





Executive PG Program in

# **DATA SCIENCE**





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# About upGrad

upGrad has delivered over 20 million hours of learning, delivering programs by collaborating with universities across the world including Duke CE, IIT Madras, IIIT Bangalore and Deakin Business School among others.

Online education is a fundamental disruption that will have a far-reaching impact. **upGrad** was founded taking this into consideration. upGrad is an online education platform to help individuals develop their professional potential in the most engaging learning environment.

Since inception, upGrad has delivered over 20 million hours of learning, delivering programs by collaborating with universities across the world including Duke CE, IIT Madras, IIIT Bangalore and Deakin Business School among others.

upGrad is focused on helping working professionals in their bid to learn, grow and move up in their career through a wide-range of programs designed to improve their expertise.

**IIITB** is a renowned university offering programs specialising in data science, machine learning and artificial intelligence. The IIITB faculty includes an average of 15+ years of experience.

The faculty covers the conceptual depths of topics such as Data Science, Machine Learning and Artificial Intelligence, and Big Data Analytics. These will be complemented by industry relevant case studies from major industry verticals by industry leaders with 8+ years of experience from upGrad's industry network.

Furthermore, our strong alumni network, industry mentorship and the credibility of a Executive PG Program will provide you with just the right push to accelerate your career in Data Science!

# Why upGrad?



# Program Highlights

## Executive PG Program from IIITB and Alumni Status

Get certified by IIITB and gain alumni status on successful completion of the program.

#### **Dedicated Career Assistance**

Receive dedicated career support from mock interviews with hiring managers, resume building, industry mentors and much more.

#### 3 Specialisations

Choose from 3 specialisations on the basis of your background and career aspirations and get the learning you want.

#### **Blended Learning**

Learn with the ease and flexibility of recorded sessions as well as live sessions, designed to ensure a wholesome learning experience.

## For the Industry, by the Industry

Learn from 60+ case studies and global industry experts who mentor you throughout the program.

#### **Personalised Mentorship**

Get unparalleled personalised mentorship and doubt resolution from IIITB faculty and our panel of industry experts.

# Faculty and Industry **Experts**



**Hindol Basu** CEO, Actify Data Labs

An alumnus of IIT and IIM with over 13 years of experience in analytics with industry leaders such as Citigroup and Tata Industries.



Chandrashekar Ramanathan
Dean Academics IIITB

Prof. Chandrashekar has a PhD from Mississippi State University and experience of over 10 years in several multinational organisations.



**S. Anand** CEO, Gramener

A gold medallist from IIM Bangalore, an alumnus of IIT Madras and London Business School, Anand is among the top 10 data scientists in India with 20 years of experience.



**Tricha Anjali** Ex-Associate Dean, IIITB

Prof. Anjali has a PhD from Georgia Institute of Technology as well as an integrated MTech (EE) from IIT Bombay.



**Sameer Dhanrajani** Co-Founder and CEO, AlQRATE

Sameer Dhanrajani is an Al and Analytics evangelist for Fortune 500 companies who has won several industry awards in the field of analytics.



Prof. Debabrata Das Director, IIITB

Dr. Debabrata Das is serving as Director of IIIT Bangalore (IIITB). He has completed his Ph.D. degree from the Indian Institute of Technology Kharagpur. His main areas of research interest are IoT and Wireless Access Network's MAC, QoS, Power saving.



**Prof. G. Srinivasaraghavan**Professor, IIIB

Prof. Srinivasaraghavan has a PhD in Computer Science from IIT-K and 18 years of experience with Infosys Technologies and several other companies.



**Kalpana Subbaramappa** Ex-AVP, Genpat

Kalpana is the ex-AVP of Decision Sciences at Genpact with over 20 years of experience.



Mirza Rahim Baig
Lead Business Analytics, Flipkart

Advanced Analytics professional with 8+ years of experience as a consultant in the e-commerce and healthcare domains.



**Ujjyaini Mitra** Head of Analytics, Zee5

An alumna of McKinsey and Co., Flipkart, and Bharti Airtel with over 11 years of experience.



**Ankit Jain**Sr. Research Scientist, Uber

An alumnus of IIT Bombay, UCB and Harvard Business School with over 9 years of experience.



**Colin Hagemeyer**Data Scientist, Mentor Analytics,
San Jose, CA, USA

Colin has done his PhD from University of California. He brings with him 10+ years of rich international experience in the field of Data.



Dinesh Babu Jayagopi Associate Professor, IIITB

Prof. Dinesh has a PhD from EPFL Switzerland, MSc from IISc Bangalore in System Science and Signal Processing and BTech.



**Sajan Kedia** Lead Data Scientist (Pricing), Myntra

An alumnus of IIT with over 7 years of experience at Watson at IBM Research, startups and Myntra.



**Behzad Ahmadi**Data Scientist, Walmart Labs
San Francisco Bay Area, USA

Behzad has done his PhD from New Jersey Institute of Technology. He has worked with Qualcomm, US and Walmart, US on different data driven roles.





**Prof. Dr. V. Sridhar** Faculty In Charge, CPE, IIITB

Dr. Sridhar has a Ph.D. from the University of Iowa, U.S.A. He has been a member of Government of India committees on Telecom and IT and has published many peer reviewed articles in telecom and information systems journals.



# upGrad Learning Experience

## \_\_\_\_\_Coaching

- Student Support Team & upGrad Buddy
- Weekly real-time doubt clearing sessions
- Live Discussion forum for peer-to-peer doubt resolution monitored by technical experts
- Peer-to-peer international networking opportunities with an alumni pool of 10,000+
- Lab walk-throughs of 15+ industry-driven case studies
- 6 Employability Tests for industry readiness
- Access to the program for up to 3 years

#### Mentorship

60+ live interactive sessions with industry experts, fortnightly personalised group (1:8) mentorship sessions with global industry experts for pro-active mentoring.

#### **Format**

Online format with weekly live sessions from global industry experts to help with topic walk-throughs, doubt resolution and personalised project feedback.



60+ Industry Projects, Case Studies and Capstone Project to learn from. This will help the learners get job ready.

# Industry Projects



**IMDb Movie Analysis** 



**Uber Supply-Demand Gap** 



**Lead Scoring** 



**Fraud Detection** 



Creditworthiness of Customers



Speech Recognition



Image Captioning



**Gesture Recognition** 



Social Media Listening



**Telecom Churn** 



Interactive Market Campaign Analysis



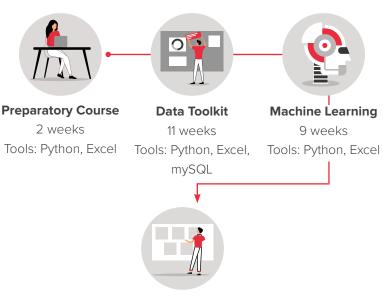
Retail Giant Sales Forecasting



And many more!



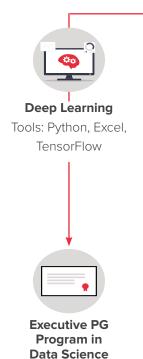
# Learning Path





Choose any of the 3 Specialisations

25 weeks (with 6 weeks of Capstone)



(Deep Learning)





(Data Engineering)

# **Executive PG Programme**in Data Science

## **COMMON CURRICULUM**

### PRE-PROGRAM PREPARATORY CONTENT

#### 1. DATA ANALYSIS IN EXCEL

- 1. INTRODUCTION TO EXCEL
- 2. DATA ANALYSIS IN EXCEL I: FUNCTIONS, FORMULAE, AND CHARTS
- 3. DATA ANALYSIS IN EXCEL II: PIVOTS AND LOOKUPS

Taught by one of the most renowned data scientists in the country (S.Anand, CEO, Gramener), this module takes you from a beginner level Excel user to an almost professional user.

#### 2. ANALYTICS PROBLEM SOLVING

- 1. THE CRISP-DM FRAMEWORK
   BUSINESS AND DATA
  UNDERSTANDING
- 2. CRISP-DM FRAMEWORK- DATA PREPARATION,MODELLING, EVALUATIONAND DEPLOYMENT

This module covers concepts of the CRISP-DM framework for business problem-solving.

### **COURSE 1: DATA TOOLKIT**

#### 1. INTRODUCTION TO PYTHON

- 1. UNDERSTANDING THE UPGRAD CODING CONSOLE
- 2. BASICS OF PYTHON
- 3. DATA STRUCTURES IN PYTHON
- 4. CONTROL STRUCTURE AND FUNCTIONS IN PYTHON
- 5. OOP IN PYTHON

Build a foundation for the most in-demand programming language of the 21st century.

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#### 2. PROGRAMMING IN PYTHON

1. LOGIC AND SYNTAX BUILDING

Learn how to approach and solve logical problems using programming.

1 WEEK

- 2. DATA STRUCTURES: LISTS, STRINGS, DICTIONARIES, AND STACKS
- 3. TIME COMPLEXITY
- 4. SEARCHING AND SORTING
- 5. TWO POINTERS
- 6. RECURSION

#### 3. PYTHON FOR DATA SCIENCE

1. INTRODUCTION TO NUMPY

2. INTRODUCTION TO MATPLOTLIB

- 3. INTRODUCTION TO PANDAS
- 4. GETTING AND CLEANING DATA

Learn how to manipulate datasets in Python using Pandas which is the most powerful library for data preparation and analysis.

1 WEEK

#### 4. DATA VISUALIZATION IN PYTHON

- 1. INTRODUCTION TO DATA VISUALIZATION
- 2. DATA VISUALISATION USING SEABORN

Humans are visual learners and hence no task related to data is complete without visualisation. Learn to plot and interpret various graphs in Python and observe how they make data analysis and drawing insights easier.



#### 5. EXPLORATORY DATA ANALYSIS

1. DATA SOURCING

2. DATA CLEANING

3. UNIVARIATE ANALYSIS

4. BIVARIATE ANALYSIS AND MULTIVARIATE ANALYSIS

Learn how to find and analyse the patterns in the data to draw actionable insights.

2 WEEKS

#### **6. CREDIT EDA CASE STUDY**

1. PROBLEM STATEMENT

2. EVALUATION RUBRIC

3. FINAL SUBMISSION

4. SOLUTION

Solve a real industry problem through the concepts learnt in exploratory data analysis.

1 WEEK

#### 7. INFERENTIAL STATISTICS

1. BASICS OF PROBABILITY

2. DISCRETE PROBABILITY DISTRIBUTIONS

3. CONTINUOUS PROBABILITY DISTRIBUTIONS

4. CENTRAL LIMIT THEOREM

Build a strong statistical foundation and learn how to 'infer' insights from a huge population using a small sample. 1 WEEK

#### 8. HYPOTHESIS TESTING

1. CONCEPTS OF HYPOTHESIS
TESTING - I: NULL AND
ALTERNATE HYPOTHESIS,
MAKING A DECISION, AND
CRITICAL VALUE METHOD

Understand how to formulate and validate hypotheses for a population to solve real-life business problems.

- 2. CONCEPTS OF HYPOTHESIS
  TESTING II: P-VALUE METHOD
  AND TYPES OF ERRORS
- 3. INDUSTRY DEMONSTRATION
  OF HYPOTHESIS TESTING:
  TWO-SAMPLE MEAN AND
  PROPROTION TEST, A/B
  TESTING



#### 9. DATA ANALYSIS USING SQL

1. DATABASE DESIGN

2. DATABASE CREATION IN MYSQL WORKBENCH

3. QUERYING IN MYSQL

4. JOINS AND SET OPERATIONS

Data in companies is definitely not stored in excel sheets! Learn the fundamentals of database and extract information from RDBMS using the structured query language. 1 WEEK

#### **10. ADVACED SQL & BEST PRACTICES**

1. WINDOW FUNCTIONS

2. CASE STATEMENTS, STORED ROUTINES AND CURSORS

3. QUERY OPTIMISATION AND BEST PRACTICES

4. PROBLEM-SOLVING USING SQL

Apply advanced SQL concepts like windowing and procedures to derive insights from data and answer pertinent business questions.

1 WEEK

#### **11. SQL ASSIGNMENT: RSVP MOVIES**

1. PROBLEM STATEMENT

2. EVALUATION RUBRIC

3. FINAL SUBMISSION

4. SOLUTION

In this assignment, you will work on a movies dataset using SQL to extract exciting insights.

1 WEEK

## **COURSE 2 - MACHINE LEARNING - I**

#### 1. LINEAR REGRESSION

1. SIMPLE LINEAR REGRESSION

2. SIMPLE LINEAR REGRESSION IN PYTHON

3. MULTIPLE LINEAR REGRESSION

4. MUTLIPLE LINEAR REGRESSION IN PYTHON

5. INDUSTRY RELEVANCE OF LINEAR REGRESSION

Venture into the machine learning community by learning how one variable can be predicted using several other variables through a housing dataset where you will predict the prices of houses based on various factors.

#### 2. LINEAR REGRESSION ASSIGNMENT

1. PROBLEM STATEMENT

2. EVALUATION RUBRIC

3. FINAL SUBMISSION

4. SOLUTION

Build a model to understand the factors on which the demand for bike sharing systems vary on and help a company optimise its revenue. 1 WEEK

#### 3. LOGISTIC REGRESSION

1. UNIVARIATE LOGISTIC REGRESSION

2. MULTIVARIATE LOGISTIC
REGRESSION: MODEL
BUILDING AND EVALUATION

3. LOGISTIC REGRESSION: INDUSTRY APPLICATIONS

Learn your first binary classification technique by determining which customers of a telecom operator are likely to churn versus who are not to help the business retain customers

2 WEEKS

#### 4. CLASSIFICATION USING DECISION TREES

1. INTRODUCTION TO DECISION TREES

2. ALGORITHMS FOR DECISION TREES CONSTRUCTION

3. HYPERPARAMETER TUNING IN DECISION TREES

Learn how the human decision making process can be replicated using a decision treeand tune it to suit your needs.

1 WEEK

#### 5. UNSUPERVISED LEARNING: CLUSTERING

1. INTRODUCTION TO CLUSTERING

2. K-MEANS CLUSTERING

3. HIERARCHICAL CLUSTERING

4. OTHER FORMS OF CLUSTERING: K-MODE, K-PROTOTYPE, DB SCAN

Learn how to group elements into different clusters when you don't have any pre-defined labels to segregate them through K-means clustering, hierarchical clustering, and more.

#### **6.** BASICS OF NLP AND TEXT MINING

- 1. REGEX AND INTRODUCTION TO NLP
- 2. BASIC LEXICAL PROCESSING
- 3. ADVANCED LEXICAL PROCESSING

Do you get annoyed by the constant spams in your mailbox? Wouldn't it be nice if we had a program to check your spellings? In this module learn how to build a spell checker & spam detector using techniques like phonetic hashing, bag-of-words, TF-IDF, etc.

0 WEEK

#### 7. BUSINESS PROBLEM SOLVING

- 1. INTRODUCTION TO BUSINESS PROBLEM SOLVING
- 2. BUSINESS PROBLEM SOLVING: CASE STUDY DEMONSTRATIONS

Learn how to approach open ended real world problems using data as a lever to draw actionable insights. 1 WEEK

#### **8.** CASE STUDY: LEAD SCORING

- 1. PROBLEM STATEMENT
- 2. EVALUATION RUBRIC
- 3. FINAL SUBMISSION
- 4. SOLUTION

Help the Sales team of your company identify which leads are worth pursuing through this classification case study.

## 5

## SPECIALISATION: DEEP LEARNING

### **COURSE 3 - MACHINE LEARNING - II**

#### 1. BAGGING & RANDOM FOREST

- 1. POPULAR ENSEMBLES
- 2. INTRODUCTION TO RANDOM FORESTS
- 3. FEATURE IMPORTANCE IN RANDOM FORESTS
- 4. RANDOM FORESTS IN PYTHON

Learn how powerful ensemble algorithms can improve your classification models by building random forests from decision trees.

1 WEEK

#### 2. BOOSTING

- 1. INTRODUCTION TO BOOSTING AND ADABOOST
- 2. GRADIENT BOOSTING

Learn about ensemble modelling through bagging and boosting and understand how weak algorithms can be transformed into stronger ones. 1 WEEK

#### 3. MODEL SELECTION & GENERAL ML TECHNIQUES

- 1. PRINCIPLES OF MODEL SELECTION
- 2. MODEL EVALUATION
- 3. MODEL SELECTION: BEST PRACTICES

Learn the pros and cons of simple and complex models and the different methods for quantifying model complexity, alongwith general machine learning techniques like feature engineering, model evaluation, and many more.

1 WEEK

#### 4. PRINCIPAL COMPONENT ANALYSIS

- 1. PRINICIPAL COMPONENT ANALYSIS AND SINGULAR VALUE DECOMPOSITION
- 2. PRINCIPAL COMPONENT ANALYSIS IN PYTHON

Understand important concepts related to dimensionality reduction, the basic idea and the learning algorithm of PCA, and its practical applications on supervised and unsupervised problems.



#### 5. ADVANCED REGRESSION

1. GENERALIZED LINEAR REGRESSION

2. REGULARIZED REGRESSION

In this module, take a more advanced look at regression models and learn the concepts related to regularization. 1 WEEK

#### **6.** ADVANCED ML CASE STUY

1. PROBLEM STATEMENT

2. EVALUATION RUBRIC

3. FINAL SUBMISSION

4. SOLUTION

Build a regularized regression model to understand the most important variables to predict the house prices in Australia. 1 WEEK

# COURSE 4 - ADVANCED MACHINE LEARNING AND DEEP LEARNING

#### 1. TIME SERIES ANALYSIS

1. INTRODUCTION TO TIME SERIES AND ITS COMPONENTS

**TIME SERIES** 

2. WORKING WITH STATIONARY

3. END-TO-END ANALYSIS OF TIME SERIES

In this module, you will learn how to analyse and forecast a series that varies with time.

2 WEEKS

#### 2. INTRODUCTION TO NEURAL NETWORKS AND ANN

1. STRUCTURE OF NEURAL NETWORKS

2. FEED FORWARD IN NEURAL NETWORKS

3. BACKPROPAGATION IN NEURAL NETWORKS

4. MODIFICATIONS TO NEURAL NETWORKS

5. HYPERPARAMETER TUNING IN NEURAL NETWORKS

Learn the most sophisticated and cutting-edge technique in machine learning -Artificial Neural Networks or ANNs



#### 3. NEURAL NETWORK ASSIGNMENT

- 1. PROBLEM STATEMENT
- 2. EVALUATION RUBRIC
- 3. FINAL SUBMISSION

4. SOLUTION

Build a neural network from scratch in Tensorflow to identify the type of skin cancer from image.

1 WEEK

# COURSE 5 -ADVANCED DEEP LEARNING AND COMPUTER VISION

#### 1. CONVOLUTIONAL NEURAL NETWORKS

- 1. INTRODUCTION TO CONVOLUTIONAL NEURAL NETWORKS
- 2. BUILDING CNNS WITH PYTHON AND KERAS
- 3. CNN ARCHITECTURES AND TRANSFER LEARNING
- 4. STYLE TRANSFER AND OBJECT DETECTION

Learn the basics of CNN and OpenCV and how to classify image data using various architectures which you will then implement using Python and Keras. 2 WEEKS

## 2. CONVOLUTIONAL NEURAL NETWORKS -INDUSTRY APPLICATIONS

1. INDUSTRY DEMONSTRATION: USING CNNS WITH FLOWERS IMAGES

2. INDUSTRY DEMONSTRATION: USING CNNS WITH X-RAY IMAGES

Apply CNNs to Computer Vision tasks like detecting anomalies in chest X-Ray scans.

1 WEEK

#### 3. OBJECT DETECTION & IMAGE SEGMENTATION (OPTIONAL)

1. FUNDAMENTALS OF OBJECT DETECTION

Learn the applications of DL in computer vision through industry-relevant detection algorithms such as RCNNs, YOLO and SSD.

- 2. REGION-BASED DETECTORS
- 3. ONE-SHOT DETECTORS
- 4. CUSTOM OBJECT DETECTION
- 5. SEMANTIC SEGMENTATION

#### 4. RECURRENT NEURAL NETWORKS

- 1. WHAT MAKES A NEURAL NETWORK RECURRENT
- 2. VARIANTS OF RNNS:
  BIDIRECTIONAL RNNS AND
  LSTMS
- 3. BUILDING RNNS IN PYTHON

Ever wondered what goes behind machine translation, sentiment analysis, speech recognition? Learn how RNN helps in these areas having sequential data like text, speech, videos, and a lot more.

1 WEEK

#### **5. GESTURE RECOGNITION**

- 1. TWO ARCHITECTURES: 3D CONVS AND CNN-RNN STACK
- 2. UNDERSTANDING GENERATORS
- 3. STARTER CODE WALKTHROUGH
- 4. PROBLEM STATEMENT AND FINAL SUBMISSION

Make a Smart TV system which can control the TV with user's hand gestures as the remote control

2 WEEKS

## **COURSE 5 - CAPSTONE PROJECT**

#### 1. CAPSTONE PROJECT

- 1. AN OVERVIEW OF THE DOMAIN AND ASSOCIATED CONCEPTS
- 2. PROBLEM STATEMENT
- 3. EVALUATION RUBRIC
- 4. MID SUBMISSION
- 5. FINAL SUBMISSION
- 6. SOLUTION

Choose from a range of real-world industry woven projects on advanced topics like Recommendation Systems, Fraud Detection, Emotion Detection from faces, Social Media Listening, Speech Recognition among many others.



# SPECIALISATION: BUSINESS INTELLIGENCE / DATA ANALYTICS

# COURSE 3: ADVANCED DBS AND BIG DATA ANALYTICS

#### 1. DATA MODELLING

- 1. DATABASE DESIGN RECAP
- 2. BUILDING BLOCKS OF DATA MODELLING
- 3. PROBLEM SOLVING USING DATA MODELLING
- 4. DATA MODELLING: OPTIONAL ASSIGNMENT

In this module, you will learn and use data modelling on a dataset to solve a business problem. 1 WEEK

#### 2. ADVANCED SQL AND BEST PRACTICES

- 1. WINDOW FUNCTIONS
- 2. CASE STATEMENTS, STORED ROUTINES, AND CURSORS
- 3. QUERY OPTIMISATION AND BEST PRACTICES
- 4. PROBLEM SOLVING USING SQL

Apply advanced SQL concepts like windowing and procedures to derive insights from data and answer pertinent business questions

1 WEEK

#### 3. INTRODUCTION TO BIG DATA AND CLOUD

- 1. BIG DATA AND CLOUD COMPUTING
- 2. AMAZON WEB SERVICES
- 3. BIG DATA STORAGE AND PROCESSING HADOOP
- 4. EMR CLUSTER IN AWS

Understand the basics of big data and cloud and learn to work with an EMR cluster on a cloud-based service.

#### 4. ANALYTICS USING SPARK

1. EXPLORATORY DATA
ANALYSIS WITH PYSPARK

Use PySpark to do EDA and Predictive Analysis using Spark's ML library.

2 WEEKS

2. PREDICTIVE ANALYSIS WITH SPARK MLLIB

#### 5. BIG DATA CASE STUDY

1. PROBLEM STATEMENT

2. EVALUATION RUBRIC

3. FINAL SUBMISSION

4. SOLUTION

Use your analytics skills to work on a large dataset in cloud to solve an industry problem.

1 WEEK

## **COURSE 4: DATA VISUALISATION AND STORYTELLING**

#### 1. VISUALISATION USING TABLEAU

1. DATA EXPLORATION IN TABLEAU

2. VISUALISING AND ANALYSING DATA IN TABLEAU WITH BASIC PLOTS

Learn basic visualisation techniques using the most in-demand visualization tool in the industry.

1 WEEK

#### 2. ADVANCED EXCEL

1. EXCEL FUNCTIONS

2. DATA ANALYSIS IN EXCEL

3. ADVANCED TOOLS AND VISUALISATIONS

Learn the advanced concepts in Excel and start to perform data analysis like a pro!

#### 3. VISUALISATION USING POWERBI

1. POWERBI: INTRODUCTION AND SETUP

Take your visualization game a step forward by understanding how to operate PowerBI.

1 WEEK

2. VISUALISING AND ANALYSING DATA IN POWERBI

3. DATA TRANSFORMATIONS USING POWERBI

#### 4. STRUCTURED PROBLEM SOLVING USING FRAMEWORKS

1. INTRODUCTION TO STRUCTURED PROBLEM SOLVING

Learn how to attack a business problem using various structured frameworks like 5W, 5WHYs, and SPIN.

1 WEEK

2. INTERVIEWING AND FRAMEWORKS - I: 5W AND 5WHYS

3. INTERVIEWING AND FRAMEWORKS - II: SPIN

4. INDUSTRY DEMONSTRATIONS ON FRAMEWORKS

5. UNDERSTANDING BUSINESS MODEL CANVAS AND ISSUE TREE FRAMEWORK

6. INDUSTRY DEMONSTRATIONS ON ISSUE TREE FRAMEWORK

7. SPECIALIZED FRAMEWORKS FOR BUSINESS PROBLEMS: 7PS, 5CS, ETC.

5. DATA STORYTELLING

1. INTRODUCTION TO DATA STORYTELLING

Learn how to effectively strategise, communicate, and fine grain your data analysis projects and understand how to optimally present your findings to technical and non-technical stakeholders and upgrade your storytelling skills.

- 2. COMPONENTS OF A
  GOOD STORY WITH
  DATA UNDERSTANDING
  YOUR STAKEHOLDER AND
  STAKEHOLDER EMPATHY,
  LEVELS OF DETAILS FOR
  DIFFERENT STAKEHOLDERS
   CXO/LEADERSHIP VS TEAM
  PRESENTATIONS, VISUALS,
  ETC.
- 3. GOLDEN RULES FOR DATA STORYTELLING

#### **5.** AIRBNB CASE STUDY

1. PROBLEM STATEMENT

2. EVALUATION RUBRIC

3. FINAL SUBMISSION

4. SOLUTION

Use your newly learnt UI tools skills to analyse an AirBnB dataset to make important business decisions. But the analysis is just a small part; can you also effectively present it using Data Storytelling to the right stakeholders?

1 WEEK

# COURSE 5:ADVANCED PROBLEM SOLVING AND PROGRAMMING

#### 1. DATA STRUCTURES - SETS, DICTIONARIES, STACKS, QUEUES

1. IN-BUILT DATA STRUCTURES

(ES

Learn user defined data structures -Stack,

1 WEEK

2. STACK

3. QUEUE

4. TREES

Queue, Trees in Python that help in advanced data manipulation

#### 2. SEARCHING AND SORTING

1. SEARCHING

Learn most fundamental searching and sorting algorithms and design techniques

1 WEEK

2. SORTING

3. TWO POINTERS

#### 3. ALGORITHM ANALYSIS + RECURSION

1. ALGORITHM ANALYSIS

2. TIME AND SPACE COMPLEXITY

3. RECURSION

Learn how to assess the efficiency your code using algorithm analysis techniques and learn to write recursive algorithms

1 WEEK

#### 4. ADVANCED DATABASE PROGRAMMING USING PANDAS

1. ADVANCED DATA
WRANGLING WITH PANDAS - I

2. ADVANCED DATA
WRANGLING WITH PANDAS
- II

Learn and implement advanced wrangling functions and techniques in Pandas related to date-time, multi-columns aggregation, hierarchical indexing, and more.

1 WEEK

#### 5. PYTHON & SQL LAB

1. SQL: TIMED TEST + ASSIGNMENT

2. PYTHON: TIMED TESTS I & II

3. VIDEO SUBMISSION

In this competitive assignment, you will solve a variety of programming questions in both SQL and Python in a timed environment. You will also demonstrate one of the questions through a video submission to help improve your interviewing skills. 2 WEEKS

### **COURSE 6 - CAPSTONE PROJECT**

#### 1. CAPSTONE PROJECT

1. AN OVERVIEW OF THE DOMAIN AND ASSOCIATED CONCEPTS

Solve an end-to-end real-life industry problem from a wide variety of domains.

- 2. PROBLEM STATEMENT
- 3. EVALUATION RUBRIC
- 4. MID SUBMISSION
- 5. FINAL SUBMISSION
- 6. SOLUTION



## SPECIALISATION: DATA ENGINEERING

### **COURSE 3: DATA ENGINEERING - I**

#### 1. DATA MANAGEMENT AND RELATIONAL DATABASE MODELLING

- 1. ENTERPRISE DATA MANAGEMENT
- 2. RELATIONAL DATABASE MODELLING
- 3. NORMAL FORMS AND ER DIAGRAMS

Understand the concepts of Data Management and learn to model data from a Relational Database. 1 WEEK

#### 2. INTRODUCTION TO BIG DATA(OPTIONAL)

- 1. 4VS OF BIG DATA
- 2. BIG DATA: INDUSTRY CASE STUDIES

This module you will learn what big data is, its various characteristics, and its determining factors. You will also get an idea of the various sources of big data and the wide range of big data applications in different industries such as retail, healthcare, and finance.

0 WEEK

#### 3. INTRODUCTION TO CLOUD AND AWS SETUP

- 1. INTRODUCTION TO CLOUD
- 2. AWS SETUP

Understand what is cloud and setup your AWS account which will be required duing the program.

1 WEEK

#### 4. INTRODUCTION TO HADOOP AND MAPREDUCE PROGRAMMING

- 1. CONCEPTS RETAILED TO DISTRIBUTED COMPUTING
- 2. HADOOP DISTRIBUTED FILE SYSTEM
- 3. MAPREDUCE PROGRAMMING IN PYTHON

Understand the world of distributed data processing and storage with Hadoop. Learn to write MapReduce jobs in Python.



#### 5. ASSIGNMENT (OPTIONAL)

1. INTRODUCTION, PROBLEM STATEMENT AND GRADING RUBRICS

Solve an assignment to brush up the skills learnt so far.

**O WEEK** 

#### 6. NOSQL DATABASES AND APACHE HBASE NOSQL DATABASES AND MONGODB (OPTIONAL)

1. CONCEPTS OF NOSQL DATABASES

Learn the concepts of NoSQL databases.
Understand the working of Apache HBase.

1 WEEK

- 2. INTRODUCTION TO APACHE HBASE
- 3. HBASE PYTHON API
- 4. COMPARISION OF NOSQL DATABASES

#### 7. DATA WAREHOUSING (OPTIONAL)

1. INTRODUCTION TO DATA WAREHOUSE AND DATA LAKES

Understand the intricacies behind designing a data warehouse and a data lake for use

O WEEK

- 2. DESIGNING DATA
  WAREHOUSING FOR AN ETL
  DATA PIPELINE
- 3. DESIGNING DATA LAKE FOR AN ETL DATA PIPELINE

#### 8. DATA INGESTION WITH APACHE SQOOP AND APACHE FLUME

- 1. INTRODUCTION TO DATA INGESTION
- 2. STRUCTURED DATA INGESTION WITH SQOOP
- 3. UNSTRUCTURED DATA INGESTION WITH FLUME

Get familiar with the challenges involed in data ingestion. Use Sqoop and Flume to ingest structured and unstructured data into Hadoop.

# 5

#### 9. MAP REDUCE PROGRAMMING ASSIGNMENT

1. PROBLEM STATEMENT AND SAMPLE DATASET

Practise MapReduce Programming on a Big Dataset.

1 WEEK

2. SOLUTION

## **COURSE 4 - DATA ENGINEERING - II**

#### 1. HIVE & QUERYING

1. FUNDAMENTALS OF APACHE
HIVE

2. WRITING HQL FOR DATA ANALYSIS

3. PARTITIONING AND BUCKETING WITH HIVE

Manage and query a data warehouse with Apache Hive. Learn to write optimized HQL

for large scale data analysis.

2 WEEKS

#### ASSIGNMENT (OPTIONAL)

1. NTRODUCTION, PROBLEM STATEMENT AND GRADING RUBRICS

Solve an assignment to brush up the skills learnt so far.

O WEEK

#### 3. AMAZON REDSHIFT

1. DATA WAREHOUSING WITH REDSHIFT

Learn to deploy a Redshift cluster and use it for querying data.

1 WEEK

2. ANALYZE DATA WITH REDSHIFT

#### 4. INTRODUCTION TO APACHE SPARK

1. SPARK ARCHITECTURE

2. RDD, DATAFRAME API,SPARKSQL

Get introduced to Apache Spark, a lighting fast big data processing engine.



#### 5. PROJECT: ETL DATA PIPLINE

1. INTRODUCTION AND PROBLEM STATEMENT Make use of Sqoop, Redshift & Spark to 2 WEEKS design an ETL data pipeline.

2. GRADING RUBRICS AND **SUBMISSION** 

## 6. AWS CLOUD INFRASTRUCTURE (OPTIONAL)

1. THE AWS CLOUD PLATFORM

Do a deep dive into AWS Cloud

**O WEEKS** 

- 2. BUILDING AND DEPLOYING **VIRTUAL MACHINES**
- 3. AWS CLOUD STORAGE **SOLUTIONS**
- 4. APPLICATION DEPLOYMENT
- 5. CLOUD ADMINISTRATION **AND SECURITY**
- 6. LOAD BALANCING AND **BACKUP STRATEGIES**
- 7. CLOUD AUTOMATION

### **COURSE 5 - DATA ENGINEERING - III**

#### 1. OPTIMISING SPARK FOR LARGE SCALE DATA PROCESSING

1. RUNNING SPARK ON MULTINODE CLUSTER

Use PySpark to create large scale data processing applications.

1 WEEK

2. SPARK MEMORY & DISK OPTIMISATION

3. OPTIMISING SPARK CLUSTER ENVIRONMENT

#### 2. APACHE FLINK(OPTIONAL)

1. INTRODUCTION TO APACHE FLINK

ING

Get Introduced to Apahce Flink and learn query batch data

O WEEK

2. BATCH DATA PROCESSING WITH FLINK

3. STREAM PROCESSING WITH APACHE FLINK

4. SQL API

Use DataStream API to create a stream

processing application

#### 3. REAL-TIME DATA STREAMING WITH APACHE KAFKA

1. INTRO TO REAL-TIME DATA PROCESSING ARCHITECTURES

Understand the producer-consumer architecture of Apache Kafka. Learn to set up a Kafka cluster for managing real-time data.

1 WEEK

2. FUNDAMENTALS OF APACHE KAFKA

3. SETTING UP KAFKA PRODUCER AND CONSUMER

4. KAFKA CONNECT API & KAFKA STREAMS

#### 4. REAL-TIME DATA PROCESSING USING SPARK STREAMING

1. SPARK STREAMING ARCHITECTURE

2. SPARK STREAMING APIS

3. BUILDING STREAM
PROCESSING APPLICATION
WITH SPARK

4. COMPARISION BETWEEN SPARK STREAMING AND FLINK

Learn about the real-time data processing architecture of Apache Spark. Build Spark Streaming applications to process data in real-time.

1 WEEK

#### **5.** ASSIGNMENT (OPTIONAL)

1. INTRODUCTION, PROBLEM STATEMENT AND GRADING RUBRICS

Solve an assignment to brush up the skills learnt so far.

**O WEEK** 

#### 6. BUILDING AUTOMATED DATA PIPELINES WITH AIRFLOW

1. FUNDAMENTS OF AIRFLOW

Automate Data Pipelines with Airflow.

1 WEEK

2. WORKFLOW MANAGEMENT WITH AIRFLOW

3. AUTOMATING AN ENTIRE DATA PIPELINE WITH AIRFLOW

#### 7. ANALYTICS USING PYSPARK

1. EXPLORATORY DATA
ANALYSIS WITH PYSPARK

тн

Use PySpark to do EDA and Predictive Analysis using Spark's ML library.

1 WEEK

2. PREDICTIVE ANALYSIS WITH SPARK MLLIB

#### 8. PROJECT: REAL TIME DATA PROCESSING

1. INTRODUCTION AND PROBLEM STATEMENT

2. GRADING RUBRICS AND SUBMISSION

Build an end-to-end real-time data processing application using Spark Streaming and Kafka. 1 WEEK

## **COURSE 5 - CAPSTONE PROJECT**

#### **1. CAPSTONE PROJECT**

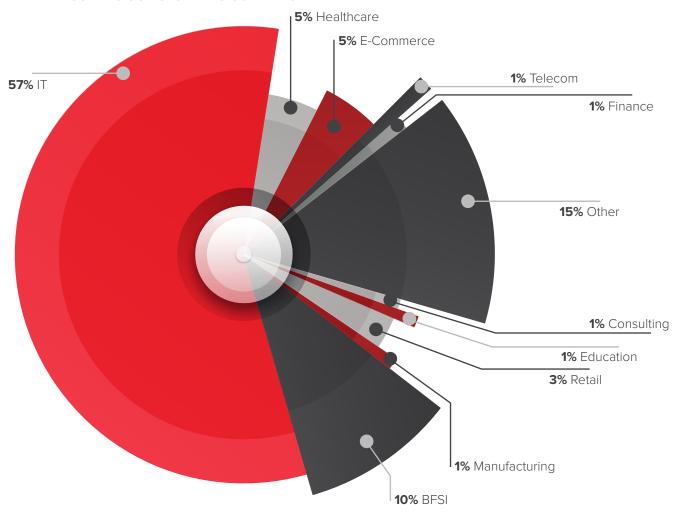
1. AN OVERVIEW OF THE DOMAIN AND ASSOCIATED CONCEPTS

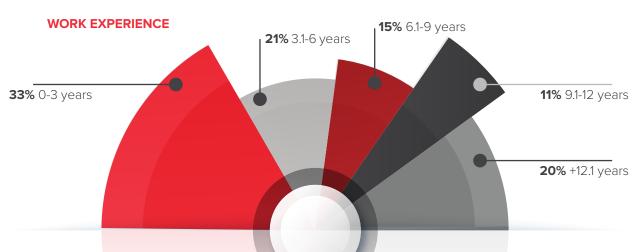
The capstone project will stich all the components of data engineering together.

- 2. PROBLEM STATEMENT
- 3. EVALUATION RUBRIC
- 4. MID SUBMISSION
- 5. FINAL SUBMISSION
- 6. SOLUTION

# Meet the Class

#### **INDUSTRIES OUR STUDENTS COME FROM**





# Career Support

#### **Mock Interviews**

Get company and role-specific preparation with our mock interview sessions.

#### **Resume Review**

Obtain specific, personalised inputs on your resume structure and content.

#### **Personalised Mentorship**

Get mentored by an experienced data science global industry experts and receive personalised feedback with 4 one-to-one calls.

#### **Career Mentor**

Get a dedicated career mentor to help track your weekly company application targets, coach you on your profile, and support you during your career transition journey.

#### **Post Graduation Career Support**

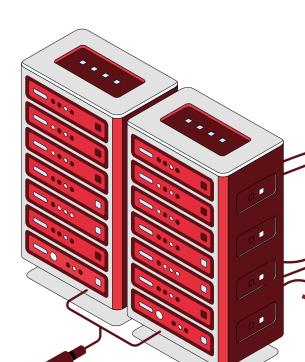
Career sessions are continued post graduation because we want you to have all the help you need. These include: live sessions with industry mentors to guide you, dedicated mentorship, and access to upGrad's career assistance resources.

#### **Company-Specific Preparation**

Get company-specific guidance with access to a carefully curated pool of interview resources per company to ensure you are interview-ready for the company of your choice.

#### **Live Profile Building Workshops**

Have live sessions of how to build your profile - be it your resume or GitHub - with hands-on sessions on Git and Github you can boost your profile. And also include your work from Kaggle & OpenCV.



# Our Alumni Work at

upGrad has a network of over 100 companies who look to recruit graduates from our programs. Some of these well-known companies include:



## Career Transitions



**Abhishek Singh** MIS Executive (F&B) Batch: March 2018

Senior Data Analyst, Myntra (Oct 2019)



Shadab Hussain
Data Scientist (IT)
Batch: Sept 2018

Analyst, TheMathCompany (July 2019)



Rohit W

Quality Assurance Tester (BFSI)

Batch: Jan 2019

Python Automation Engineer, Credit Suisse (July 2019)



Ayush Modi

Associate Consultant (IT)
Batch: March 2018

Marketing Analyst, Globalization Partners (July 2019)



Damodar Bandi

Global Supply Chain Analyst (Software) Batch: Dec 2018

Sr. Business Analyst, Data Semantics (Aug 2019)



Hariharan S

AVP (BFSI) Batch: March 2018

Project Manager, HSBC (Aug 2019)



Ashish Y

Asst. Manager (Manufacturing/Production) Batch: Sept 2018

Business Analyst, Arvind (Sept 2019)



Shubhadip B

Technical Project Manager (Tech Solutions) Batch: June 2018

Sr. Technical Project Manager, Aurionpro (Oct 2019)



**Mohit Mamgain** 

Internship (IT) Batch: March 2018

Data Analyst, Shine.com (Aug 2019)



Jai Krishna

Fresher Batch: Sept 2018

Business Analyst, Quantzig (Nov 2019)



Deepshikha

Senior Associate (Tech) Batch: March 2019

Data Analyst, Amazon (Nov 2019)



**Aakash Dusane** 

Software Engineer (Software) Batch: Dec 2018

Data Scientist, Quantzig (Aug 2019)



Sri Harsha Ravi
Principal Data
Structure Engineer (IT)
Batch: Sept 2018

Senior Data Scientist, IHS Markit (Nov 2019)



**Ganesh Varanasi** Analyst (BFSI) Batch: March 2018

Data Scientist, Innominds (July 2019)



**Ansuman Das** Risk Analyst (IT) Batch: March 2019

Specialist Data Analyst, Novartis (Aug 2019)



**Sujit Nalawade** Software Engineer (IT) Batch: Sept 2018

Data Analyst, Xoriant



Anshul Srivastava Business Analyst (BFSI) Batch: Sept 2018

Associate Consultant, Fractal (Aug 2019)



Sudha Choudhary
Fresher

Fresher Batch: June 2018

Internship - Al Engineer, Athancare (July 2019)



Anshul Kumar

Analyst (BFSI) Batch: March 2019

Data Science Intern, Merkle Sokrati (Aug 2019)



**Nishant Chalasany** 

Project Manager (Agro) Batch: March 2019

Analytics Operations Lead, Syngenta (July 2019)



**Sylvester Pinto** 

Senior Software Engineer (IT) Batch: Dec 2018

Data Associate, J.P. Morgan (June 2019)

## Hear from Our Learners

#### **Kunwar Alok, Experience: 15+ Years**

"You may not believe it but I had never done coding in my life. I did it during this course and was thrilled to see the outcomes coming out of those codes. Just the way I used to get happy after solving a good (tough) math problem during my school age. Thanks to upGrad for providing a great service to people like us who at the age of 43 can dream to study with budding talents around."





#### Sachin Aggarwal, Experience: 18+ Years

"Learning with IIITB and upGrad has been an experience like no other. Being an online program, you have your worries about how the program and teaching methods will be. My favourite part about the learning experience has been programming through well designed and thoughtful content shared by IIITB professors and industry experts on upGrad platforms. Kudos to upGrad."

#### Savita Upadhaya, Experience: 4 Years

"It has been an amazing journey with upGrad till now. Starting with their course material to live sessions to mentor support, each helps you to always be on track and progress efficiently with the Data Science course. My sincere thanks to the entire team of upGrad and Professors of IIITB for showing me the path and direction for my dream to become a Data Analyst."





#### Sidharth Mahapatra, Experience: 3 Years

"The concepts of R programming and Machine Learning will be taught by Prof. Chandrasekhar Ramanathan and Prof. G Srinivasaraghavan respectively. Both of them have been listed in the list of the top twenty most prominent Data Science academics published by Analytics India Magazine. So you need not worry about quality of teaching in this program."



#### **Tuhin Pal, Experience: 5 Years**

"I appreciate the platform upGrad has provided and how they have arranged modules and assignments. Modules are locked until you complete the previous one, so it feels like clearing a semester and going to the next one."

#### Harkirat Dhillon, Experience: 8 Years

"A dedicated studying regime is the key to be successful and pass the program. This program will help build a strong foundation for a successful transition into Data Science."





#### Shravani Shahapure, Experience: 16 Years

"For someone who really wants to pursue a career in the field of Data Science, it is worth opting for the complete course by IIITB and upGrad. IIITB and upGrad's online program on Data Science gives many opportunities and develops students for their future as they provide the best professors, thought-provoking assignments and case studies."

#### Sagar Tekwani, Experience: 2 Years

"A very well-structured and well-balanced program content which you won't get in other programs/nano-degrees. Being a beginner in DS, I found the structure of Executive PG Program from IIITB and upGrad most helpful. They even teach you most of the prerequisites with prep sessions before you even start the course. Being a working professional, it was neither too difficult nor too easy to keep up with the pace of the course."







# Program Details and Admission Process

#### PROGRAM DURATION AND FORMAT

12 Months | Online

#### **PROGRAM START DATES**

Please refer to the website for program start dates.

#### **PROGRAM FEE**

Please refer to the website for the program fee.

#### **ELIGIBILITY**

Bachelor's degree, no coding experience required

(50% or equivalent passing marks)

#### **WEEKLY COMMITMENT (12-15 hours/week)**



#### **SELECTION PROCESS**



#### **STEP 1: Selection Test**

Fill out an application and take a short 17-minute online test with 11 questions.

## STEP 2: Review and Shortlisting of Suitable Candidates

Our faculty will review all applications, considering the educational and professional background of an applicant and review the test scores where applicable. Following this, Offer Letters will be rolled out so you are assured a great peer group to learn and network with.

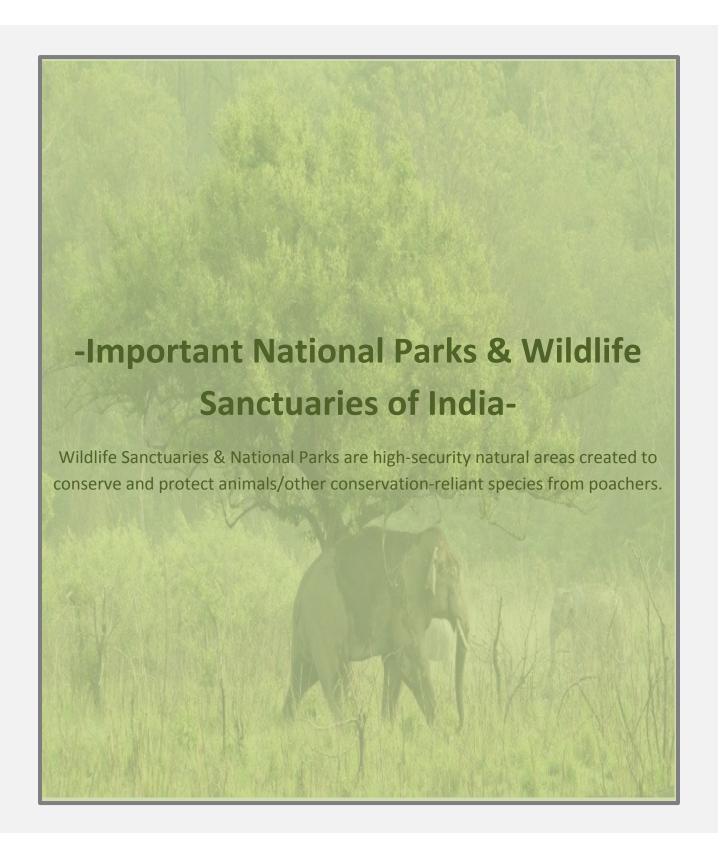
## STEP 3: Enrollment for Access to Prep Content

Make a quick block payment, receive immediate access to the prep content and begin your upGrad journey.

For any queries, reach us on the following numbers:

- +44 7380 344510, info.emea@upgrad.com Europe, Middle East and Africa
- +1 (240) 719-6120, admissions@upgrad.com North and South America
- +65 6232 6730, query@upgrad.com Asia Pacific except India
- +62 21 50864249, query@upgrad.com Indonesia
- +84-28-7300-8884, connect@upgrad.com Vietnam





In the following eBook we have compiled a list of important National Parks & Wildlife Sanctuaries of India. It is essential that you know the list of National Parks & Wildlife Sanctuaries as questions on these are among the most commonly asked questions in the General Awareness sections of competitive Banking and Insurance Exams such as RBI, IBPS, SBI, etc.

You can expect 1-2 questions from National Parks and Wildlife Sanctuaries in the General Awareness section of the above mentioned exams.

Below is a sample of the kind of questions you will be asked in the exam:

#### 1. The Hemis National Park is situated in which state?

- a. Assam
- b. Odisha
- c. Jammu & Kashmir
- d. Jharkhand
- e. Uttarakhand

#### **Answer: C**

The following eBook will help you learn the names of Wildlife Sanctuaries and National Parks and score better.



## List of State-wise National Parks & Wildlife Sanctuaries in India

#### **Andaman and Nicobar Islands**

Sr. No	Name	Category
1	Barren Island Wildlife Sanctuary	Wildlife Sanctuary
2	Battimalve Island Wildlife Sanctuary	Wildlife Sanctuary
3	Bluff Island Wildlife Sanctuary	Wildlife Sanctuary
4	Bondoville Island Wildlife Sanctuary	Wildlife Sanctuary
5	Buchaan Wildlife Sanctuary	Wildlife Sanctuary
6	Campbell Bay National Park	National Park
7	Cinque Island Wildlife Sanctuary	Wildlife Sanctuary
8	Defense Island Wildlife Sanctuary	Wildlife Sanctuary
9	East Island Wildlife Sanctuary	Wildlife Sanctuary
10	East Tingling Island Wildlife Sanctuary	Wildlife Sanctuary
11	Flat Island Wildlife Sanctuary	Wildlife Sanctuary
12	Galathea National Park	National Park
13	Interview Island Wildlife Sanctuary	Wildlife Sanctuary
14	James Island Wildlife Sanctuary	Wildlife Sanctuary
15	Kyd Island Wildlife Sanctuary	Wildlife Sanctuary
16	Landfall Island Wildlife Sanctuary	Wildlife Sanctuary
17	Lohabarrack Salt Water Crocodile Sanctuary	Crocodile Sanctuary
18	Mahatma Gandhi Marine National Park	National Park
19	Middle Button Island National Park	National Park
20	Mount Harriet National Park	National Park
21	Narcondum Island Wildlife Sanctuary	Wildlife Sanctuary
22	North Button Island National Park	National Park
23	North Reef Island Wildlife Sanctuary	Wildlife Sanctuary
24	Paget Island Wildlife Sanctuary	Wildlife Sanctuary
25	Pitman Island Wildlife Sanctuary	Wildlife Sanctuary
26	Point Island Wildlife Sanctuary	Wildlife Sanctuary
27	Ranger Island Wildlife Sanctuary	Wildlife Sanctuary
28	Rani Jhansi Marine National Park	National Park
29	Reef Island Wildlife Sanctuary	Wildlife Sanctuary
30	Roper Island Wildlife Sanctuary	Wildlife Sanctuary
31	Ross Island Wildlife Sanctuary	Wildlife Sanctuary
32	Saddle Peak National Park	National Park
33	Sandy Island Wildlife Sanctuary	Wildlife Sanctuary
34	Shearme Island Wildlife Sanctuary	Wildlife Sanctuary
35	Sir Huge Rose Island Wildlife Sanctuary	Wildlife Sanctuary
36	South Brother Island Wildlife Sanctuary	Wildlife Sanctuary
37	South Button Island National Park	National Park



38	South Reef Island Wildlife Sanctuary	Wildlife Sanctuary
39	South Sentinel Island Wildlife Sanctuary	Wildlife Sanctuary
40	Spike Island Wildlife Sanctuary	Wildlife Sanctuary
41	Swamp Island Wildlife Sanctuary	Wildlife Sanctuary
42	Table (Excelsior) Island Wildlife Sanctuary	Wildlife Sanctuary
43	Table Island Wildlife Sanctuary	Wildlife Sanctuary
44	Talabaicha Island Wildlife Sanctuary	Wildlife Sanctuary
45	Temple Island Wildlife Sanctuary	Wildlife Sanctuary
46	Tilanchang Island Wildlife Sanctuary	Wildlife Sanctuary
47	West Island Wildlife Sanctuary	Wildlife Sanctuary

## **Andhra Pradesh**

Sr. No	Name	Category
1	Coringa Wildlife Sanctuary	Wildlife Sanctuary
2	Gundla Brahmeswaram Wildlife Sanctuary	Wildlife Sanctuary
3	Kambalakonda Wildlife Sanctuary	Wildlife Sanctuary
4	Kolleru Lake Wildlife Sanctuary	Wildlife Sanctuary
5	Koundinya Wildlife Sanctuary	Wildlife Sanctuary
6	Krishna Wildlife Sanctuary	Wildlife Sanctuary
7	Lanjamadugu Wildlife Sanctuary	Wildlife Sanctuary
8	Nagarjunsagar-Srisailam Tiger Reserve	Wildlife Sanctuary
9	Nelapattu Bird Sanctuary	Bird Sanctuary
10	Papikonda National Park	National Park
11	Papikonda Wildlife Sanctuary	Wildlife Sanctuary
12	Pulicat Lake Bird Sanctuary	Bird Sanctuary
13	Rollapadu Wildlife Sanctuary	Wildlife Sanctuary
14	Sri Lankamalleswara Wildlife Sanctuary	Wildlife Sanctuary
15	Sri Venkateswara National Park	National Park
16	Sri Venkateswara National Park	National Park



## **Arunachal Pradesh**

Sr. No	Name	Category
1	D'ering Memorial Wildlife Sanctuary	Wildlife Sanctuary
2	Dibang Wildlife Sanctuary	Wildlife Sanctuary
3	Eaglenest Wildlife Sanctuary	Wildlife Sanctuary
4	Itanagar Wildlife Sanctuary	Wildlife Sanctuary
5	Kamlang Wildlife Sanctuary	Wildlife Sanctuary
6	Kane Wildlife Sanctuary	Wildlife Sanctuary
7	Mehao Wildlife Sanctuary	Wildlife Sanctuary
8	Mouling National Park	National Park
9	Namdapha National Park	National Park
10	Pakhui Tiger Reserve	Wildlife Sanctuary
11	Sessa Orchid Sanctuary	Orchid Sanctuary
12	Talley Valley Wildlife Sanctuary	Wildlife Sanctuary

#### <u>Assam</u>

Sr. No	Name	Category
1	Bornadi Wildlife Sanctuary	Wildlife Sanctuary
2	Dibru-Saikhowa National Park	National Park
3	Dipor Bil Wildlife Sanctuary	Wildlife Sanctuary
4	Garampani Wildlife Sanctuary	Wildlife Sanctuary
5	Hoollongapar Wildlife Sanctuary	Wildlife Sanctuary
6	Kaziranga National Park	National Park
7	Laokhowa Wildlife Sanctuary	Wildlife Sanctuary
8	Manas National Park	National Park
9	Nameri National Park	National Park
10	Orang National Park	National Park
11	Pabha Wildlife Sanctuary	Wildlife Sanctuary
12	Pobitora Wildlife Sanctuary	Wildlife Sanctuary
13	Sonai Rupai Wildlife Sanctuary	Wildlife Sanctuary



#### **Bihar**

Sr. No	Name	Category
1	Barela Salim Ali Zubba Saheni Wildlife	Wildlife Sanctuary
	Sanctuary	
2	Bhimbandh Wildlife Sanctuary	Wildlife Sanctuary
3	Gautam Budha Wildlife Sanctuary	Wildlife Sanctuary
4	Kaimur Wildlife Sanctuary	Wildlife Sanctuary
5	Kanwar Lake Bird Sanctuary	Bird Sanctuary
6	Nagi Dam Wildlife Sanctuary	Wildlife Sanctuary
7	Nakti Dam Wildlife Sanctuary	Wildlife Sanctuary
8	Rajgir Wildlife Sanctuary	Wildlife Sanctuary
9	Udaypur Wildlife Sanctuary	Wildlife Sanctuary
10	Valmiki National Park	National Park
11	Vikramshila Wildlife Sanctuary	Wildlife Sanctuary

## **Chandigarh**

Sr. No	Name	Category
1	Chattbir Zoological Park	Zoological Park
2	Sukhna Lake Wildlife Sanctuary	Wildlife Sanctuary

## **Chhattisgarh**

Sr. No	Name	Category
1	Achanakmar Wildlife Sanctuary	Wildlife Sanctuary
2	Badalkohl Wildlife Sanctuary	Wildlife Sanctuary
3	Bhairamgarh Wildlife Sanctuary	Wildlife Sanctuary
4	Gomarda Reserve Forest	Wildlife Sanctuary
5	Guru Ghasidas (Sanjay) National Park	National Park
6	Indravati National Park	National Park
7	Kanger Ghati National Park	National Park
8	Pamed Wildlife Sanctuary	Wildlife Sanctuary
9	Semarsot Wildlife Sanctuary	Wildlife Sanctuary
10	Sitanadi Wildlife Sanctuary	Wildlife Sanctuary
11	Tamor Pingla Wildlife Sanctuary	Wildlife Sanctuary
12	Udanti Wildlife Sanctuary	Wildlife Sanctuary



#### <u>Delhi</u>

Sr. N	lo N	Name	Category
1	Ir	ndira Priyadarshini Wildlife Sanctuary	Wildlife Sanctuary

## <u>Gujarat</u>

Sr. No	Name	Category
1	Balaram Ambaji Wildlife Sanctuary	Wildlife Sanctuary
2	Barda Wildlife Sanctuary	Wildlife Sanctuary
3	Blackbuck National Park	National Park
4	Dhumkhal Wildlife Sanctuary	Wildlife Sanctuary
5	Gir Forest National Park	National Park
6	Indian Wild Ass Sanctuary	Wildlife Ass Sanctuary
7	Jambughoda Wildlife Sanctuary	Wildlife Sanctuary
8	Jessore Sanctuary	Wildlife Sanctuary
9	Khijadiya Bird Sanctuary	Bird Sanctuary
10	Kutch Desert Wildlife Sanctuary	Wildlife Sanctuary
11	Marine National Park	National Park
12	Nal Sarovar Bird Sanctuary	Bird Sanctuary
13	Narayan Sarovar Sanctuary	Wildlife Sanctuary
14	Paniya Wildlife Sanctuary	Wildlife Sanctuary
15	Purna Wildlife Sanctuary	Wildlife Sanctuary
16	Rampura Sanctuary	Wildlife Sanctuary
17	Ratanmala Wildlife Sanctuary	Wildlife Sanctuary
18	Shoolpaneshwar Wildlife Sanctuary	Wildlife Sanctuary
19	Thol Bird Sanctuary	Bird Sanctuary
20	Vansda National Park	National Park

#### <u>Goa</u>

Sr. No	Name	Category
1	Bhagwan Mahavir Sanctuary	Wildlife Sanctuary
2	Bondla Wildlife Sanctuary	Wildlife Sanctuary
3	Mollem National Park	National Park
4	Salim Ali Bird Sanctuary	Wildlife Sanctuary



#### **Haryana**

Sr. No	Name	Category
1	Bir Shikargarh Sanctuary	Wildlife Sanctuary
2	Chautala Sanctuary	Wildlife Sanctuary
3	Kalesar National Park	National Park
4	Sultanpur National Park	National Park

## **Himachal Pradesh**

Sr. No	Name	Category
1	Bandli Wildlife Sanctuary	Wildlife Sanctuary
2	Chail Wildlife Sanctuary	Wildlife Sanctuary
3	Churdhar Wildlife Sanctuary	Wildlife Sanctuary
4	Daranghati Wildlife Sanctuary	Wildlife Sanctuary
5	Darlaghat Wildlife Sanctuary	Wildlife Sanctuary
6	Gamgul Siahbehi Bird Sanctuary	Bird Sanctuary
7	Gobind Sagar Wildlife Sanctuary	Wildlife Sanctuary
8	Great Himalayan National Park	National Park
9	Inderkilla National Park	National Park
10	Kais Wildlife Sanctuary	Wildlife Sanctuary
11	Kalatop & Khajjiar Wildlife Sanctuary	Wildlife Sanctuary
12	Kanawar Wildlife Sanctuary	Wildlife Sanctuary
13	Khirganga National Park	National Park
14	Kohkhan Wildlife Sanctuary	Wildlife Sanctuary
15	Kugti Wildlife Sanctuary	Wildlife Sanctuary
16	Lippa Asrang Wildlife Sanctuary	Wildlife Sanctuary
17	Majathal Wildlife Sanctuary	Wildlife Sanctuary
18	Naina Devi Wildlife Sanctuary	Wildlife Sanctuary
19	Nargu Wildlife Sanctuary	Wildlife Sanctuary
20	Pin Valley National Park	National Park
21	Pong Dam Sanctuary	Wildlife Sanctuary
22	Raksham Chitkul Wildlife Sanctuary	Wildlife Sanctuary
23	Renuka Wildlife Sanctuary	Wildlife Sanctuary
24	Rupi Bhabha Sanctuary	Wildlife Sanctuary
25	Sechu tuan Nala Wildlife Sanctuary	Wildlife Sanctuary
26	Shikari Devi Wildlife Sanctuary	Wildlife Sanctuary
27	Shili Wildlife Sanctuary	Wildlife Sanctuary
28	Simbalbara National Park	National Park
29	Talra Wildlife Sanctuary	Wildlife Sanctuary
30	Tirthan Wildlife Sanctuary	Wildlife Sanctuary
31	Tundah Wildlife Sanctuary	Wildlife Sanctuary



8

#### Jammu and Kashmir

Sr. No	Name	Category
1	Achabal Wildlife Sanctuary	Wildlife Sanctuary
2	Baltal Wildlife Sanctuary	Wildlife Sanctuary
3	Chandtang Wildlife Sanctuary	Wildlife Sanctuary
4	Dachigam National Park	National Park
5	Gulmarg Wildlife Sanctuary	Wildlife Sanctuary
6	Hemis National Park	National Park
7	Hirpora Wildlife Sanctuary	Wildlife Sanctuary
8	Hokarsar Wildlife Sanctuary	Wildlife Sanctuary
9	Kanji Wildlife Sanctuary	Wildlife Sanctuary
10	Karakoram Wildlife Sanctuary	Wildlife Sanctuary
11	Kishtwar National Park	National Park
12	Lachipora Wildlife Sanctuary	Wildlife Sanctuary
13	Limber Wildlife Sanctuary	Wildlife Sanctuary
14	Nandini Wildlife Sanctuary	Wildlife Sanctuary
15	Overa-Aru Wildlife Sanctuary	Wildlife Sanctuary
16	Ramnagar Wildlife Sanctuary	Wildlife Sanctuary
17	Salim Ali National Park	National Park
18	Surinsar-Mansar Wildlife Sanctuary	Wildlife Sanctuary
19	Tongri Wildlife Sanctuary	Wildlife Sanctuary

## <u>Jharkhand</u>

Sr. No	Name	Category
1	Betla National Park	National Park
2	Dalma Wildlife Sanctuary	Wildlife Sanctuary
3	Gautam Budha Wildlife Sanctuary	Wildlife Sanctuary
4	Hazaribagh National Park	National Park
5	Koderma Wildlife Sanctuary	Wildlife Sanctuary
6	Lawalong Wildlife sanctuary	Wildlife Sanctuary
7	Mahuadand Wildlife Sanctuary	Wildlife Sanctuary
8	Palamau Wildlife Sanctuary	Wildlife Sanctuary
9	Palkot Wildlife Sanctuary	Wildlife Sanctuary
10	Parasnath Wildlife Sanctuary	Wildlife Sanctuary
11	Topchanchi Wildlife Sanctuary	Wildlife Sanctuary
12	Udhwa Lake Bird Sanctuary	Bird Sanctuary



#### **Karnataka**

Sr. No	Name	Category
1	Adichunchanagiri Wildlife Sanctuary	Wildlife Sanctuary
2	Anshi National Park	National Park
3	Arabihittu Wildlife Sanctuary	Wildlife Sanctuary
4	Bandipur National Park	National Park
5	Bannerghatta National Park	National Park
6	Bhadra Wildlife Sanctuary	Wildlife Sanctuary
7	Bhimgad Wildlife Sanctuary	Wildlife Sanctuary
8	Biligiriranga Swamy Temple Wildlife	Wildlife Sanctuary
	Sanctuary	
9	Brahmagiri Wildlife Sanctuary	Wildlife Sanctuary
10	Cauvery Wildlife Sanctuary	Wildlife Sanctuary
11	Dandeli Wildlife Sanctuary	Wildlife Sanctuary
12	Ghataprabha Bird Sanctuary	Bird Sanctuary
13	Gudavi Bird Sanctuary	Bird Sanctuary
14	Kudremukh National Park	National Park
15	Mandagadde Bird Sanctuary	Bird Sanctuary
16	Melkote Wildlife Sanctuary	Wildlife Sanctuary
17	Nagarhole National Park	National Park
18	Nugu Wildlife Sanctuary	Wildlife Sanctuary
19	Pushpagiri Wildlife Sanctuary	Wildlife Sanctuary
20	Ranganthittu Bird Sanctuary	Bird Sanctuary
21	Ranibennur Blackbuck Sanctuary	Wildlife Sanctuary
22	Sharavathi Valley Wildlife Sanctuary	Wildlife Sanctuary
23	Shettihalli Wildlife Sanctuary	Wildlife Sanctuary
24	Someshwara Wildlife Sanctuary	Wildlife Sanctuary
25	Talakaveri Wildlife Sanctuary	Wildlife Sanctuary



#### <u>Kerala</u>

Sr. No	Name	Category
1	Anamudi Shola National Park	National Park
2	Aralam Wildlife Sanctuary	Wildlife Sanctuary
3	Chimmony Wildlife Sanctuary	Wildlife Sanctuary
4	Chinnar Wildlife Sanctuary	Wildlife Sanctuary
5	Eravikulam National Park	National Park
6	Idukki Wildlife Sanctuary	Wildlife Sanctuary
7	Kumarakom Wildlife Sanctuary	Wildlife Sanctuary
8	Malabar Wildlife Sanctuary	Wildlife Sanctuary
9	Mathikettan Shola National Park	National Park
10	Neyyar Wildlife Sanctuary	Wildlife Sanctuary
11	Pambadum Shola National Park	National Park
12	Parambikulam Wildlife Sanctuary	Wildlife Sanctuary
13	Peechi-Vazhani Wildlife Sanctuary	Wildlife Sanctuary
14	Peppara Wildlife Sanctuary	Wildlife Sanctuary
15	Periyar National Park	National Park
16	Shenduruny Wildlife Sanctuary	Wildlife Sanctuary
17	Silent Valley National Park	National Park
18	Thattekkad Bird Sanctuary	Bird Sanctuary
19	Wayanad Wildlife Sanctuary	Wildlife Sanctuary

## Madhya Pradesh

Sr. No	Name	Category
1	Bagdara Wildlife Sanctuary	Wildlife Sanctuary
2	Bandhavgarh National Park	National Park
3	Bori Wildlife Sanctuary	Wildlife Sanctuary
4	Gandhi Sagar Sanctuary	Wildlife Sanctuary
5	Ghatigaon Sanctuary	Wildlife Sanctuary
6	Kanha National Park	National Park
7	Karera Wildlife Sanctuary	Wildlife Sanctuary
8	Ken Ghariyal Sanctuary	Wildlife Sanctuary
9	Kheoni Sanctuary	Wildlife Sanctuary
10	Kuno Wildlife Sanctuary	Wildlife Sanctuary
11	Madhav National Park	National Park
12	Mandla Plant Fossils National Park	National Park
13	Narsinghgarh Wildlife Sanctuary	Wildlife Sanctuary
14	National Chambal Sanctuary	Wildlife Sanctuary
15	Nauradehi Wildlife Sanctuary	Wildlife Sanctuary



16	Omkareshwar National Park	National Park
17	Pachmarhi Sanctuary	Wildlife Sanctuary
18	Panna National Park	National Park
19	Panpatha Wildlife Sanctuary	Wildlife Sanctuary
20	Pench National Park	National Park
21	Phen Sanctuary	Wildlife Sanctuary
22	Ratapani Tiger Reserve	Wildlife Sanctuary
23	Sanjay National Park	National Park
24	Sardarpur Sanctuary	Wildlife Sanctuary
25	Satpura National Park	National Park
26	Singhori Wildlife Sanctuary	Wildlife Sanctuary
27	Son Ghariyal Sanctuary	Wildlife Sanctuary
28	Van Vihar National Park	National Park

## **Maharashtra**

Sr. No	Name	Category
1	Aner Dam Wildlife Sanctuary	Wildlife Sanctuary
2	Bhimashankar Wildlife Sanctuary	Wildlife Sanctuary
3	Bor Wildlife Sanctuary	Wildlife Sanctuary
4	Chandoli National Park	National Park
5	Chaprala Wildlife Sanctuary	Wildlife Sanctuary
6	Dhakna Kolkaz Wildlife Sanctuary	Wildlife Sanctuary
7	Gandhari Wildlife Sanctuary	Wildlife Sanctuary
8	Gread Indian Bustard Sanctuary	Bustard Sanctuary
9	Guatala Autramghat Sanctuary	Wildlife Sanctuary
10	Gugamal National Park	National Park
11	Jaikwadi Wildlife Sanctuary	Wildlife Sanctuary
12	Kalsubai Harishchandra Wildlife Sanctuary	Wildlife Sanctuary
13	Katepurna Wildlife Sanctuary	Wildlife Sanctuary
14	Koyna Wildlife Sanctuary	Wildlife Sanctuary
15	Malvan Marine Wildlife Sanctuary	Wildlife Sanctuary
16	Melghat Wildlife Sanctuary	Wildlife Sanctuary
17	Nagzira Wildlife Sanctuary	Wildlife Sanctuary
18	Nandpur Madmeshwar Wildlife Sanctuary	Wildlife Sanctuary
19	Navegaon National Park	National Park
20	Painganga Wildlife Sanctuary	Wildlife Sanctuary
21	Phansad Wildlife Sanctuary	Wildlife Sanctuary
22	Radhanagari Wildlife Sanctuary	Wildlife Sanctuary
23	Sagershwar Wildlife Sanctuary	Wildlife Sanctuary
24	Sanjay Gandhi National Park	National Park



25	Tadoba National Park	National Park
26	Tansa Wildlife Sanctuary	Wildlife Sanctuary
27	Wainganga Wildlife Sanctuary	Wildlife Sanctuary
28	Yawal Wildlife Sanctuary	Wildlife Sanctuary
29	Yedshi Ramling Ghat Wildlife Sanctuary	Wildlife Sanctuary

#### **Manipur**

Sr. No	Name	Category
1	Keibul Lamjao National Park	National Park
2	Sirohi National Park	National Park
3	Yagoupokpi Lokchao Wildlife Sanctuary	Wildlife Sanctuary

## **Meghalaya**

Sr. No	Name	Category
1	Balphakram National Park	National Park
2	Bhagmara Wildlife Sanctuary	Wildlife Sanctuary
3	Nokrek National Park	National Park
4	Nongkhyllem Wildlife Sanctuary	Wildlife Sanctuary
5	Siju Wildlife Sanctuary	Wildlife Sanctuary

#### **Mizoram**

Sr. No	Name	Category
1	Dampa Tiger Reserve	Tiger Reserve
2	Khawnglung Wildlife Sanctuary	Wildlife Sanctuary
3	Murlen National Park	National Park
4	Ngengpui Wildlife Sanctuary	Wildlife Sanctuary
5	Phawngpui Blue Mountain National Park	National Park

## **Nagaland**

Sr. No	Name	Category
1	Fakim Wildlife Sanctuary	Wildlife Sanctuary
2	Intanki Wildlife Sanctuary	Wildlife Sanctuary
3	Ntangki National Park	National Park
4	Pulebatze Wildlife Sanctuary	Wildlife Sanctuary



## <u>Odisha</u>

Sr. No	Name	Category
1	Badrama Wildlife Sanctuary	Wildlife Sanctuary
2	Baisipalli Wildlife Sanctuary	Wildlife Sanctuary
3	Balukhand-Konark Wildlife Sanctuary	Wildlife Sanctuary
4	Bhitarkanika National Park	National Park
5	Chandaka Dampara Wildlife Sanctuary	Wildlife Sanctuary
6	Chilika Bird Sanctuary	Bird Sanctuary
7	Debrigarh Wildlife Sanctuary	Wildlife Sanctuary
8	Gahirmatha Sanctuary	Wildlife Sanctuary
9	Hadgarh Wildlife Sanctuary	Wildlife Sanctuary
10	Karlapat Wildlife Sanctuary	Wildlife Sanctuary
11	Khalasuni Sanctuary	Wildlife Sanctuary
12	Kotgarh Wildlife Sanctuary	Wildlife Sanctuary
13	Kuldiha Wildlife Sanctuary	Wildlife Sanctuary
14	Lakhari Valley Wildlife Sanctuary	Wildlife Sanctuary
15	Nandankanan National Park	National Park
16	Satkosia Gorge Wildlife Sanctuary	Wildlife Sanctuary
17	Simlipal National Park	National Park
18	Sunabeda Wildlife Sanctuary	Wildlife Sanctuary

#### <u>Punjab</u>

Sr. No	Name	Category
1	Abohar Wildlife Sanctuary	Wildlife Sanctuary
2	Bir Aishvan Wildlife Sanctuary	Wildlife Sanctuary
3	Bir Bhadson Wildlife Sanctuary	Wildlife Sanctuary
4	Bir Bunnerheri Wildlife Sanctuary	Wildlife Sanctuary
5	Bir Dosanjh Wildlife Sanctuary	Wildlife Sanctuary
6	Bir Gurdialpura Wildlife Sanctuary	Wildlife Sanctuary
7	Bir Mehaswala Wildlife Sanctuary	Wildlife Sanctuary
8	Bir Motibagh Wildlife Sanctuary	Wildlife Sanctuary
9	Bir Motibagh Wildlife Sanctuary	Wildlife Sanctuary
10	Harike Lake Wildlife Sanctuary	Wildlife Sanctuary
11	Jhajjar Bacholi Wildlife Sanctuary	Wildlife Sanctuary
12	Kathlaur Kushlian Wildlife Sanctuary	Wildlife Sanctuary
13	Nangal Wildlife Sanctuary	Wildlife Sanctuary
14	Takhni-Rehampur Wildlife Sanctuary	Wildlife Sanctuary



## <u>Rajasthan</u>

Sr. No	Name	Category
1	Baretha Wildlife Sanctuary	Wildlife Sanctuary
2	Bassi Wildlife Sanctuary	Wildlife Sanctuary
3	Bhensrodgarh Wildlife Sanctuary	Wildlife Sanctuary
4	Chambal Wildlife Sanctuary	Wildlife Sanctuary
5	Darrah National Park	National Park
6	Desert National Park	National Park
7	Garhial Wildlife Sanctuary	Wildlife Sanctuary
8	Jaisamand Wildlife Sanctuary	Wildlife Sanctuary
9	Jamwa Ramgarh Wildlife Sanctuary	Wildlife Sanctuary
10	Jaswant Sagar Wildlife Sanctuary	Wildlife Sanctuary
11	Jawahar Sagar Wildlife Sanctuary	Wildlife Sanctuary
12	Keladevi Wildlife Sanctuary	Wildlife Sanctuary
13	Keoladeo National Park	National Park
14	Kumbhalgarh Wildlife Sanctuary	Wildlife Sanctuary
15	Mount Abu Wildlife Sanctuary	Wildlife Sanctuary
16	Mukundra Hills National Park	National Park
17	Nahargarh Wildlife Sanctuary	Wildlife Sanctuary
18	Phulwari Wildlife Sanctuary	Wildlife Sanctuary
19	Ramgarh Vishdhari Wildlife Sanctuary	Wildlife Sanctuary
20	Ranthambore National Park	National Park
21	Sariska Tiger Reserve	Tiger Reserve
22	Sawai Mansingh Wildlife Sanctuary	Wildlife Sanctuary
23	Shergarh Wildlife Sanctuary	Wildlife Sanctuary
24	Sita Mata Wildlife Sanctuary	Wildlife Sanctuary
25	Sundha Mata Wildlife Sanctuary	Wildlife Sanctuary
26	Tal Chhapar Sanctuary	Wildlife Sanctuary
27	Todgarh-Raoli Sanctuary	Wildlife Sanctuary
28	Van Vihar Wildlife Sanctuary	Wildlife Sanctuary



#### <u>Sikkim</u>

Sr. No	Name	Category
1	Barsey Rhododendron Sanctuary	Wildlife Sanctuary
2	Fambond Lho Wildlife Sanctuary	Wildlife Sanctuary
3	Khangchendzonga National Park	National Park
4	Kyungnosla Alpine Wildlife Sanctuary	Wildlife Sanctuary
5	Marnam Wildlife Sanctuary	Wildlife Sanctuary
6	Pangolakha Wildlife Sanctuary	Wildlife Sanctuary
7	Shingba Rhododendron Santuary	Wildlife Sanctuary

#### <u>Tripura</u>

Sr. No	Name	Category
1	Bison (Rajbari) National Park	National Park
2	Charilam Wildlife Sanctuary	Wildlife Sanctuary
3	Clouded Leopard National Park	National Park
4	Gumti Wildlife Sanctuary	Wildlife Sanctuary
5	Sepahijala Wildlife Sanctuary	Wildlife Sanctuary
6	Trishna Wildlife Sanctuary	Wildlife Sanctuary

## Tamil Nadu

Sr. No	Name	Category
1	Guindy National Park	National Park
2	Gulf of Mannar Marine National Park	National Park
3	Indra Gandhi Wildlife Sanctuary and National Park	National Park
4	Kalakkad Mundanthurai Tiger Reserve	Tiger Reserve
5	Karikili Bird Sanctuary	Bird Sanctuary
6	Mudumalai National Park	National Park
7	Mukurthi National Park	National Park
8	Point Calimere Wildlife and Bird Sanctuary	Bird Sanctuary
9	Pulicat Lake Bird Sanctuary	Bird Sanctuary
10	Sathyamangalam Wildlife Sanctuary	Wildlife Sanctuary
11	Shenbagathoppu Grizzled Squirrel Wildlife	Squirrel Wildlife Sanctuary
	Sanctuary	
12	Vallanadu Wildlife Sanctuary	Wildlife Sanctuary
13	Vedantangal Bird Sanctuary	Bird Sanctuary
14	Vettangudi Bird Sanctuary	Bird Sanctuary



## <u>Telangana</u>

Sr. No	Name	Category
1	Eturnagaram Wildlife Sanctuary	Wildlife Sanctuary
2	Kasu Brahmananda Reddy National Park	National Park
3	Kawal Wildlife Sanctuary	Wildlife Sanctuary
4	Kinnerasani Wildlife Sanctuary	Wildlife Sanctuary
5	Mahavir Harina Vanasthali National Park	National Park
6	Manjira Wildlife Sanctuary	Wildlife Sanctuary
7	Mrugavani National Park	National Park
8	Nagarjunsagar-Srisailam Tiger Reserve	Tiger Reserve
9	Pakhal Wildlife Sanctuary	Wildlife Sanctuary
10	Pocharam Forest and Wildlife Sanctuary	Wildlife Sanctuary
11	Pranahita Wildlife Sanctuary	Wildlife Sanctuary
12	Shivaram Wildlife Sanctuary	Wildlife Sanctuary

## **Uttarakhand**

Sr. No	Name	Category
1	Askot Must Deer Sanctuary	Deer Sanctuary
2	Binsar Wildlife Sanctuary	Wildlife Sanctuary
3	Gangotri National Park	National Park
4	Govind Pashu Vihar Wildlife Sanctuary	Wildlife Sanctuary
5	Jim Corbett National Park	National Park
6	Kedarnath Wildlife Sanctuary	Wildlife Sanctuary
7	Naina Devi Himalayan Bird Conservation	Bird Conservation Reserve
	Reserve	
8	Nanda Devi National Park	National Park
9	Rajaji National Park	National Park
10	Sonanadi Wildlife Sanctuary	Wildlife Sanctuary
11	Valley of Flowers National Park	National Park



## **Uttar Pradesh**

Sr. No	Name	Category
1	Asan Bradge Bird Watching	Bird Sanctuary
2	Chandra Prabha Wildlife Sanctuary	Wildlife Sanctuary
3	Chilla Wildlife Sanctuary	Wildlife Sanctuary
4	Dudhwa National Park	National Park
5	Hastinapur Sanctuary	Wildlife Sanctuary
6	Kaimoor Sanctuary	Wildlife Sanctuary
7	Katarniaghat Wildlife Sanctuary	Wildlife Sanctuary
8	Kishanpur Wildlife Sanctuary	Wildlife Sanctuary
9	Mahavir Swamy Wildlife Sanctuary	Wildlife Sanctuary
10	National Chambal Sanctuary	Wildlife Sanctuary
11	Nawabganj Wildlife Sanctuary	Wildlife Sanctuary
12	Okhla Bird Sanctuary	Bird Sanctuary
13	Ranipur Sanctuary	Wildlife Sanctuary
14	Samaspur Wildlife Sanctuary	Wildlife Sanctuary
15	Sandi Bird Sanctuary	Bird Sanctuary
16	Sohagi Barwa Sanctuary	Wildlife Sanctuary

## **West Bengal**

Sr. No	Name	Category
1	Ballabhpur Wildlife Sanctuary	Wildlife Sanctuary
2	Bethudahari Wildlife Sanctuary	Wildlife Sanctuary
3	Bibhutibhushan Wildlife Sanctuary	Wildlife Sanctuary
4	Buxa Tiger Reserve	Tiger Reserve
5	Chapramari Wildlife Sanctuary	Wildlife Sanctuary
6	Gorumara National Park	National Park
7	Haliday Island Wildlife Sanctuary	Wildlife Sanctuary
8	Jaldapara National Park	National Park
9	Jore Pokhri Wildlife Sanctuary	Wildlife Sanctuary
10	Lothian Island Wildlife Sanctuary	Wildlife Sanctuary
11	Mahananda Wildlife Sanctuary	Wildlife Sanctuary
12	Murti Wildlife Sanctuary	Wildlife Sanctuary
13	Neora Valley National Park	National Park
14	Parnadhan Wildlife Sanctuary	Wildlife Sanctuary
15	Rajganj Wildlife Sanctuary	Wildlife Sanctuary
16	Ramnabagan Wildlife Sanctuary	Wildlife Sanctuary
17	Senchal Wildlife Sanctuary	Wildlife Sanctuary
18	Singalila National Park	National Park
19	Sundarbans National Park	National Park



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