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IV Semester B.S.c. (NEP) Degree Examination, August/September - 2024

KANNADA

ಕುಲಕುಲವೆಂದು ಹೊಡೆದಾಡದಿರಿ

Paper : AECC

(Repeater / Regular)

Time : 2 Hours

Maximum Marks : 60

Instructions to Candidates:

ಭಾಷೆ ಮತ್ತು ಬರಹದ ಶುದ್ಧಿಗೆ ಗಮನ ಕೊಡಲಾಗುವುದು.

1. a) ಮಾರಿಕೊಂಡವರು ಎಂಬ ಕಥೆಯಲ್ಲಿ ದಲಿತ ಅಸಹಾಯಕ ಪ್ರೀತಿ ಹೇಗೆ ವ್ಯಕ್ತಗೊಂಡಿದೆ ವಿವರಿಸಿರಿ. (1×10=10)
(ಅಥವಾ)
b) ನಂ ರೂಪ್ಪಿ ಕವಿತೆ ಲಂಬಾಣಿ ಜನಗಳ ಬದುಕಿನ ಅನಾವರಣವಾಗಿದೆ ವಿವರಿಸಿರಿ.
2. a) ಶರಣಧರ್ಮದ ಆಧ್ಯಾತ್ಮಿಕ ನಿಲುವುಗಳ ಬಗ್ಗೆ ಜಿ.ಎಸ್. ಶಿವರುದ್ರಪ್ಪನವರ ಅಭಿಪ್ರಾಯಗಳನ್ನು ಚರ್ಚಿಸಿರಿ. (1×10=10)
(ಅಥವಾ)
b) ಕುಲದ ನೆಲೆಯ ಕುರಿತು ಕನಕದಾಸರ ವಿಚಾರಗಳನ್ನು ಬರೆಯಿರಿ.
3. a) ಉತ್ತರಾದೇವಿ ಸತಿಯಾದ ಕಥೆಯನ್ನು ವಿವರಿಸಿರಿ. (1×10=10)
(ಅಥವಾ)
b) ಚೇಂಕ್ರ ಮೇಸ್ತ್ರಿಯ ಅಸಾಧರಣ ಅನುಭವವನ್ನು ತೇಜಸ್ವಿಯವರು ಹೇಗೆ ನಿರೂಪಿಸಿದ್ದಾರೆ ಚರ್ಚಿಸಿರಿ.
4. a) ಫ.ಗು. ಹಳಕಟ್ಟಿಯವರ ಸಾಧನೆಯನ್ನು ವಿವರಿಸಿ. (1×10=10)
(ಅಥವಾ)
b) ಮಹಿಳಾ ವಿಮೋಚನೆಯ ಕುರಿತು ಗಾಯತ್ರಿ ನಾವಡ ಅವರ ವಿಚಾರಣೆ ಚರ್ಚಿಸಿರಿ.
5. ಬೇಕಾದ ಎರಡಕ್ಕೆ ಟಿಪ್ಪಣಿ ಬರೆಯಿರಿ. (2×5=10)
a) ಪೆಟ್ರೊಮ್ಯಾಕ್ಸ್.
b) ಕೆ.ಎಸ್. ನಿಸಾರ ಅಹಮ್ಮದ್.
c) ಎಲುವಿನ ಹಂದರದೊಳಗೆ.
d) ಚಂಪಾ.

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6. ಒಂದೇ ವಾಕ್ಯದಲ್ಲಿ ಉತ್ತರಿಸಿ.

(10×1=10)

- a) ದೇವನೂರು ಮಹಾದೇವ ಅವರ ಹುಟ್ಟಿದ ಊರು ಯಾವುದು?
 - b) ಕನಕದಾಸರ ಅಂಕಿತವೇನು?
 - c) ಜಿ.ಎಸ್.ಎಸ್. ಅವರ ಪೂರ್ಣಹೆಸರೇನು?
 - d) ಉತ್ತರಾದೇವಿ ಕಥನ ಗೀತೆಯನ್ನು ಸಂಪಾದನೆ ಮಾಡಿದವರು ಯಾರು?
 - e) "ಮೀಯುವ ಆಟ" ಸಂಕಲನ ಕೃತಿ ಯಾರು ಬರೆದದ್ದು?
 - f) ಪೂರ್ಣಚಂದ್ರ ತೇಜಸ್ವಿಯವರ ಪ್ರವಾಸ ಕಥನ ಯಾವುದು?
 - g) "ಚಂಪಾ" ಇದು ಯಾರ ಕಾವ್ಯನಾಮ?
 - h) ವಚನ ಪಿತಾಮಹ ಎಂದು ಯಾರನ್ನು ಕರೆಯುತ್ತಾರೆ?
 - i) ಡಾ. ಎಲ್.ಹನುಮಂತಯ್ಯನವರ ಪಿ.ಎಚ್.ಡಿ ಪ್ರಬಂಧ ಹೆಸರೇನು?
 - j) ಡಾ. ಗಾಯತ್ರಿ ನಾವಡ ಅವರ ಒಂದು ಕೃತಿಯನ್ನು ಬರೆಯಿರಿ.
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IV Semester B.Sc.Degree Examination, August/September - 2024

HINDI(BASIC) (AECC)

1) सपनों की होम डिलिवरी (उपन्यास)

2) पत्रलेखन

(Regular)

Time : 2 Hours

Maximum Marks : 60

I. किन्ही दस प्रश्नों के उत्तर लिखिए।

(10×1=10)

1. म चैनल में रुचि का सहायक कौन था?
अ) वीरेन्द्र सिंह ब) कुर्बान अली क) धीरेन्द्र सिंह
2. मनजीत कहाँ रहती है?
अ) मुंबई ब) अमृतसर क) चेन्नई
3. रुचि के बेटे का नाम क्या है?
अ) अमन ब) गगन क) विराज
4. सर्वेश नारंग किसे छब्बीस जनवरी कहता है?
अ) रुचि ब) मनजीत क) जिज्ञासा
5. रुचि और सर्वेश किस भाषा की फिल्म देखने गये थे?
अ) चीनी ब) फ्रांसीसी क) जापानी
6. रुचि की पाककला पर किसने प्रश्न चिन्ह लगाया?
अ) के के जोशी ब) सर्वेश नारंग क) प्रभाकर
7. 'दिव्यदर्शन पाठक' किस संसदीय सीट से कोई चुनाव नहीं हारा था?
अ) काशी ब) गया क) इलाहाबाद
8. प्रभाकर शर्मा का पुश्तैनी मकान कहाँ था?
अ) अष्टम हाउसिंग सोसायटी
ब) सप्तम हाउसिंग सोसायटी
क) नवम हाउसिंग सोसायटी
9. वीरेन्द्र ने किस रेस्तराँ में सहायक के रूप में तर्जुबा हासिल किया था?
अ) जयपुर ब) मुंबई क) पुणे
10. इनमें से रुचि की सहेली कौन है?
अ) दामिनी ब) मनजीत क) मन्दा

P.T.O.





11. मन्दा किसके घर काम करती हैं?

अ) प्रभाकर

ब) सर्वेश

क) के के जोशी

12. 'जब देखो तुम्हें चंडी चढी रहती है' इसकी जान निकालोगी तुम।' किसका कथन है?

अ) सर्वेश

ब) प्रभाकर

क) गगन

II. किन्ही तीन का संदर्भ सहित अर्थ स्पष्ट कीजिए।

(3×5=15)

1. 'मेरे को तुम्हारा काम नहीं करना माँगता। मेरा हिसाब कर दो।'
2. 'मेरा लडका उसका भी लडका है, यह बात क्या बार-बार याद दिलानी पडेगी।'
3. 'बैठी रहो अपनी कोमलता लेकर। मेरे पास इतना वक्त नहीं है।'
4. 'नेता का जीवन सामाजिक होता है। उसमे कुछ भी गोपन नहीं होता हमारी खोजी पत्रकारिता का उसुल है जो गलत हैं उसे रंगे हाथ पकडो।'
5. 'तुमने इसे जीवनदान दिया सर्वेश, मैं जीते जी यह बात कभी नहीं भुलूंगी। इसे लेकर अब मैं चलूँ?'

III. किन्ही दो प्रश्नों के उत्तर लिखिए।

(2×10=20)

1. 'सपनों की होम डिलिवरी' शीर्षक की सार्थकता को स्पष्ट कीजिए।
2. 'सर्वेश' पात्र को रेखांकित कीजिए।
3. 'सपनों की होम डिलिवरी' का आशय स्पष्ट कीजिए।
4. 'सपनों की होम डिलिवरी' नए जमाने के करवट बदलते रिश्तों को केन्द्र में रखकर लिखा गया उपन्यास है-स्पष्ट कीजिए।

IV. किन्ही तीन प्रश्नों के उत्तर लिखिए।

(3×5=15)

1. अपने भाई के विवाह में सम्मिलित होने के लिए मित्र को निमंत्रण पत्र लिखिए।
2. पुस्तकों मँगवाने के लिए प्रकाशक के नाम पर पत्र लिखिए।
3. अपने प्राचार्य को छात्रवृत्ति के लिए आवेदन पत्र लिखिए।
4. उच्च शिक्षा प्राप्त करने हेतु बैंक से कर्ज माँगते हुए बैंक मैनेजर को एक पत्र लिखिए।
5. बीमा पॉलिसी पर ऋण प्राप्त करने हेतु प्रार्थना पत्र लिखिए।



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No. of Printed Pages : 08

Booklet Serial No. 340074

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IV Semester B.Sc./B.Com. (NEP) Degree Examination, August/September - 2024
COMPUTER SCIENCE
Artificial Intelligence (SEC)
(Regular/Repeater)

Time : 1½ Hours

Maximum Marks : 30

Instructions to Candidates:

1. The question paper will be given in the form of a **Question Booklet**.
2. Immediately after the commencement of the examination, the candidate should check that the question Booklet supplied to him contains all the **30 questions** in serial order. The question booklet does not have unprinted or torn or missing pages and if so he/she should bring it to the notice of the Invigilator and get it replaced by a complete Booklet. This is most important.
3. The last page of the question Booklet may be used for **rough work**.
4. Each question is provided with four choice **A, B, C and D** having one correct answer. Choose the correct answer and **darken the bubble** corresponding to the question number using **HB Pencil or Ball pen in the OMR Answer sheet**.
5. Each correct answer carries **1 mark and no negative marks** for unattempted questions or wrong answer.
6. No candidate will be allowed to leave the examination Hall till the end of the session and without handing over his/her OMR Answer sheet to the invigilator. Candidate should ensure that the Invigilator has verified all the entries in the Register Number coding sheet and that the invigilator has affixed his/her signature in the space provided.
7. Strict compliance of instructions is essential. Any malpractice or attempt to commit any kind of malpractice in the examination will result in the summary disqualification of the candidate.
8. **Damaging/Overwriting using whitener on the OMR sheets** strictly prohibited.
9. Some technical words may be difficult to translate and the meaning will change in Kannada language.
10. **All 30 questions are compulsory**. There is no internal choice.

[P.T.O.]





1. Which of the following are the big ideas of AI?
A) Perception
B) Human - AI Interaction
C) Societal Impact
D) All of the above
2. The capability of software to interpret the world visually through cameras, video and Images.
A) Machine learning
B) Anomaly detection
C) Computer vision
D) None of the above
3. When you are creating a Clustering Model, What common ML algorithm are you using?
A) Multiclass Logistic Regression
B) K-Means
C) Linear Regression
D) Two - class Neural Network.
4. Which of the following web applications can be deployed with Azure?
A) PHP
B) WCF
C) ASP.NET
D) All of the above
5. What is the name of the Artificial Intelligence system developed by Daniel Bobrow?
A) Program known as BACON
B) System known as STUDENT
C) Program known as SHRDLU
D) System known as SIMD.
6. Face Recognition system is based on which type of approach?
A) Weak AI Approach
B) Applied AI Approach
C) Cognitive AI Approach
D) Strong AI Approach
7. Which of the following is/are the composition for AI agents?
A) Program only
B) Architecture only
C) Both Program and Architecture
D) None of the mentioned

[P.T.O.]



8. Which data role enables advanced analytics capabilities specifically through reports and visualizations?
- A) Data Scientist B) Data Engineer
C) Data Analyst D) Data Developer
9. The _____ attempt to draw inferences from existing data and patterns derive conclusions based on existing knowledge base.
- A) Cognitive data analytics B) Diagnostic data analytics
C) Predictive data analytics D) Prescriptive data analytics
10. Who set up data platform technologies that are on _____ premises and in the cloud?
- A) Data analyst B) Data Engineer
C) Data Scientist D) Database administrator
11. A _____ database is a flexible type of database that does not use tables to store data.
- A) No SQL B) PL - SQL
C) NSQL D) SQL
12. You're creating a power BI report with data from an Azure Analysis Services Cube. When the data refreshes in the cube, you would like to see it immediately in the power BI report. How should you connect?
- A) Import B) T-SQL
C) Live connection D) All of the above
13. _____ are defined between tables through primary and foreign keys.
- A) Relationship B) Cardinality
C) Integrity D) Functionality



14. What services are involved in live speech translation?
- A) Speech - to - Text and Text - to - Speech
 - B) Speech correction
 - C) Machine Translation
 - D) All of the above
15. Select all model that are part of supervised ML?
- A) Regression Model
 - B) Association
 - C) Classification Model
 - D) Both (A) and (C)
16. What markup language will you use for the control of speech synthesis output for your phone auto attendant?
- A) HTML
 - B) SQL
 - C) SSML
 - D) JSON
17. What is the main foundation for the personal Digital Assistant?
- A) Azure Speech
 - B) Bot Frame work
 - C) Computer Vision Service
 - D) Text Analytics
18. You need to ensure that users can effectively navigate your reports by using the keyboard, which property should you configure?
- A) Bookmarks
 - B) Layer order
 - C) Mobile layout
 - D) Tab order
19. Which of the following options is not a privacy level in power BI desktop?
- A) Private
 - B) Public
 - C) Organizational
 - D) Confidential

[P.T.O.]



20. Which service should you use to extract text key/value pairs and table data automatically from scanned documents?
- A) Form Recognizer B) Text Analytics
C) Language understanding D) Custom vision
21. A predictive app provides audio output for visually impaired users, which principle of Responsible AI is reflected here?
- A) Transparency B) Inclusiveness
C) Fairness D) Accountability
22. Which of the following is not the commonly used programming language for Artificial Intelligence?
- A) Perl B) Java
C) PROLOG D) LISP
23. What does the Bayesian network provide?
- A) Partial description of the domain
B) Complete description of the problem
C) Complete description of the domain
D) None of the mentioned
24. Which of the following machine requires input from the humans but can interpret the outputs themselves?
- A) Actuators B) Sensor
C) Agents D) AI system
25. Which of the following matric/metrics used for regression model?
- A) Mean absolute error B) Root of mean squared error
C) Relative Absolute error D) All of the above



26. Which one of the following options is the most important key benefit of data analysis?
- A) Decisive analytics
 - B) Informed business decisions
 - C) Complex reports
 - D) None of the above
27. Which of the following types of Explanations can be used to query the data from Azure Analysis Services Cubes?
- A) Transact - SQL (T - SQL)
 - B) Multidimensional Expressions (MDX)
 - C) Data Analysis Expressions (DAX)
 - D) Both (B) and (C)
28. Your department wants to see a single visual that explains the factors that contribute to revenue growth the most. Which visualization should you use?
- A) Decomposition tree
 - B) Funnel chart
 - C) Key influencers
 - D) Stacked Column chart
29. In which university the first demonstration of AI program run?
- A) Oxford University
 - B) Stanford University
 - C) Cambridge University
 - ~~D) Carnegie Mellon University~~
30. Machine learning is a field of AI consisting of learning algorithms that _____.
- A) At executing some task
 - B) Over time with experience
 - C) Improve their performance
 - ~~D) All of the above~~
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IV Semester B.Sc. 6 (NEP) Degree Examination, August/September - 2024

MATHEMATICS

Partial Differential Equations And Integral Transforms (DSC)

(Regular/Repeater)

Time : 2 Hours

Maximum Marks : 60

Instructions to Candidates :

1. Answer any **SIX** questions from question number 1.
2. Answer any **THREE** questions from question numbers 2, 3, 4, and 5.

Answer any **SIX** of the following.

(6×2=12)

1. a) Form the partial differential equation by eliminating arbitrary function from $z = f(x^2 + y^2)$.
- b) Solve $p^2 - q^2 = 1$.
- c) Solve $(D^2 + 3DD' + 2D'^2)z = 0$.
- d) Solve $(D^2 + D'^2)z = e^{x+y}$.
- e) Find the Laplace transform of $\cosh at$.
- f) Evaluate : $L^{-1} \left\{ \frac{1}{(S-4)^3} \right\}$.
- g) Define Fourier series of the function with the period $2L$ and write the formula of a_0 , a_n and b_n .
- h) State Dirichlet's Conditions for Fourier expansion.

Answer any **THREE** of the following.

(3×4=12)

2. a) Explain the method of solving for linear differential equation of 1st order $Pp + Qq = R$ where P, Q and R functions of x, y, z.
- b) Find the complete and singular solution for $z = px + qy + p^2 + q^2$.
- c) Solve: $x^2 p + y^2 q = nxy$.
- d) Solve: $q = (z + px)^2$ by Charpit's method.

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Answer any **THREE** of the following.

(3×4=12)

3. a) Solve : $(D^2 - 2DD' + D'^2)z = 12xy$.
b) Solve : $r - 2s + t^2 = \sin(2x + 3y)$.
c) Solve : $(D^2 - 4DD' + 4D'^2)z = \cos(3x + y)$.
d) Solve : the elliptic partial differential equation $\frac{\partial^2 u}{\partial x^2} + \frac{\partial^2 u}{\partial y^2} = 0$.

Answer any **THREE** of the following.

(3×4=12)

4. a) If the Laplace transform of a periodic function $f(t)$ with period T , then

Prove that
$$L[f(t)] = \frac{1}{1 - e^{-sT}} \int_0^T e^{-st} \cdot f(t) dt .$$

- b) State and prove Convolution theorem.
c) Find the inverse Laplace transform of $\frac{1}{s(s+1)(s+2)}$.
d) Solve : $\frac{dy}{dx} - 5y = e^{5x}$ given $y(0) = 2$.

Answer any **THREE** of the following.

(3×4=12)

5. a) Obtain the Fourier series of $f(x) = x^2$ in $(-\pi, \pi)$ and $f(x+2\pi) = f(x)$.
b) Find the half range sine series of the function $f(x) = \pi - x$ in $[0, \pi]$.
c) Find Finite Fourier sine and cosine transform of $f(x) = x$ in $(0, l)$.
d) Obtain the Fourier Series $f(x) = e^{-ax}$, $(-\pi, \pi)$ where $f(x)$ is a period with 2π , Find a_0 and a_n .



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IV Semester B.Sc. (NEP) Degree Examination, August/September - 2024

GENERIC ENGLISH (AECC)

(Regular/Repeater)

Time : 2 Hours

Maximum Marks : 60

Text : *Carvalho*

I. Answer any FIVE of the following in one or two sentences: (5×2=10)

1. Where were Mandanna and Laxmana working?
2. Who is Carvalho?
3. Why did the narrator meet carvalho?
4. What did pyara see in an overturned earthen pot?
5. Who acted as the father of the bridegroom in Mandanna's marriage?
6. Name the narrator's dog in the novel.
7. Who is Yenka?

II. Answer any TWO of the following: (2×5=10)

1. Mandanna
2. Narway Ramaih
3. Lakshmana
4. Depiction of the nature in carvalho.

III. 1. Sketch the character of carvalho. (1×10=10)

(OR)

2. 'Carvalho' presents: the dream world of science, mystery and everyday life of malnad-Explain.

IV. Answer any TWO of the following selecting one from poetry and one from TED Talks: (2×5=10)

1. Critically appreciate the poem 'On Killing a Tree'.
2. How does Shalini Rajanish present her ideas on Gender Equality and Empowerment of all women?
3. Describe India's environmental crisis.

[P.T.O.]



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V. 1. Explain the importance of Pecha kucha presentation. (1×5=5)

(OR)

2. What are the skills required for an interview?

VI. 1. Write a note on your travel experience. (1×5=5)

(OR)

2. Write an article on one of your scientific experiments.

VII. 1. Draft a congratulatory e-mail copy to your friend on his success in the IPS examination. (1×5=5)

(OR)

2. Draft a leave letter to be sent via e-mail to the manager of your bank, citing reasons for your sudden illness.

VIII. 1. Write a note on 'Twitter'. (1×5=5)

(OR)

2. Explain the importance of Blog writing.



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IV Semester B.Sc. (NEP) Degree Examination, August/September - 2024
CHEMISTRY (DSC)
(Regular/Repeater)

Time : 2 Hours**Maximum Marks : 60****Instructions to Candidates :**

- 1) All questions are **compulsory**.
- 2) Draw neat **diagrams** and give equations wherever necessary.

Answer any **SIX** questions.**(6×2=12)**

1.
 - a) Write Van Deemter's equation and its significance.
 - b) Mention two factors affecting the distribution coefficient.
 - c) Mention the hybridisation and shape of PCl_5 molecule.
 - d) State Bent's rule.
 - e) Write the Aldol condensation reaction of acetaldehyde.
 - f) What are arynes? Give an example.
 - g) The energy of activation of a reaction is zero and reaction rate constant at 300 K is $3.2 \times 10^6 \text{ s}^{-1}$. Calculate the rate constant at 310 K.
 - h) Define molar conductance and mention its variation with dilution.

Answer any **THREE** questions.**(3×4=12)**

2.
 - a) Write about the following.
 - i) Stationary phase and mobile phase.
 - ii) R_f value and factors affecting it.
 - b) Write a note on column chromatography.
 - c) What is solvent extraction? Explain the batch solvent extraction.
 - d) Explain the application of ion-exchange chromatography in the separation of Lanthanides.

[P.T.O.]



(2)

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Answer any **THREE** questions.

(3×4=12)

3. a) Explain the sp^2 hybridisation of BF_3 molecule by VBT.
- b) Give the molecular orbital energy level diagram of N_2^+ and write its magnetic property.
- c) Calculate the bond order of O_2 and O_2^{2-} and predict their stability, bond length and bond energy.
- d) Write in brief the Free electron theory of metallic bonding and how does it explain the thermal conductivity of metals?

Answer any **THREE** questions.

(3×4=12)

4. a) What are carbocations? Explain the stability of carbocations.
- b) Explain the mechanism of pinacol - pinacolone rearrangement.
- c) Write the mechanism of Perkin's reaction.
- d) What are Nitrenes? Mention their types and compare their stability with carbenes.

Answer any **THREE** questions.

(3×4=12)

5. a) Explain in brief the experimental determination of rate constant of inversion of cane sugar by polarimetric method.
- b) Explain the application of Kohlrausch's law in the determination of Equivalent conductance at infinite dilution and degree of dissociation of weak electrolyte.
- c) Calculate the transport numbers of cation and anion of an electrolyte if the ratio of ionic mobility of the cation and anion is 0.7.
- d) Explain the conductometric titration curve for the titration of strong acid (HCl) and strong base (NaOH).
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IV Semester B.Sc. (NEP) Degree Examination, August/September - 2024

PHYSICS

Thermal Physics And Electronics

(Regular/Repeater)

Time : 2 Hours

Maximum Marks : 60

Instructions to Candidates :

- 1) Calculations can be done using calculators.
- 2) Write the intermediate steps wherever necessary.
- 3) Give the physical meaning of each symbol used.

Answer any **SIX** of the following.

(6×2=12)

1.
 - a) State Carnot's theorem.
 - b) What is the significance of entropy temperature diagram?
 - c) Mention thermodynamic potentials.
 - d) Define adiabatic demagnetization.
 - e) What is NPN transistor? Give its circuit symbol.
 - f) What is negative feedback?
 - g) Mention the types of ICs.
 - h) Give the circuit symbol for NOR gate and write the truth table.

Answer 'a' and 'b' or 'c' and 'd' of the following.

2.
 - a) What are the applications of First law of thermodynamics explain in detail. **(8)**
 - b) In a thermodynamic process, the pressure of a fixed mass of gas is changed in such a manner that, the gas release 20J of heat and 8J of work is done on the gas. If the initial energy of the gas is 30J, what will be its final internal energy? **(4)**

(OR)

- c) With a neat diagram, explain the construction and working of Otto engine. Derive an expression for efficiency of Otto engine. **(8)**
- d) Calculate the efficiency of Otto engine, if its adiabatic expansion ratio is 5 ($\gamma = 1.4$). **(4)**

[P.T.O.]



Answer 'a' and 'b' or 'c' and 'd' of the following.

3. a) Derive Maxwell's thermodynamic relations. (8)
b) Calculate the change in entropy when 10 gms of ice at 0°C is converted into water at the same temperature. ($L = 80 \text{ cal/gm}$). (4)

(OR)

- c) State the law of equipartition of energy. Explain the application of law of equipartition of energy in case of mono-atomic and diatomic molecules. (8)
d) Calculate the temperature at which the rms velocity of hydrogen molecule will be equal to the speed of the earth's first satellite (i.e. $V = 8 \text{ km/s}$). (4)

Answer 'a' and 'b' or 'c' and 'd' of the following.

4. a) With neat circuit diagrams, explain the working of half wave and full wave rectifiers. (8)
b) What is a Zener diode? Explain its V-I characteristics. (4)

(OR)

- c) With a neat circuit diagram, explain the working of a RC phase shift oscillator. (8)
d) A phase shift oscillator uses 5 PF capacitors. Find the value of R to produce a frequency of 800K Hz. (4)

Answer 'a' and 'b' or 'c' and 'd' of the following.

5. a) Explain the applications of an op-amp as an inverting amplifiers. Derive an expression for its Voltage gain. (8)
b) Mention the characteristics of an op-amp. (4)

(OR)

- c) Explain the construction and working of
i) OR ii) AND iii) NOT iv) NAND v) NOR gates
with truth tables. (8)
d) Prove the Boolean identity $(A+B)(A+C) = A+BC$ (4)



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No. of Printed Pages : 08

Booklet Serial No.

Reg. No.

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IV Semester B.Com/B.Sc/B.C.A. (NEP) Degree Examination August/September - 2024
Financial Education and Investment Awareness
(Regular)

Time : 1 Hours

Maximum Marks : 30

Instructions to Candidates:

1. The question paper will be given in the form of a **Question Booklet**.
2. Immediately after the commencement of the examination, the candidate should check that the question Booklet supplied to him contains all the **30 questions** in serial order. The question booklet does not have unprinted or torn or missing pages and if so he/she should bring it to the notice of the Invigilator and get it replaced by a complete Booklet. This is most important.
3. The last page of the question Booklet may be used for **rough work**.
4. Each question is provided with four choice **A, B, C and D** having one correct answer. Choose the correct answer and **darken the bubble** corresponding to the question number using **HB Pencil or Ball pen in the OMR Answer sheet**.
5. Each correct answer carries **1 mark and no negative marks** for unattempted questions or wrong answer.
6. No candidate will be allowed to leave the examination Hall till the end of the session and without handing over his/her OMR Answer sheet to the invigilator. Candidate should ensure that the Invigilator has verified all the entries in the Register Number coding sheet and that the invigilator has affixed his/her signature in the space provided.
7. Strict compliance of instructions is essential. Any malpractice or attempt to commit any kind of malpractice in the examination will result in the summary disqualification of the candidate.
8. **Damaging/Overwriting using whitener on the OMR sheets** strictly prohibited.
9. Some technical words may be difficult to translate and the meaning will change in Kannada language.
10. **All 30 questions are compulsory**. There is no internal choice.

[P.T.O.]





1. ATM stands for
 A) Any Time Money
 B) Automated Teller Machine
 C) All Time Money
 D) All of the above
 ATM ಎಂದರೆ
 A) ಯಾವ ಸಮಯದಲ್ಲೂ ಹಣ
 B) ಸ್ವಯಂಚಾಲಿತ ಟೆಲ್ಲರ್ ಯಂತ್ರ
 C) ಯಾವಾಗಲೂ ಹಣ
 D) ಮೇಲಿನ ಎಲ್ಲವು
2. ATM can be used for
 A) To deposit money
 B) To withdraw money
 C) To transfer money
 D) All of the above
 ATM ನ್ನು ಇದಕ್ಕೆ ಬಳಕೆ ಮಾಡಬಹುದು
 A) ಹಣ ಜಮೆ ಮಾಡಲು
 B) ಹಣ ಸೆಳೆಯಲು
 C) ಹಣ ವರ್ಗಾಯಿಸಲು
 D) ಮೇಲಿನ ಎಲ್ಲವು
3. Expand GDP
 A) Gross Domestic Product
 B) Gross Domestic Production
 C) Gross Domestic Plan
 D) All of the above
 GDP ವಿಸ್ತರಿಸಿ.
 A) Gross Domestic Product
 B) Gross Domestic Production
 C) Gross Domestic Plan
 D) ಮೇಲಿನ ಎಲ್ಲವು
4. Saving is equal to
 A) Salary - Expenditure
 B) Income - Expenditure
 C) Salary + Interest
 D) Salary + Expenditure
 ಉಳಿತಾಯವು ಸಮನಾಗಿರುತ್ತದೆ.
 A) ಸಂಬಳ - ಖರ್ಚು
 B) ಆದಾಯ - ಖರ್ಚು
 C) ಸಂಬಳ + ಬಡ್ಡಿ
 D) ಸಂಬಳ + ಖರ್ಚು
5. Which of the following are the types of deposit ?
 A) Time deposit
 B) Demand deposit
 C) A & B
 D) None of the above
 ಈ ಕೆಳಗಿನವುಗಳಲ್ಲಿ ಠೇವಣಿಗಳ ಪ್ರಕಾರಗಳಾವವು ?
 A) ಸಮಯದ ಠೇವಣಿ
 B) ಬೇಡಿಕೆ ಠೇವಣಿ
 C) A & B
 D) ಮೇಲಿನ ಯಾವುದು ಅಲ್ಲ
6. GST is a type of tax.
 A) Direct
 B) Indirect
 C) Provisional
 D) Time
 GST ಯು ತೆರಿಗೆಯ ಒಂದು ಪ್ರಕಾರ
 A) ನೇರ
 B) ಪರೋಕ್ಷ
 C) ತಾತ್ಕಾಲಿಕ
 D) ಸಮಯ
7. Which of these is/are not a economic factor.
 A) Family members
 B) Family Income
 C) Family type
 D) A & C
 ಇವುಗಳಲ್ಲಿ ಯಾವುದು ಆರ್ಥಿಕ ಅಂಶವಲ್ಲ ?
 A) ಕುಟುಂಬದ ಸದಸ್ಯರು
 B) ಕುಟುಂಬದ ಆದಾಯ
 C) ಕುಟುಂಬದ ಪ್ರಕಾರ
 D) A & C

[P.T.O.]



8. RBI was established in the year.

A) 1935

C) 1933

RBI ಯಾವ ವರ್ಷ ಸ್ಥಾಪಿಸಲಾಯಿತು ?

A) 1935

C) 1933

B) 1934

D) None of these

B) 1934

D) ಮೇಲಿನ ಯಾವುದು ಅಲ್ಲ

9. Micro environment factors includer

A) Customers

C) Competitors

ಸೂಕ್ಷ್ಮ ಪರಿಸರವುಅಂಶಗಳನ್ನು ಹೊಂದಿದೆ.

A) ಗ್ರಾಹಕರು

C) ಪ್ರತಿಸ್ಪರ್ಧಿಗಳು

B) Suppliers

D) All of the above

B) ಪೂರೈಕೆದಾರರು

D) ಮೇಲಿನ ಎಲ್ಲವೂ

10. Expand SEBI

A) State Exchange Bank of India

C) Securities Exchange Bank of India

SEBI ಯನ್ನು ವಿಸ್ತರಿಸಿ.

A) ಸ್ಟೇಟ್ ಎಕ್ಸ್‌ಚೇಂಜ್ ಬ್ಯಾಂಕ್ ಆಫ್ ಇಂಡಿಯಾ

B) ಸ್ಟಾಕ್ ಎಕ್ಸ್‌ಚೇಂಜ್ ಬ್ಯಾಂಕ್ ಆಫ್ ಇಂಡಿಯಾ

C) ಸೆಕ್ಯೂರಿಟೀಸ್ ಎಕ್ಸ್‌ಚೇಂಜ್ ಬ್ಯಾಂಕ್ ಆಫ್ ಇಂಡಿಯಾ

D) ಸೆಕ್ಯೂರಿಟೀಸ್ ಎಕ್ಸ್‌ಚೇಂಜ್ ಬೋರ್ಡ್ ಆಫ್ ಇಂಡಿಯಾ

B) Stock Exchange Bank of India

D) Securities exchange Board of India

11. Financial statements includes

A) P & L A/c

C) Balance sheet

ಹಣಕಾಸಿನ ಹೇಳಿಕೆಗಳು ಒಳಗೊಂಡಿದೆ.

A) ಲಾಭ ನಷ್ಟ ಖಾತೆ

C) ಆಧಾರ ಪತ್ರಿಕೆ

B) Cash flow statement

D) All of the above

B) ಹಣದ ಹರಿವಿನ ಖಾತೆ

D) ಮೇಲಿನ ಎಲ್ಲವೂ

12. Expand SSY

A) Sukun Samruddhi Yojana

C) Sukun Sandhy Yojana

SSY ಅನ್ನು ವಿಸ್ತರಿಸಿ.

A) Sukun Samruddi Yojana

C) Sukun Sandhy Yojana

B) Sukanya Samruddhi Yojana

D) Sukanya Shiksha Yojana

B) Sukanya Samruddi Yojana

D) Sukanya Shiksha Yojana

13. On 22/01/2015 Government of India introduces

A) Sukun Samruddhi Yojana

C) Sukun Sandhy Yojana

22/01/2015 ರಂದು ಭಾರತ ಸರ್ಕಾರವು ----- ಜಾರಿಗೊಳಿಸಿತು

A) ಸುಕುನ ಸಮೃದ್ಧಿ ಯೋಜನೆ

C) ಸುಕುನ ಸಂಧ್ಯಾ ಯೋಜನೆ

B) Sukanya Samruddi Yojana

D) Sukanya Shiksha Yojana

B) ಸುಕನ್ಯಾ ಸಮೃದ್ಧಿ ಯೋಜನೆ

D) ಸುಕನ್ಯಾ ಶಿಕ್ಷಾ ಯೋಜನೆ



14. Which of these are the money market instruments

- A) Commercial papers B) Treasury bills
C) Certificate of deposit D) All the above

ಈ ಕೆಳಗಿನವುಗಳಲ್ಲಿ ಯಾವವು ಹಣದ ಮಾರುಕಟ್ಟೆಯ ಸಾಧನಗಳು

- A) ವಾಣಿಜ್ಯ ಪತ್ರಗಳು B) ಖಜಾನೆ ಬಿಲ್ಲುಗಳು
C) ಠೇವಣಿ ರಸಿದಿ D) ಮೇಲಿನ ಎಲ್ಲವುಗಳು

15. Stock exchanges in India are regulated by ----

- A) RBI B) SEBI
C) SBI D) Govt. of India

ಭಾರತೀಯ ಷೇರು ಮಾರುಕಟ್ಟೆಯನ್ನು ----- ನಿಯಂತ್ರಿಸುತ್ತದೆ.

- A) RBI B) SEBI
C) SBI D) ಭಾರತ ಸರ್ಕಾರ

16. Expend CPI

- A) Consumer Price Index B) Customer Price Index
C) A & B D) None of the above

CPI ಅನ್ನು ವಿಸ್ತರಿಸಿ.

- A) Consumer Price Index B) Customer Price Index
C) A & B D) ಮೇಲಿನ ಯಾವುದು ಅಲ್ಲ

17. Income Tax is an example of

- A) Indirect tax B) Direct tax
C) GST D) VAT

ಆದಾಯ ತೆರಿಗೆಯ ----- ನ ಒಂದು ಉದಾಹರಣೆ

- A) ಅಪ್ರತ್ಯಕ್ಷ ತೆರಿಗೆ B) ನೇರ ತೆರಿಗೆ
C) GST D) VAT

18. Factors of production includes -----

- A) Land B) Labour
C) Money D) All of the above

ಉತ್ಪಾದನಾಂಗಗಳು ----- ಅನ್ನು ಒಳಗೊಂಡಿದೆ.

- A) ಭೂಮಿ B) ಕಾರ್ಮಿಕ
C) ಹಣ D) ಮೇಲಿನ ಎಲ್ಲವೂ

19. ITR stands for

- A) Interest Tax Rate B) Interest Tax Return
C) Income Tax Rate D) Income Tax Return

ITR ಎಂದರೆ

- A) Interest Tax Rate B) Interest Tax Return
C) Income Tax Rate D) Income Tax Return



20. NSDL stands for

- A) National Security Defence Limited
- B) National Stock data limited
- C) National Securities depository limited
- D) National Securities deposit limited

NSDL ಎಂದರೆ

- A) National Security Defence Limited
- B) National Stock Data Limited
- C) National Securities depository limited
- D) National Securities deposit limited

21. Expand SIP.

- A) Scientific Investment Plan
- B) Systematic Investment Plan
- C) Security Investment Plan
- D) Social Investment Plan

SIP ಅನ್ನು ವಿಸ್ತರಿಸಿ.

- A) Scientific investment plan
- B) Systematic investment plan
- C) Security investment plan
- D) Social investment plan

22. Economy analysis is an example of

- A) Fundamental analysis
- B) Technical analysis
- C) A & B
- D) None of the above

ಆರ್ಥಿಕತೆ ಅಧ್ಯಯನವು ----- ನ ಉದಾಹರಣೆ

- A) ಮೂಲಭೂತ ಅಧ್ಯಯನ
- B) ತಾಂತ್ರಿಕ ಅಧ್ಯಯನ
- C) A & B
- D) ಮೇಲಿನ ಯಾವುದು ಅಲ್ಲ

23. Candle-stick patterns is an example of -----

- A) Fundamental analysis
- B) Technical analysis
- C) A & B
- D) None of the above

ಕ್ಯಾಂಡಲ್‌ಸ್ಟಿಕ್ ಮಾದರಿಗಳು ----- ನ ಉದಾಹರಣೆ

- A) ಮೂಲಭೂತ ಅಧ್ಯಯನ
- B) ತಾಂತ್ರಿಕ ಅಧ್ಯಯನ
- C) A & B
- D) ಮೇಲಿನ ಯಾವುದು ಅಲ್ಲ

24. Expand IPO

- A) Indian Post Office
- B) Initial Pay Offering
- C) Initial Public Offering
- D) None of the above

IPO ಅನ್ನು ವಿಸ್ತರಿಸಿ.

- A) Indian Post Office
- B) Initial Pay Offering
- C) Initial Public Offering
- D) ಮೇಲಿನ ಯಾವುದು ಅಲ್ಲ

25. Expand SBTS

- A) Screen Based Trading System
- B) Share Based Trading System
- C) Screen Based Transaction System
- D) Share Based Transaction System

SBTS ಅನ್ನು ವಿಸ್ತರಿಸಿ.

- A) Screen Based Trading System
- B) Share Based Trading System
- C) Screen Based Transaction System
- D) Share Based Transaction System



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26. Expand APY

- A) All Pension Yojana
C) Azad Pension Yojana
APY ಅನ್ನು ವಿಸ್ತರಿಸಿ.

- A) All Pension Yojana
C) Azad Pension Yojana

- B) Atal Pension Yojana
D) Abad Pension Yojana

- B) Atal Pension Yojana
D) Abad Pension Yojana

27. Investment can be made in ----- assets

- A) Physical
C) A & B

- B) Financial
D) None of the above

ಹೂಡಿಕೆಯನ್ನು ----- ಅನ್ವಯಗಳಲ್ಲಿ ಮಾಡಬಹುದು.

- A) ಭೌತಿಕ
C) A & B

- B) ಹಣಕಾಸಿನ
D) ಮೇಲಿನ ಯಾವುದು ಅಲ್ಲ

28. Land is an example of ----- asset.

- A) Physical
C) Social

- B) Financial
D) None of the above

ಭೂಮಿಯು ----- ಆಸ್ತಿಯ ಉದಾಹರಣೆ.

- A) ಭೌತಿಕ
C) ಸಾಮಾಜಿಕ

- B) ಹಣಕಾಸಿನ
D) ಮೇಲಿನ ಯಾವುದು ಅಲ್ಲ

29. Share is an example of ----- asset.

- A) Physical
C) Social

- B) Financial
D) All of the above

ಷೇರು ----- ಆಸ್ತಿಯ ಉದಾಹರಣೆ

- A) ಭೌತಿಕ
C) ಸಾಮಾಜಿಕ

- B) ಹಣಕಾಸಿನ
D) ಮೇಲಿನ ಎಲ್ಲವು

30. Bank is an ----- institution.

- A) Financial
C) Cultural

- B) Social
D) All of the above

ಬ್ಯಾಂಕು ಒಂದು ----- ಸಂಸ್ಥೆ

- A) ಆರ್ಥಿಕ
C) ಸಾಂಸ್ಕೃತಿಕ

- B) ಸಾಮಾಜಿಕ
D) ಮೇಲಿನ ಎಲ್ಲವು

[P.T.O.]

