M.V. hindship floating in condition No 4. A Consignment of cargo weighting 500 tonnes in shifting from 3 hold to the upper deck, kg 13.28 m. Find the final GM (solid and fluid).

Or

(b) Draw the lines plan of the merchant ship.

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C–1800

Sub. Code
11646

B.Sc. DEGREE EXAMINATION, NOVEMBER 2021

Fourth Semester

Nautical Science

NAVIGATION – III

(2016 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What is Great circle track?

2. What is Occultation of Star or planet?

3. Explain circumpolar bodies.

4. Zodiac belt.

5. Mention the uses of ARPA.

6. Why cannot Polaris be seen from the southern hemisphere?

7. Describe Umbra and Penumbra.

8. What is Free Gyroscope?

9. What is Transducer?

10. What is DGPS?

Part B $(5 \times 5 = 25)$

Answer **all** questions.

11. (a) What are the conditions required for Lunar Eclipses to Occur?

Or

(b) State the conditions for a celestial body to be circumpolar.

12. (a) Why does Planet Venus seem to be a rising star or setting Star?

Or

(b) What is "V" correction? And why it must be applied to planets and moon?

13. (a) Explain Conditions required for bodies to be Circumpolar.

Or

(b) Write short note on Phases of Moon.

14. (a) Explain the principles of RADAR.

Or

(b) In brief write about the GMDSS purpose and function in a Safety Net system.

15. (a) What is EPIRB and its Uses?

Or

(b) Define VDR. Explain the information available in VDR.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Find the Distance and Initial Course and Final Course of Great Circle sailing from

Lat : 33 . 22'S 113° 08'E To Long : 10 . 51'5 049° 16'E.

Or

(b) After traveling a distance of 3800 Miles along a great circle, the ships Course was 112° in Latitude 48° N and Longitude 100° E. Find the initial position?

17. (a) On the 6thMarch 1992, AM at DR 30° 30'N, 140° 11'W the Moon bore 105° (C) at 07 H 35M 02 S chron time (Err- 04 m 06 s Fast). If Variation was 2' F, find the deviation.

Or

(b) On 1st Dec. 1992, PM at ship in DR 29° 27'N, 140° 44'E VENUS bore 235° (C) at 09H 16 M 08s chron time (err-10m 04s fast). If Var was 2.5' E, find the deviation for ship's head.

18. (a) Explain the properties of a Free Gyroscope.

Or

(b) Explain the working principle of Echo sounder in detail.

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C–4628

Sub. Code
11651

B.Sc. DEGREE EXAMINATION

NAUTICAL SCIENCE

NOVEMBER 2021 EXAMINATION

Fourth Semester

COMPUTER PROGRAMMING AND UTILITIES.

(Upto 2015 batch)

Duration : 3 Hours Maximum : 75 Marks

Answer **all** questions. ($5 \times 15 = 75$)

1. (a) Explain various generations of computers and their advantages.

Or

(b) What are input devices? Explain their functions.

2. (a) (i) Define database and list its characteristics.

(ii) What are data models? Explain any one in detail.

Or

(b) (i) Explain the role of database administrator.

(ii) What is SQL? Explain the data manipulation commands.

3. (a) (i) Write the structure of a C program.

(ii) Explain the For statement with example.

Or

(b) (i) What are the data types supported by C language? Explain.

(ii) How are arrays handled in C? Illustrate.

4. (a) (i) What is a computer network? Explain various network topologies.

(ii) Explain the working of E-mail.

Or

(b) (i) Discuss various types of computer networks.

(ii) Distinguish between Intranet and Extranet.

5. (a) (i) How data are entered and sorted in MS-Excel? Explain.

(ii) Explain any five built-in-functions in MS-Excel.

Or

(b) (i) How to create a chart in MS-Excel? Explain the procedure.

(ii) Explain various charts available in MS-Excel.

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C–4806	Sub. Code 11651

B.Sc. DEGREE EXAMINATION, NOVEMBER 2021

Fifth Semester

Nautical Science

CARGO HANDLING AND STOWAGE – III

(2016 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What do you mean by Timber Deck Cargo?

2. What is Timber Loadline?

3. Define the word “Seaworthiness”.

4. What do you mean by “Thrust along the derrick boom”?

5. Define “Third Party Damage”.

6. Define the word “Ship Stability”.

7. Define the term “Explosives”.

8. Define “Union Purchase System”.

9. Define Centre of Gravity.

10. What do you mean by “Flammable Limit”?

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) What are the preparations to be taken during Loading Deck Cargo?

Or

(b) What are the criteria to be taken into account in ship's stability positively at all times in "Timber Cargo"?

12. (a) What is B/L? Explain about any two of them.

Or

(b) What do you mean by Cargo Claim? Explain the duties of Master while damage of cargo vessel in unworthy condition?

13. (a) What are the precautions to be taken whilst loading/discharging heavy lifts?

(i) ARQ

(ii) FEC

(iii) SELFEC

Or

(b) What are the entries to be made in the "Cargo Record Book"?

14. (a) What are the three types of Gas Tanker? Explain the control systems filled in a tank.

Or

(b) What is the purpose and uses of IBC Code?

15. (a) Describe the following:

(i) Certificate of fitness.

(ii) Reliquification plant

Or

(b) Describe the following:

(i) Dangerous Cargo Manifest

(ii) General Index

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) What are the Guidelines for the underdeck stowage of logs? Explain shifting of cargo.

(b) What is Hold Space?

Or

(c) What are the Cargo Documents? Describe all documents required in detail.

17. (a) How many tonnes of the following cargoes would fit in a hold 12m × 9m × 3.5m with broken stowage as mentioned?

Cargo	Stowage Factors (m/t)	Broken Stowage
Copper Ingots	0.31	8%
Rubber Bale	1.03	13%
Chemical Drums	1.64	11.2%
Steel Billets	0.34	7.5%

Or

(b) What are the dangerous goods documents to e carried onboard ship?

(c) A beam 3m long weighing 2 tonnes is to be filled by a two-lagged sling of the length 5m each. A weight of 3 tonnes is placed 0.5m from one end. Find the tension on each leg.

18. (a) What are the classifications of dangerous goods divided under IMDG Code?

(b) State any five classes of dangerous goods under IMDG Code and Explain with symbols.

Or

(c) Draw a simple diagram of a closed circuit of loading operation using a Vapour Return Line.

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C–4807	Sub. Code 11652

B.Sc. DEGREE EXAMINATION, NOVEMBER 2021

Fifth Semester

Nautical Science

VOYAGE PLANNING AND COLLISION PREVENTION – III

(2016 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define Distress and Safety Alert.

2. What is DSC?

3. What is NAVTEX? Give frequency.

4. Swivel Piece is used for what?

5. Describe Muster List.

6. How will you prevent the running out of Anchor Chain Cable?

7. Define GMDSS and its any two uses.

8. Define MMSI.

9. What is Search and Rescue System?

10. What is VTS?

Part B (5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) What are the uses and functions of NAVTEX? Explain in details.

Or

(b) Define CASPSS — SARSAT System of Communication. What is the basic concept of these Satellite?

12. (a) What is WWNWS? How many areas are there in WWNWS?

Or

(b) What are the procedures to report? When a ship arriving and leaving Indian Ports?

13. (a) Define Cardinal Marks and describe the characteristics of shapes, lights and colour of Lights and Shapes.

Or

(b) What's Publications? List the Admiralty Publications and the uses.

14. (a) What do you mean by Dipping and Raising of a light from your vessel? Explain with proper sketch.

Or

(b) The Range of Light given on the Chart is 17 miles and the height 36.58m (120 feet). Find the raising distance of this light, if the observer's height of eye is 11m (36 feet).

15. (a) Define the following:

(i) EPIRB

(ii) IALA Buoyage System

Or

(b) A Power Driven Vessel greater than 150m in length, what are the shapes and lights to be hoisted in the following situations:

(i) Making way

(ii) NUC

(iii) RAM

Part C (3 × 10 = 30)

Answer **all** questions, choosing either (a) or (b).

16. (a) Describe the Lateral Marks.

(b) Explain in details of Shapes, Lights, Colour of Lateral Marks Under Region A and Region B.

Or

(c) What are the Four Sea Areas? Explain and List the Radio Communication Equipment and the Frequencies allocated.

17. (a) What is the Terrestrial Communication and Satellite Communication?

(b) What do you understand by "Vessel Reporting System"?

Or

(c) Define the following and state the functions

(i) AMVER

(ii) NBDP

(iii) MRCC

(iv) VTIS Malacca

18. (a) Own course 234°(T) at 14 knots. Target informations as below:

Ship's Time	Bearing (T)	Range (M)
2008	300°	6.00
2014	299°	3.95

Find

(i) CPA range and time

(ii) Course and Aspect of Target

(iii) Aspect at 2014, at 2016, own ship reduced speed to 6 kts, Find

(iv) the predicted CPA range and time.

Or

(b) Find the following from the given own ship and target information:

Ship's Time	Bearing (T)	Range (M)
0640	351°	11.0
0652	355°	07.1

Find

(i) CPA and TCPA

(ii) Course and Speed of Target

(iii) Aspect at 0652

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C–4808	Sub. Code
	11653

B.Sc. DEGREE EXAMINATION, NOVEMBER 2021

Fifth Semester

Nautical Science

COMPUTER PROGRAMMING AND UTILITIES

(2016 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** the questions.

1. What are the characteristics of computer?

2. Write the classification of Computers?

3. Define the SQL Commands with examples (a) Insert (b) Delete (c) Select.

4. What is meant by Data Dictionary?

5. List out the types of C Operators.

6. What is the use of Arrays?

7. Write the types of Internet protocols.

8. What is the use of E-Mail?

9. What are the uses of Spreadsheets?

10. Write about three spreadsheet commands with example.

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Explain about Input/Output devices.

Or

(b) What are the types of Computer Languages and Explain?

12. (a) Explain the components and characteristics of Database.

Or

(b) Write about the Database models and Explain with example.

13. (a) Distinguish with Internet and Extranet.

Or

(b) Write about control statements with Example.

14. (a) Describe about Internet security.

Or

(b) Explain about types of network.

15. (a) Explain about Program Development Life Cycle.

Or

(b) What is the procedure for Graph creation?

Part C

(3 × 10 = 30)

Answer **all** questions.

16. (a) Explain about Generation of Computers.

Or

(b) Explain Block diagram of digital computers.

17. (a) Explain Data Types and operators with example.

Or

(b) Explain in detail about various network Topologies with Examples.

18. (a) Discuss about standard functions in MS-Excel.

Or

(b) Explain DML, DDL and TCL with examples.

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C–4809	Sub. Code 11654

B.Sc. DEGREE EXAMINATION, NOVEMBER 2021

Fifth Semester

Nautical Science

SHIPPING MANAGEMENT

(2016 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** the questions.

1. Define an organisation.

2. What is group cohesiveness?

3. What do you mean by decision making?

4. Define a management company.

5. State the difference between port and harbour.

6. What is demurrage?

7. Who is a distressed seaman?

8. What different Logs are maintained at the gangway?

9. What is “No Go” area?

10. How useful is AIS?

Part B (5 × 5 = 25)

Answer **all** the questions.

11. (a) Is decision making an art or science? Discuss.

Or

(b) How is SOF compiled?

12. (a) Under what circumstances a note of protest is issued?

Or

(b) Explain three types of chartering.

13. (a) What main aspects of shipping are described in SOLAS?

Or

(b) List different types and sizes of containers.

14. (a) How important are Mate's Receipt and Bill of Lading?

Or

(b) How to get the cargo hold passed for a designated cargo?

15. (a) How to keep track of weather whilst on a passage?

Or

(b) Which type of leadership is most suited for a captain?

Part C (3 × 10 = 30)

Answer **all** the questions.

16. (a) Role of Master indifferent aspects of shipping.

Or

(b) As per SOLAS, what are the obligatory reports to be made by a Master?

17. (a) State the pros and cons of Harmonised survey.

Or

(b) State the duties of PSC and FSC.

18. (a) What is the significance of STCW courses?

Or

(b) Explain the technological advancements that have taken place in the last two decades in maritime industry.

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C–4810	Sub. Code
	11655

B.Sc. DEGREE EXAMINATION, NOVEMBER 2021

Fifth Semester

Nautical Science

METEOROLOGY AND OCEANOGRAPHY — I

(2016 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define Relative Humidity.

2. Name at least five ocean currents.

3. What do understand by Ozone depletion?

4. What is an ISOBAR?

5. Define Gust and squall.

6. What is Veering and Backing?

7. Define the sea state when the wind force BF5.

8. What is steam fog?

9. What is a current?

10. Define wet and dry air. What do you understand by Saturation of an air parcel?

Part B (5 × 5 = 25)

Answer **all** questions choosing either (a) or (b).

11. (a) What is the relationship between tides and Phases of moon?

Or

(b) Define Warm and Cold Currents with 3 examples of each.

12. (a) What is Geographic wind and Cyclostrophic wind?

Or

(b) How will you estimate true wind at sea?

13. (a) Define Buys Ballot's Law and state the precautions to be taken when applying it.

Or

(b) Describe various types of clouds on the basis of their height above the sea level.

14. (a) What is visibility? What are the factors that affect it?

Or

(b) What is Rime?

15. (a) What do you understand by cargo sweat and ship sweat?

Or

(b) Define :

(i) Latent heat
(ii) Vapour Pressure
(iii) Ozone depletion
(iv) Air pollution
(v) Insolation.

Part C (3 × 10 = 30)

Answer **all** questions choosing either (a) or (b).

16. (a) Explain how clouds are formed with a help of a diagram.

Or

(b) How is fog formed? How affects the visibility?

17. (a) What is true wind and apparent wind? Explain how vector calculation is carried out.

Or

(b) Course 160° speed 10 knots. Direction of wind (obtained by observing line of waves) was 270°. Wind speed by shipboard anemometer was 17 knots. What direction and force of wind is to be entered into the ship's logbook?

18. (a) Explain Green house effect with a suitable diagram. How global warming is caused?

Or

(b) Explain the construction principle and use of aneroid barometer.

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C–4811	Sub. Code
	11656

B.Sc. DEGREE EXAMINATION, NOVEMBER 2021

Fifth Semester

Nautical Science

NAVIGATION — IV

(2016 onwards)

Duration : 3 Hours Maximum : 75 Marks

Note :

1. Draw diagram wherever it is applicable.
2. Use of Tide tables or other tables allowed.
3. Use of 2008 Nautical Almanac is allowed.

Part A (10 × 2 = 20)

Answer **all** questions.

1. What do you mean by constellation?
2. What do you understand by "rudder limit alarm"?
3. What is the meaning of "tank pressure alarm"?
4. Mention any two contents of voyage related data of AIS.
5. State the frequencies dedicated for AIS 1 and AIS 2.
6. Define "CHART DATUM".
7. What is the meaning of "range of tide"?
8. What is "tidal stream"?. Draw the symbol.

9. What is the Principle of an echo sounder?

10. What is the use of "Azimuth circle"?

Part B (5 × 5 = 25)

Answer **all** questions choosing either (a) or (b).

11. (a) Explain the principle and operation of "Smoke detector alarm"?

Or

(b) What is "OFF course alarm"?. How do you make setting for an off course alarm?. What is your action on hearing an off course alarm?

12. (a) What are the controls of an "AUTO PILOT"? Explain.

Or

(b) Explain "MANUAL FOLLOW UP and NON FOLLOW UP STEERING" methods?

13. (a) Explain the errors of "Doppler log".

Or

(b) Explain the general principle on which the Doppler log works.

14. (a) Briefly explain the principle and operation of Echo sounder.

Or

(b) Explain the following:

(i) Diurnal and semi diurnal tides.

(ii) Among Sun and Moon, which is having more attractive force? What is the reason for it?

15. (a) Enumerate the benefits of VDR.

Or

(b) What are the components of VDR?

Part C (3 × 10 = 30)

Answer **all** questions choosing either (a) or (b).

16. (a) Explain the formation of:
(i) Lunar tide
(ii) Solar tide.

Or

(b) What is AIS?. Explain the uses and limitation of AIS?

17. (a) Describe the principle and operation of "Electromagnetic Log" with a diagram.

Or

(b) (i) Describe the "Gyroscopic inertia and precession" with suitable diagrams.
(ii) Briefly explain the care and maintenance of Gyro compass.

18. (a) Given the following extracts from the TIDE tables, find the Standard time during the afternoon on 28th FEB at which there will be 5 mtrs of water over a shoal patch where the chart shows 2 mtrs sounding, off the port of DARWIN (Australia).

EXTRACT FROM ATT

TIME	HEIGHT
0018	2.7M
0557	6.2M
1223	1.5M
1832	7.0M

Or

(b) Find the height of the tide of DARWIN (Australia) at 1805 hrs. Standard Time on 20th January. The extracts from the Tide tables are given below.

EXTRACT FROM ATT

TIME	HEIGHT
0250	2.0M
0830	6.6M
1436	1.2M
2105	7.5M